Grading Questions

GOALS
1. To understand and apply two different methods of grading students' work.
2. To develop insights into advantages and disadvantages of different grading techniques under different teaching conditions.

KEY CONCEPTS
• Grades communicate information on how well students learn, but the meaning of the grade can become obscured if the grade is based on considerations in addition to student achievement, such as effort and participation.
• Students place great importance on grades, for various reasons relating to their motivations.
• Grading methods are based on one of two principles:
  ▪ Student performance is graded relative to that of other students in the class, such as by grading on the curve and grading according to breaks in the grade distribution.
  ▪ Student performance is graded on the individual's achievement, irrespective of the performance of other students in the class, such as grading according to absolute standards and grading according to mastery of objectives.
• All faculty and TAs are obligated professionally and legally to follow the University of Washington Grading Policy, and the UW Grading System, and should be aware of the Grading Practices in the College of Ocean and Fishery Sciences.

PROCEDURE
I. Conventional answer key
In this exercise, we simulate a situation in which the professor has written a question and its intended correct answer, then has assigned you to grade the student’s responses. Below is a sample examination question along with real student answers from an exam.
1. The facilitator will have you divide into groups about of 4 members each. In your group, read the sample examination question and the correct answer provided (below). Assume that the question is worth six points. Using the correct answer provided, formulate an answer key indicating the point value that you would assign to each of your answer’s elements, summing to six points. Record your key in the space on the following page.
2. Grade the five student answers (pp. 11–12) based on the answer key.
3. Each group describes to the whole class the answer key they developed and the grades they assigned to each student response. Groups are also invited to comment on how the grading process might be made more effective.

Grading via Rubric
1. Examine the scoring rubric below (p. 13). Although borrowed from an introductory geology course at another research university, it’s generic and applicable to various questions.
2. In your group, grade another one or two of the students' responses to the question using the rubric provided. Again, the question is worth six points. If you like, and time permits, you may modify this rubric to compose one of your own (p. 14).
3. Each group describes to the whole class the grades it gave using the rubric,
4. As a whole class, discuss characteristics of the two grading methods. Address the following
discussion questions:
- What in the question, the key, and answers caused difficulties and uncertainties in grading?
- Which grading method did you prefer for this task? Why?
- In what type of class would each type of grading method be most useful? Why?

SAMPLE EXAMINATION QUESTION (Value = 6 points)

Symbiosis is an important process at several different levels in tropical marine ecosystems. Describe the symbiotic relationships between coral polyps and zooxanthellae and list two benefits of this relationship. (From Fish 101, Spring 2003)

What the instructors were expecting at the time as the perfect answer: Zooxanthellae live in the epidermal tissue of coral polyps and have a mutualistic relationship with them. Zooxanthellae provide oxygen and carbohydrates to the polyps and help in coral calcification, while the polyps provide waste organic nutrients and a stable environment for photosynthesis in return.

Write your answer key in the space below. Distribute 6 points among your answer’s elements. Afterwards, proceed to grading the 5 student answers below.
Five student answers to be graded with the Key (p. 12) and the Rubric (p. 13)

Sample response 1:
The coral provides the zooxanthellae with protection so photosynthesis can occur and zooxanthellae provides the coral with nutrients.

Answer key grade: _________________ Grading rubric grade: _________________
Comments:

Sample response 2:
- zooxanthellae lives in the coral polyps and the coral polyps protects the zooxanthellae
- zooxanthellae cleans the coral polyps

Answer key grade: _________________ Grading rubric grade: _________________
Comments:

Sample response 3:
coral polyps and zooxanthellae have a mutualistic relationship, meaning they both benefit. The zooxanthellae live inside the polyps, and benefit by being protected from the outside. Another benefit is that the whole coral reef ecosystem depends on this mutualistic relationship for its survival, and coral reefs are important for biodiversity of species.

Answer key grade: _________________ Grading rubric grade: _________________
Comments:
Sample response 4:

*The symbiotic relationship exists where the zooxanthellae receive nutrients (N, P, etc.) from the polyps waste, which are necessary for energy production in plants. In turn, the zooxanthellae process the waste forming a calcium carbonate substrate which the coral polyps call home. The benefits of the symbiosis result in extreme amounts of biodiversity. The coral reefs create habitat for a slew of species. Without the symbiotic relationship in the nutrient poor ecosystem, the corals wouldn’t be so successful. Another benefit is the fact that both of the organisms have found a successful way to survive, using symbiosis to live off and help one another. This relationship accounts for a substantial amount of primary production in the ecosystem. Primary production, as we know, is the start of oceanic food webs. With the existence of the primary production it begins the cycles of one vast diversity in the coral reef ecosystem and helps preserve it...*

Answer key grade: _____________________ Grading rubric grade: ___________________

Comments:

Sample response 5:

*zooxanthellae (unicellular algae) lives inside the tissues of coral polyps. Two benefits of this relationship are that the polyps provide a stable environment for photosynthesis and waste inorganic nutrients to the zooxanthellae while the zooxanthellae provide oxygen, carbohydrates, and aid in calcification.*

Answer key grade: _____________________ Grading rubric grade: ___________________

