



Collaborative Learning Through Group Testing

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6/23/2018

Cite this resource: Y. Chen. (2018). Collaborative Learning Through Group Testing. Kent State University Center for Teaching and Learning. Retrieved [today's date] from <http://www.kent.edu/ctl/group-testing>.

What is Group Testing

Group testing is an instructional tool that incorporates a group component to traditional individual testing to assess student learning. After an individual test, students form groups to retake the exam or part of the exam. Grades from these exams are a combination of the individual and group scores.

In most education settings, assessments are designed to measure a student's individual mastery of materials with no help from peers or other resources. As an alternative to this traditional format, a group collaboration component can be added, during which students work together to answer the same set of questions. Students' final grade is a combination of individual and group test results. The key benefits of group exam technique include:

- Students LEARN at the same time when they are assessed (Cortright et al, 2003; Gilley & Clarkson, 2014)
- Students receive immediate feedback on how they did on the test
- Help reduce exam anxiety (Zimbardo et al, 2003)
- Students are motivated to engage in discussion, debate and peer-instruction activities
- Lower-achieving students benefit from receiving explanation from their peers and learn from their mistakes
- Higher-achieving students benefit from practicing teaching to their peers and further strengthen their learning
- Students learn to develop interpersonal communication skills and positive relationships with other students. (Sandahl, 2010)

Implementation

1. Explain to student how/why you are conducting the test this way and how it will help them learn.
2. Write the test that will take shorter time to complete than the time is available. For example, a 40-min test for a 75 min class period.
3. Individual Test: Students take the test on their own and the instructor and/or TA collects the exam at the end of the first test segment.
4. Group Test: Students assemble in pre-formed groups of 3 to 4 and retake the exam or part of the exam as a group. Students are encouraged to discuss and reach consensus and record the final answers on a separate group answer sheet.
5. Instructor and/or TA monitors the discussions during the group phase of the exam and clarify and assist where appropriate. Remind students of the time remaining.
6. Student's final grade on the test is typically composed of 80-85% of their individual scores and 15-20% of the group scores.



Frequently Asked Questions

- a. *Is this cheating and will unprepared students simply get a free ride?* This is usually not a concern as a student's final score is determined predominantly by his/her individual score. Plus, the whole point is to engage discussion and peer-instruction. The participation and learning that take place during the group test period is music to every educator's ears!
- b. *What happens when students received worse scores as a group?* First of all, group scores are almost always higher than individual scores. In rare occasions that the group scores are lower, a student's individual score becomes the final score.
- c. *How are groups formed?* The optimal group size is around 3 to 4. A group with too few students compromises the diversity of interactions and problem-solving strategies. Larger groups on the other hand, do not allow enough time for each member to voice his/her opinions and also makes it harder to reach consensus. It's helpful to preform the groups before the exams and incorporate group-activities throughout the course during regular instruction periods. This way, students get to know their group members. It also allows the instructor to make necessary adjustments based on observations of group dynamics and to accommodate occasional requests from students to change groups.
- d. *How much time should each part of test be given?* (see #2 in the "Implementation" For example, a 75 min class can be divided into a 40 min individual test and a 25-30 min group test session.
- e. *How to manage individual to group transition?* Ask students to seat in the vicinity of their assigned group members while taking the individual exam to minimize movement during transition. Group members usually sit close to each other if group activities are routine throughout the course.
- f. *What type of questions can be used with the group test format?* Standard- (multiple choices, eg) and non-standard-test formatted questions (short-answer, eg) can be used. Writing-intensive long-essay-based questions are more challenging to implement in a group setting.
- g. *What if there is not enough time to retake the entire exam?* You can select a subset of questions for students to retake in the group exam section, such as the more challenging ones that demand higher level critical analytical skills.

Other Resources

1. A Faculty Guide to Team Projects: Collaborative Exams, an introduction to Collaborative exams from the Center for Educational Innovation - University of Minnesota: <https://youtu.be/9slwmK36ks>
2. An overview of the 2-stage group exam technique at the University of British Columbia: <https://youtu.be/ZVFWqzIVFy0>
3. A one-hour presentation on the implementation of the collaborative group exams at the University of British Columbia: https://youtu.be/wSelqE28M_g
4. A quick video (4:30) about Group Testing to Enhance Collaborative Learning: https://www.youtube.com/watch?v=8_Btfnas1A0



References

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