STRATEGIES FOR EXAM PREPARATION AND DEBRIEFING

A RESOURCE DOCUMENT FOR INSTRUCTORS

Traditionally we use exams as a way of evaluating the students' mastery of course material. But what if we take a wider view of the role of exams in teaching and also consider them as tools for learning? Without losing sight of their evaluative function, how could we incorporate strategies for exam preparation and debriefing in our courses to enable students to become better learners?

This document presents strategies that instructors can use to help students prepare for exams and learn from the experience. Each strategy below includes a description of its purpose, examples, and suggestions for implementation.

STRATEGIES FOR EXAM PREPARATION

STUDENT-GENERATED EXAM QUESTIONS

WHY?

- Developing potential exam questions encourages students to engage with the course materials more closely.
- Incorporating this kind of activity throughout the term helps students to prepare for exams while discouraging cramming.

EXAMPLES

- Tell students at the beginning of the class that they will be given 5-10 minutes at the end of class to write test questions based on material discussed that day (Weimer, 2013b).
- Assign sections of course material to different (groups of) students and have them generate section-specific questions (Weimer, 2008).
- Give students sample short answers and have them write the corresponding questions (Guardian Teacher Network, 2014).

SUGGESTIONS FOR IMPLEMENTATION

- Make question submission an assignment (students submit questions for points) (Templeton, 2014).
- Give students an outline or rubric describing how to write good questions (e.g., content to be addressed, grading criteria, type of question, and illustrations of good questions) (Kolluru, 2012; Weimer, 2015c).
- Devote class time to developing questions (Weimer, 2013b).
- Have +/- 5% of the exam come from student-generated questions (Kolluru, 2012; Templeton, 2014; Weimer, 2012b).
- Distribute compiled questions as a collaborative document (e.g., with Google Docs); students edit the document to add and adjust answers (Templeton, 2014).

COLLABORATIVE PREPARATION FOR EXAMS

WHY?

- Working collaboratively lets students support and challenge each other's thinking, which can promote better overall learning.
- Incorporating in-class group work encourages attendance.
- Observing students work together in class lets you see where students are struggling and address areas of difficulty immediately.
- Collaborative testing works best for developing problem-solving and critical thinking skills, not factual recall.

EXAMPLES

- Organize a two-part activity, comprised of small groups of two to four students, followed by a larger group discussion:
  o Small groups work on a practice test collaboratively. Then, the larger group assesses various answers/strategies (Nieder, Parmalee, Stolfi, & Hudes, 2005).
  o Small groups review questions from previous exams and practice grading sample answers, and compare these to the grade the instructor would have given. Then, the larger group discusses components needed to improve answers (Weimer, 2008).
  o Small groups use model answers to identify key features of expected responses to exam questions. Then, the larger group develops rubrics for answering each type of question (University of Technology, Sydney, 2013).
  o Small groups create crib sheets that focus on building blocks that lead students to a deeper understanding of content, ultimately permitting them to apply that understanding to more complex problems/questions. Then, the larger group has a post-exam discussion of how useful these crib sheets were, and why (Weimer, 2008; Weimer, 2013a).
- Have students take quizzes collaboratively in small groups (for a small % of their grade). This may help mitigate student anxiety which has been linked to lower overall test scores (Gokhale, 1995). Collaborative quizzes can be implemented in a variety of formats:
  o Students take the quiz individually and then discuss their responses with teammates before turning in a copy completed as a group. 50% of each student's score relies on the group score (Gokhale, 1995).
  o Students take the quiz individually and then in groups; if the group score is higher, the difference is added to the individual grades, or a group bonus may be given for a perfect score in the group exam (Weimer, 2017).
  o A group works on questions together; then, students are given individual answer sheets.
  o If everyone in a given group scores a certain minimum grade, all members receive a bonus number of points (Gokhale, 1995).
  o Groups are composed of the same number of members as there are quizzes taken over the semester. All members of the group prepare for each quiz together. A different member of the group takes each quiz, and the whole group gets their score (Gokhale, 1995).
  o Allow 10-15 minutes at the end of an exam for discussion and revision, prior to submission (Weimer, 2017).

SUGGESTIONS FOR IMPLEMENTATION (GOKHALE, 1995)

- Create groups of students with varying strengths and backgrounds.
- Use group reports to ensure all students are contributing equally.
- If feasible given class size, debrief the activity with the whole class.
- Walk around among groups to answer questions and to get a sense of how students are working with the material.

EXAM STUDY SKILLS GUIDE(S)

WHY?

- Many students have never been explicitly taught how to study, and instructors have varying expectations regarding student performance. Providing guidelines and suggestions may help improve students' preparation.

EXAMPLES

Study skills guides could include (Guardian Teacher Network, 2014; Hamilton, 2009; Skinner, 2015; Weimer, 2008):

- Practice questions.
- Instructions for solving particular types of problems or responding to specific question types.
- Common errors of long answer/essay questions that the instructor sees frequently and does not want to see (Pullum, 2015).
- Assessment criteria for each type of question and model responses (Boud and Associates, 2010; Yorke, 2003).

SUGGESTIONS FOR IMPLEMENTATION (WEIMER, 2008)

- Provide guide(s) in-class. Have students question and comment on it (them).
- After the exam, debrief with students to determine how helpful the guide was.
- Provide guide(s) online as a course resource.

REGULAR REVIEW ACTIVITIES

WHY?

- Making test preparation an ongoing part of classroom activities helps students to link course material with assessment and avoid cramming.
- Regular, ongoing review of course materials can also encourage active learning rather than more passive note-taking.

