Effective Grading: The Art of Providing Useful (and Used) Feedback

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Icebreaker:

Share with the group:
- Name
- Department
- Any challenges to effective grading in your current or past teaching experience
  AND/OR
- Any frustrations you have experienced receiving grades/feedback as a student
In this session, we will:

- Explore the purpose of grades and feedback in student learning.
- Develop an efficient and consistent procedure for grading.
- Create and apply a rubric for a discipline-specific assignment.
- Compare the advantages and disadvantages of different modes of feedback.
1) What should a grade measure?
2) Why is feedback important to student learning?

Brainstorm on your own, then share your ideas with your neighbor(s).

Tips for Efficient Grading

- Mark only one question at a time, rather than the entire assignment for each student.
- Answer the question yourself in advance.
- Quickly read over many students answers to get a feeling for what they have done wrong.
- Initially sort papers into “Excellent,” “Average,” and “Poor” categories.
- Start with the “Excellent” pile and readjust your initial impressions as necessary.
- This initial preparation prevents having to go back and readjust grades after the fact.
Criteria for Math-Intensive Questions

- Correct units?
- All graphs and figures labeled clearly?
- Relevant equations included?
- Symbolic notation used whenever possible?
- Are simple sign errors or common math mistakes penalized too harshly?
- For problems with sequential dependences, are you assigning partial credit fairly?
- Does the student self-reflect on whether or not their answer makes sense?
Criteria for Writing-Intensive Questions

- Explained technical or scientific content accurately and thoroughly?
- Supported answer with relevant evidence, formulas, theorems, statistics, or data?
- Is logic communicated clearly?
- Is the response well-organized and efficiently written?
- Appropriate grammar, vocabulary, level of knowledge, and tone?
- Are references cited appropriately?
- Does the student self-reflect on whether or not their answer makes sense?
Plagiarism

- If collaboration is allowed, use guideline “Work Together, Write Separately.”
- Ask students to list any collaborators on their assignment.
- **Keep an eye out for copying:**
  - Students with similar typos, reproduction of errors, or identical phrasing.
  - Similarities to instructor solutions manual or solutions available online.
  - Students hurriedly copying at beginning of class.
- **Your Responsibility:**
  - Inform the instructor and provide evidence.
  - Do not confront the student yourself.
Find a group of 3-5 people in your discipline: [Life Sciences, Physical Sciences, Social Sciences, Engineering]

Read the discipline-specific sample question carefully, and ask another group member or facilitator if you have questions.

Without consulting your group, assign a grade from 0-10 to each sample student problem.

As a group, compare the grades assigned. Were they consistent?
How can we increase consistency?
Grading Rubrics

- Make grading more consistent and fair.
- Save time in the grading process once the rubric is developed.
- Level the playing field and reduce unconscious bias.
- Communicate expectations to students.
- Enhance student awareness of their learning process and progress.
- Improve student work through timely and detailed feedback.
How to construct a rubric

- What are the key dimensions of a good answer/solution?
  - What concepts or skills should students have learned from this exercise?
  - Start general and refine specifics later
- Define the importance (percentage or number of points awarded) of each dimension.
- Develop a scale for awarding student’s performance on each dimension.
Different Types of Rubrics

- **General rubrics** contain criteria that are general across problems.
  - Advantage: can use the same rubric across different problems
  - Disadvantage: feedback may not be specific enough

- **Problem-specific rubrics** are unique to a specific problem.
  - Advantage: more reliable assessment of performance on the problems
  - Disadvantage: Time-consuming and complicated to construct rubrics for each problem
Sample General Rubric

**Scale:** Assigns adjectives to point values

**Dimension:** Skills, knowledge, and abilities comprising the assignment

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<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Competent</th>
<th>Needs Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understands Key Concepts (20%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct Logic (30%)</td>
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<tr>
<td>Clear Communication (20%)</td>
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<tr>
<td>Graphs or Figures (20%)</td>
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<tr>
<td>Accuracy/Mathematical Errors (10%)</td>
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<td></td>
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</tr>
</tbody>
</table>

**Description** of how each dimension is scaled.
As a group, **design a rubric** for your question.

As individuals, **re-grade each sample problem using the rubric**.

Did the assigned student grades change when the rubric was used?

Did the grades assigned become more consistent across the group?
How do I provide feedback?

- Grades = Student attention!
- For feedback on student papers use pen colors other than red (e.g. green, purple).
- Underline key words, concepts, and equations.
- Circle/cross out obvious errors and briefly explain (e.g. sign error).
- Detail fully how points were assigned -- either informally on the paper (e.g. +3) or formally in a rubric.
- A clearly written, well explained solution set can help students learn from their mistakes.
- Address common mistakes or misconceptions in the solution set or at the beginning of class to avoid repetition.
As a group, discuss the optimal feedback strategy for your problem.

What comments would you write on each student paper?

Which issues would you address in a solution set or in class?
Wrap up: Your experiences today!

How will you apply the skills and ideas from this workshop in your current or future teaching?

Please turn in EVALUATIONS before you leave.
Additional Resources

- University of Michigan Center for Research on Learning and Teaching: http://www.crlt.umich.edu/tstrategies/tsgi
Preparing Future Faculty to Assess Student Learning is a joint project of the Graduate School, CTE, and CU-CIRTL.