Interactive Learning, online and in-person

IAP Research Symposium on Innovative Leadership
Transforming higher Education in the digital Age
20 June 2022
Interactive Learning, online and in-person

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Transforming higher Education in the digital Age
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@eric_mazur
quick reflection
quick reflection

think of something you are good at
quick reflection

how did you become good at that?
Goal of this session
demonstrate how to integrate Perusall in your teaching approach
Joining Learning Catalytics

learningcatalytics.com/demo
Joining Learning Catalytics

Join live session

Participate in a poll that is taking place in your class now.

58637213

Join

Session ID
Joining Learning Catalytics

Each table: agree on a team name

Enter the name of your team. Make sure that everyone

Team name: 23

✓ OK

Name of your team goes here!
Joining Learning Catalytics

Session 58637213

Warning: Grades will not be recorded when you log in with this demo account. Please log out and log in again using your Learning Catalytics account username and password.

You have joined the session; your team currently consists of:

- Lukoff, Brian
- Miller, Kelly

Please wait for your instructor to start the individual round.

Current team: 23  🔄 Change team  📩 Send a message to the instructor  ⇐ Join another session
Joining Learning Catalytics

Session: 58637213

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<table>
<thead>
<tr>
<th>23</th>
</tr>
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<tbody>
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This is the individual round; work on these questions on your own.

Jump to ▼ 1 2 3 4 5

**many choice question**

Teaching by questioning, as described in the Science article you read has the following advantage(s) over the traditional lecture method (check all that apply)

A. Students engage in meaningful thinking during class time

B. Students become emotionally invested in the learning process

C. It provides an opportunity for the instructor to integrate technology (such as clickers) into the classroom

D. Students help each other resolve misunderstandings more effectively

E. Promotes memorization of factual questions

You may select zero, one, or many answers.

Submit response

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This is the team round. If you respond to a question, it will count for your entire team (you and Kelly Miller). Only one member of your team should respond to each question (otherwise it will count as multiple attempts).

For an assessment like this to work in an online setting which of the following must be true? (check all that apply)

A. The questions must have a correct answer.

B. The questions must not be so difficult that the best students can’t score 100% individually.

C. Each of the questions must permit at least 3 choices.

D. The instructor must make sure that the answers to the questions are not available on the internet.

E. The questions must involve thinking skills on Bloom’s taxonomy higher than memorization (understanding or higher).

F. The assessment must be low-stakes and frequent.
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Show my team's responses

C, D, E, and F
Brian Lukoff

A, C, D, E, and F
Kelly Miller

**many choice question**

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F.
Readiness Assurance

This is the team round. If you respond to a question, it will count for your entire team (you and Kelly Miller). Only one member of your team should respond to each question (otherwise it will count as multiple attempts).

1st attempt: 4 pts
2nd attempt: 2 pts
3rd attempt: 1 pt
4th attempt: solution revealed

For an assessment like this to work in an online setting which of the following must be true? (check all that apply)

A. The questions must have a correct answer.
B. The questions must not be too obscure; the students can't score.
C. Each of the questions must permit at least 3 choices.
D. The instructor must make sure that the answers to the questions are not available on the internet.
E. The questions must involve thinking skills on Bloom's taxonomy higher than memorization (understanding or higher).
You have completed all of the questions.

5/5 questions attempted, 13.0/20 possible points in team round

<table>
<thead>
<tr>
<th>Question</th>
<th>Individual Result</th>
<th>Points</th>
<th>Team Result</th>
<th>Points</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Correct</td>
<td>4.0</td>
<td>Correct (on attempt 1)</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>2</td>
<td>Correct</td>
<td>4.0</td>
<td>Correct (on attempt 2)</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>3</td>
<td>Incorrect</td>
<td>0.0</td>
<td>Correct (on attempt 1)</td>
<td>4.0</td>
<td>2.0</td>
</tr>
<tr>
<td>4</td>
<td>Correct</td>
<td>4.0</td>
<td>Correct (on attempt 2)</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>5</td>
<td>Incorrect</td>
<td>0.0</td>
<td>Correct (on attempt 3)</td>
<td>1.0</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12.0</strong></td>
<td></td>
<td><strong>13.0</strong></td>
<td><strong>12.5</strong></td>
</tr>
</tbody>
</table>

Readiness Assurance

• teambasedlearning.org
• need to make questions difficult
• need to “de-Google” questions
Perusall Feedback — Pedagogy

- motivating students
- instructor involvement
Motivating students

Rodrigo Fernández Donoso: “Ufff. The [...] challenge is to motivate students to read before class; if not, then the flipped class will not function.”