EXAMPLES

- Each class, ask a question from the previous class' material, and have a short discussion (Weimer, 2013b).
- Ask students to turn to their notes from a certain class/unit and select three things they think they will need to know for the exam (Weimer, 2013b).
- Review concepts that students found difficult on past assignments; go over questions step by step (Hamilton, 2009; Weimer, 2012a; Weimer, 2015b).
- Use group activities in scheduled review sessions rather than a simple question-answer format (see also "Collaborative preparation for exams") (Weimer, 2012a).

SUGGESTIONS FOR IMPLEMENTATION

- Plan regular short review sessions (five minutes) at the beginning of each class (Weimer, 2013b).
- Organize drop-in review sessions throughout the term (Hamilton, 2009).
- Build review sessions in the course schedule (Weimer, 2012a).

MINDFULNESS ACTIVITIES (GUARDIAN TEACHER NETWORK, 2014)

WHY?

Mindfulness can reduce anxiety. Student anxiety is linked to lower exam scores; anxious students may be well-prepared but unable to perform well.

EXAMPLES

- Simple breathing exercises: breathe in through the nose to a count of three, hold for a count of three, and breathe out through the mouth for a count of four. Increase breathing in and out counts gradually.
- Basic mindfulness activity: silently identify one seen object, one sound, one smell, one taste, and one tactile sensation in the immediate environment.
- Mindfulness meditation: eyes closed or open, breathe in a natural rhythm and focus on the breath.

SUGGESTIONS FOR IMPLEMENTATION

- Prepare one or two activities and practice giving the instructions beforehand so you can ensure you are explaining well.
- Practice the mindfulness activity with the class on another (non-exam) day first so the introduction of an unfamiliar activity doesn't add to exam anxiety for some students.
- Announce ahead of time that the first three to five minutes of the exam period will be spent on a mindfulness activity so students are not surprised.
- Allow students to take out their pens, pencils, calculators, etc. before beginning an exam.

STRATEGIES FOR EXAM DEBRIEFING

STUDENTS REFLECT ON THE EXAM

WHY?

- Students think critically about their experience on the exam.
- Students gain a better understanding of their learning.
- Professors obtain useful feedback from students.

EXAMPLES

Prompts can include:

- "On a 1-5 scale, rate each section/question on how clear it was (Awaisu, Norny, Mohamad, Stiti & Nor, 2010)."
- "What study techniques did you use? How much effort did you put into studying? Based on this exam, what techniques do you plan to use to prepare for the next one" (Weimer, 2008)?
- "Predict your score and justify your prediction" (Weimer, 2010).
- "Evaluate the difficulty of the exam/section/question" (Awaisu, Norny, Mohamad, Stiti & Nor, 2010). (Provide a scale.)

SUGGESTIONS FOR IMPLEMENTATION (AWAISU, NORNY, MOHAMAD, STITI & NOR, 2010; WEIMER, 2010)

- Include a debrief questionnaire on the last page of the exam.
- Distribute a debrief questionnaire when corrected exams are returned.
- Allow class time to fill out a debrief questionnaire.
- Make the debrief questionnaire an online assignment.

INDIVIDUAL FOLLOW-UP

WHY?

Taking time to follow up with students communicates your interest in their learning and can be motivating for students.

EXAMPLES

- After the first exam, send emails: (Skinner, 2015)
  - to poor scorers: book meetings to discuss study strategies; and
  - to average and above average scorers: offer generalized study tips.
  - You might also ask students to share their study tips with you, and compile and share these with the class.

- For the questions students did not complete correctly, have each student identify in which unit/class period those questions were discussed, review their notes and course materials, and set goals for the next exam (Weimer, 2010).
- Distribute "A memo to students who are disappointed with their last test grade" including a test preparation checklist for students to reflect how they prepared for the test (Weimer, 2015a).

SUGGESTIONS FOR IMPLEMENTATION

- Use emails, questionnaires, checklists, and face-to-face meeting (Weimer, 2012b).
- Consider using audio feedback rather than providing extensive written feedback (University of New South Wales, 2010).

RESOURCES

Templeton, E. E. (2014). Crowd-sourcing examinations. *The Chronicle of Higher Education.* Retrieved from http://chronicle.com/blogs/profhacker/crowd-sourcing-examinations/56391

This article discusses ways in which involving students in the design of exams, including the production of collaborative study guides, can help student performance. It offers an in-depth overview of a particular strategy, and the comments below the article provide many other useful strategies employed by teaching professionals in a variety of contexts.

Weimer, M. (2013). Exams: Maximizing their learning potential. *Faculty Focus.* Retrieved from http://www.facultyfocus.com/articles/educational-assessment/exams-maximizing-their-learning-potential/

This article offers a number of different strategies for regular short review activities to integrate exam preparation into the classroom.

Weimer, M. (2016). Five ways to improve exam review sessions. Faculty Focus. Retrieved from http://www.facultyfocus.com/articles/teaching-professor-blog/five-ways-to-improve-exam-review-sessions/

This article offers a great variety of different strategies for running better review sessions, as well as a few suggestions for linked debrief sessions.

Weimer, M. (2017). Group exams and quizzes: Design options to consider. Faculty Focus. Retrieved from https://www.teachingprofessor.com/topics/grading-feedback/quizzes-exams/group-exams-quizzes-design-options-consider/

This article describes some of the effects of anxiety on exam performance. It offers justifications for group-based collaborative assessment as well as a number of different techniques to implement collaborative assessment. The comments below this article are also particularly rich.

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