Flipping Review Sessions with Learning Catalytics

Abstract

Designing lessons that enhance student engagement and learning is crucial in today's educational climate. "Flipping the classroom" is one strategy that continues to gain traction. Learning Catalytics (LC), a student response/assessment tool now accessible to students using MyLab/Mastering, has features that make it very useful in promoting student engagement and learning. In this session, we will see LC in action. Specifically, attendees will see how LC's team-based assessment feature with weighted scoring is ideal for "flipping" a review lesson. Participants should bring their web-enabled device (smart phone, tablet, or laptop) to take part in the demonstration.

Rationale

Many of us design unit reviews with the intention of helping students check their understanding of key concepts in preparation for an exam. Such strategies can model effective study tools, which is especially important in developmental courses. But if you're like me, you've been less than satisfied with the level of student participation, and have wondered if you get more out of the review than your students do! Class time is precious, and it becomes difficult to justify using it for review sessions if students don't put forth enough effort to benefit. The Team-Based Assessment feature in Learning Catalytics effectively addresses these issues.

Procedure

1. During a class meeting before your review session, have students select groups for the review session (or you can use groups that you predetermine) in Learning Catalytics.
2. Launch the individual round for the review.
3. Students complete the review outside of class.
4. During your in-class review session, stop the Individual Round, and begin the Team Round. Students login to Learning Catalytics and enter their groups.
5. Team members can view (on their device) the responses that each team member made during the individual round. If there are any discrepancies, they can discuss them. When the team has reached agreement about the best answer, they can submit a "team" response.
6. Once a team response has been submitted, the team will be able to see if their response was correct or incorrect. If incorrect, they can further discuss the question and enter a different response. (The instructor can set a limit on the number of allowed responses in the team round, and determine decreasing points for successive responses.)
7. When the class is finished with the team round, stop the session. If you're using a MyLab/Mastering course, you can have the scores appear in the appropriate gradebook, or you can download them as a .CSV file for whatever gradebook you use.

Issues Addressed Effectively

- Lack of individual effort before the in-class group review session.

  Learning Catalytics allows you to adjust the weighting in team-based assessments.

  Final score = 50% individual score + 50% team score

  Score based solely on individual work ——————————————————— Score based solely on team work

  Responses in each round receive separate grades; for example, credit-bearing responses on two rounds of a three-point question would result in six points overall.

- Lack of involvement during group sessions.

  Learning Catalytics allows you to limit the number of responses allowed in the team round, and to allocate different (decreasing) point values to successive responses during the team round.

  In the team round:

  Answering correctly on attempt 1 is worth [4] points

  Answering correctly on attempt 2 is worth [2] points
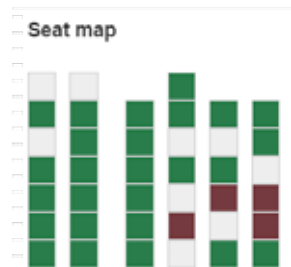
  Answering correctly on attempt 3 is worth [1] points

  (Correct responses in the individual round are worth the maximum number of points.)

  + Allow more attempts   **−** Allow fewer attempts

- Difficulty Targeting "Needy" Groups during Review Sessions

  The classroom map allows you to see where correct/incorrect answers are distributed throughout the classrrom.

  Seat map

Tips

- It is often preferable to use predetermined groups rather than letting students choose their own. This can simplify the process of initiating a team-based assessment.
- If you do allow students to choose their own groups, encourage them to use *very short, simple team names* (like 1, 2, 3, a, b, c, …).
- Learning Catalytics offers many formats for questions, so you're not limited to multiple-choice questions.
- If your students have not used Learning Catalytics before, you should allow 15-20 minutes for them to login, enter the session, and choose groups.

- It does take some time to create modules in Learning Catalytics (especially when using some of the advanced features), but you can make the migration a gradual one by basing modules on materials you have used in the past. (For example, you might give a handout for the review, and just have students input their answers in LC.)
- On the (increasingly) rare occasion that a student does not have a device, it works just fine. They complete the individual round at home using a computer. During class (during the team round), as long as one person in their group has a device, they can still contribute to the discussion and have that person submit responses for the entire team.

Conclusions

Though I've been somewhat skeptical about the idea of *encouraging* the use of cell phones during class time, I've been quite impressed with the effectiveness of Learning Catalytics in increasing student engagement (and thus benefit) in unit review sessions. In fact, I rarely find students using their phones for texting during review sessions. Since I often use MyMathLab for online homework/curriculum, there is no added expense to my students for using Learning Catalytics. For these reasons, I'm sold!

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