Natalia Salas: “[The flipped classroom] seems to me a very useful strategy but I wonder about the ways in which the student can be motivated to start with it.”
Motivating students

Marilú Matte: “Motivation is, at least in my experience, even a bigger problem now that they are “back” to presentia classes after the pandemic that kept them away from learning environments. There is a sort of epidemic of lack of motivation, mental health problems, and extreme fatigue. If we had been teaching with this method, things might be very different today.”
Motivating students

Leire Nuere Salgado: “Students usually complain about the workload in case many teachers use this system. For one teacher they love the methodology, but with many, they say is too much. How can be measured the adequate workload considering all the faculty activities?”
Motivating students

Isabel Coca: “If 70% of the students don’t do an assigned reading, my question is how much the teacher is going to give the session for the 30% who have read it?”
Reading Assignment Overview

Because there are no lectures in AP50, you will be using Perusall to familiarize yourself interactively with the basic content of the course. You will do so by reading one chapter per week from a textbook that evolved from a set of lecture notes for an introductory physics course. The textbook, Principles and Practice of Physics (Eric Mazur, Pearson 2015) is available at no cost in Perusall. If you want a printed copy, you can purchase the book via one of the many online textbook vendors, but this is neither required nor necessary.

The Perusall platform permits you to interact asynchronously with other students in the class and help each other build a deeper understanding by annotating and discussing the material within the context of the text you are reading.

If you haven't yet done so, watch this short introductory video about Perusall before proceeding.

Purpose of the reading assignments

The goal of the reading is to gain sufficient knowledge to be able to participate in subsequent activities in a meaningful way — just as a lecture would (but now you can do it at your own convenience and pace, and you can interact with others). The goal is not to master every little detail — the other activities are designed to reinforce your understanding of the important principles before you begin to apply them in the projects. There is no need to memorize any of the information in the text, as you will always have access to it. Therefore you can focus on understanding, rather than memorizing.

Fostering a community of learners in Perusall

Perusall is your space and provides a good opportunity to create happenstance encounters and build an online community of learners. The teaching team will not participate in the discussions in Perusall, although to help facilitate and bootstrap both the conversation and your critical thinking about the material, we will pre-annotate the chapters in Perusall with a number of questions that students in previous years have asked. The Perusall Curators Program, however, permits some of the most burning lingering questions or points of confusion to be transferred to the #perusall-loose-ends channel on Slack, where everyone, including members of the teaching team, can join in on a conversation.

With this space on Perusall for interacting with others also comes the responsibility of maintaining professionalism. It is important to always behave respectfully, even with conflicting view points. While there is no moderation of the annotations on Perusall, you can anonymously report an annotation if you deem it to be inappropriate or plagiarized. Click the small 'hazard' triangle underneath the annotation and the annotation will be removed until it is reviewed by the teaching team.
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Purpose of the reading assignments

The purpose of the reading assignments is to develop your knowledge to be able to participate in subsequent activities in a meaningful way — just as a lecture would provide you with the basic ideas, you are expected to do the same in Perusall. The key is not to master every little detail — the other activities are designed to reinforce your understanding of the important principles before you begin to apply them in the projects. There is no need to memorize any of the information in the text, as you will always have access to it. Therefore you can focus on understanding, rather than memorizing.

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Natalie Michaud: “This requires instructors to be flexible, responsive, and accountable as well, which must certainly help to create a productive learning environment. Are instructors reluctant to implement/use this feature because of the work it entails?”
Instructor involvement

How I prepared myself
Perusall Feedback — Technology

- grouping
- scoring
- LMS
- synchronous use
- content
Leire Nuere Salgado: “How are made these groups? Sometimes it is interesting to mix people so we can grant diversity (age, gender, cultural background, etc.).”
Miguel Montes: “Does the platform offer tools for measuring the engagement?”

Juan Pablo Del Alcázar Ponce: “Does this function evaluate “time in the document” or interactions?”

Elsa Estevez: “I would like to know more about how it works and to discuss the use of AI in teaching and learning processes”
Leire Nuere Salgado: “Interesting. I´m curious about my result 😆 How does it work with non-native speakers? How accurate it´s the system?”
Raul Moncayo: “The challenge is to create pedagogical and practical material that motivates reading, either through an LMS platform, papers or more didactic books.”
Leire Nuere Salgado: “What works better pre-class reading or pre-class videos?”
Documents you can use with Perusall

- PDF, Word, html, or ePub files (free)
- video—YouTube, Vimeo, Google Drive, Dropbox (free)
- open access material (free)
- source code with syntax highlighting (free)
- books (purchased by students or institution)
Reflection

• asynchronous preparation
• synchronous time for discussion
Reflection

• asynchronous preparation
• synchronous time for discussion
• dig deeper post-session
Upgrading to Instructor Account

- log in to your Perusall Account
- click “Enroll in Course”
- enter code: VVTQIBJNVK
for a copy of this presentation:
mazur.harvard.edu
additional resources in Perusall course
also see link
@eric_mazur