Comments:
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<th>Value</th>
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<td>6</td>
<td>A clear, coherent, well-written answer that includes most, if not all, of the important points. If appropriate for the question, the answer presents the information in a new and interesting way, makes strong connections between different topics in the course, provides an insightful analysis of the problem, and/or demonstrates that the writer has carefully considered what information to include and what information to omit.</td>
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<td>5</td>
<td>An answer that is generally correct and touches on most of the important points, but that has one or more minor errors in terminology, concept or grammar. If appropriate for the question, the answer presents the information in an interesting way, makes good connections between different topics in the course, provides a reasonable analysis of the problem, and/or demonstrates that the writer has put some thought into what information to include and what information to omit.</td>
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<td>4</td>
<td>An answer that is more or less in the right ballpark, touches on only some of the important points, and that has one or more major errors in terminology, concept or grammar. If appropriate for the question, the answer presents the information in a different way than it was presented in the class notes, makes some reference to different topics in the course, makes an attempt to present an analysis of the problem, and/or provides evidence that the writer has made conscious decisions about the content of the answer.</td>
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<td>3</td>
<td>An answer that is off the mark but that shows some general understanding of what was asked in the question. An answer can also receive this score if it simply repeats the information as it was given in the class notes, if it makes no analysis of the problem, if it makes no connections between different topics in the course (when such connections would have been appropriate), or if it sounds like it was written on autopilot.</td>
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<td>2</td>
<td>An answer that is basically not correct but that shows a minimal understanding of what was asked in the question. An answer can also receive this score if it is simply a direct quotation from class notes.</td>
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<td>1</td>
<td>An answer that is not correct in most ways and/or is not at all well-written.</td>
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<td>0</td>
<td>No answer recorded.</td>
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# Make-Your-Own Grading Rubric

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## REFERENCES

## FREQUENTLY ASKED QUESTIONS ABOUT GRADING

### How do I go about grading constructively?
- Encouraging comments on a test or paper conveys respect for what the students attempted to accomplish, and praise for what they did accomplish.
- Effective grading acknowledges and reinforces the strengths of students' work; prompts students to recognize shortcomings and options; and provides suggestions for improving performance.
- Effective grading also provides feedback that helps students: 1) understand what "works" in their papers and essay tests, 2) learn from their "mistakes," and 3) position themselves to stretch further towards becoming more effective in the future.

*Univ. Oregon Teaching Effectiveness darkwing.uoregon.edu/~tep/tshooting/grading.html#FAIR*

### How do I grade fairly and accurately?
- Consider grading based only on mastery of material and not on personalities or perceived effort.
- Avoid competition between students - this may generate animosities and a poor learning environment.
• Do not overemphasize grades. Emphasize learning over grades.
• Keep students informed of their progress throughout the term.
• Clearly state grading policies and procedures on the syllabus and review them with the class on the first or second day.
• Avoid modifying policies during the term.
• Provide plenty of opportunities for assessment. This will avoid unnecessary pressure and allow for some mistakes.
• Provide some choice in format or topic when assigning work.
• Keep accurate records of grades…..
• Return the first assignment before the drop/withdrawal deadline.
• Consider allowing rewrites on papers.
• If many do poorly on an exam, schedule an exam for the following week to retest the class.

Univ. Oregon Teaching Effectiveness darkwing.uoregon.edu/~tep/tshooting/grading.html#FAIR

What should I consider while designing tests and quizzes?

• Prepare test questions which are similar to those used in quizzes, homework, or discussion. (A common problem is to teach in a manner that emphasizes recall, but to test in a way that requires critical application of the material.).
• Balance the difficulty of test items.
• Include an extra-credit question which asks students to write and exam question rather than an exam answer.
• Hand out study and review question before the exam.
• Hold a review session before the exam (ask students to bring 5 - 10 essay questions of their own).
• Give two or more midterms and make the first one early in the term.
• Distribute sample answers to past exams or sample student papers.
• Give frequent quizzes that count toward the final course grade.

U. of California, Irvine Instructional Resource Center www.irc.uci.edu/trg/sec4.html#TEST

How do I prepare my students for testing?

• Give a diagnostic test early in the term.
• Attach a pool of final exam questions to the course syllabus and distribute both on the first day of class.
• Put old exams on file in the department office or library.
• Distribute practice exams.
• Before an exam, explain the format to students.
• Give students advice on how to prepare for an exam.


What can I do to minimize student complaints about tests and grades?

• Clearly state grading procedures in your course syllabus, and go over them in class.
• Set policies on late work.
• Avoid modifying your grading policies during the term.
• Provide enough opportunities for students to show you what they know.
• Consider allowing students to choose among alternative assignments.
• Stress to students that grades reflect work on a specific task and are not judgments about people.
• Give encouragement to students who are performing poorly.
• Deal directly with students who are angry or upset about their grade.
• Keep accurate records of students' grades.


For answers to additional frequently asked questions about grading, go to the Web site for the UW Center for Instructional Development and Research (CIDR):

For answers to frequently asked questions about student conduct, such as cheating on tests or plagiarism, go to the CIDR Web site:
http://depts.washington.edu/cidrweb/TestingGrading/StudentConductIntro.html. Please use the links to the UW sites to learn the UW policy, for policy changes with the institution.

For Pros and Cons of Typical Grading Practices, go to the UW Web site:

Revised 9/12/05    R. Strickland