

## Group Quizzes to Promote Collaborative Learning

Have you ever asked students in your class to form groups and work through an example problem? When I do one of these in-class exercises, I find that students split into three camps: some initiate discussion but become distracted with side conversations, others sit back and wait until the solution is posted/discussed in class, and a few actively work through to the entire solution. However, as soon as I announce that the example problem can be turned in as a group quiz, the entire class adopts the mentality of the third camp, which is fully engaged in collaborative learning.

There are many recognized benefits to collaborative learning<sup>[1]</sup> including:

- Development of problem-solving skills
- Increased student participation
- Increased interaction, especially among diverse perspectives
- Improved student understanding
- Preparation for future, team-centric work environments

Because of the many benefits, I conduct in-class group quizzes almost every week. I begin by handing out individual copies of the quiz, and ask the students to take a few minutes to silently read the quiz and strategize how they would solve the problem. This is followed by a brief discussion period (in groups of no more than three students) where the students are not allowed to write, but instead are instructed to brainstorm and discuss how they will solve the problem. When the students begin to solve the quiz, only one student is allowed to write – forcing them to collaborate. Students are allowed to discuss their strategies with other groups; the classroom becomes quite noisy and sometimes passionately argumentative. After the first group quiz, I have observed that this behavior carries over to the other class sessions when we work through example problems that are not quiz-based.

I have given group quizzes for quite a few years now, and I have found that students benefit in multiple unanticipated ways:

- Students have reduced anxiety associated with individual assessments such as quizzes and exams.
- Because of the frequent quiz interactions, I have found that these same groups work together outside the classroom in study sessions, homework assignments, and projects.
- Students get additional practice solving “test” problems between exams.
- Stronger students learn while orally explaining their solution strategies to group members.
- Group discussion allows weaker students to learn how successful students approach problems. This is particularly helpful – unlike simply watching an athlete or musician practice and perform, the rich discussion allows weaker students to understand their colleague’s thought process.
- Weekly quizzes motivate the students to engage with the course material, to keep up with the homework assignments, and to attend class more regularly.

Some of my colleagues have asked if these group quizzes lead to grade inflation. In my class, quizzes count for ten percent of the grade, and about 80% of my quizzes are group quizzes, so altogether they are a small percentage of the students’ final grade. Overall, I have found that the collective benefits of collaborative learning are well worth the time invested in preparing, conducting, and grading group quizzes.

### REFERENCES

1. Laal M and Ghodsi SM (2012) Benefits of collaborative learning. *Procedia – Social and Behavioral Sciences*, 31: 486-490. □

— TARYN MELKUS BAYLES, UNIVERSITY OF PITTSBURGH • PITTSBURGH, PA 15261

Teaching Tips (TT) are limited to 1 journal page and are peer reviewed. Submit TT through <https://journals.flvc.org/cee>, include TT in the title, and specify TT as the article type.