

Interactive Learning, online and in-person



IAP Research Symposium on Innovative Leadership
Transforming higher Education in the digital Age
20 June 2022



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@eric_mazur

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quick reflection



The background of the slide is a faded, artistic illustration of a person's face, focusing on the eyes. The face is rendered in a sketchy, painterly style with muted colors. The eyes are large and expressive, looking directly forward. The overall tone is contemplative and artistic.

quick reflection

think of something you are good at

The background is a faded image of a book cover. It features a portrait of a man with a beard and a turban, looking slightly to the side. The text 'quick reflection' is printed in a bold, black, sans-serif font at the top. The book's spine and edges are visible, showing a yellowish-tan color.

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

Partipate 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 with your Learning Catalytics account username and password.

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

| 23 |
|---------------|
| 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](#)

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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).



Jump to ▼

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+ [Show my team's responses](#)

multiple choice question

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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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).



Jump to ▼

1

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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

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 cumulative. If you can't score on a question, you can't score on the next one.

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.

Readiness Assurance

You have completed all of the questions.

5/5 questions attempted, 13.0/20 possible points in team round [Q Score details](#)

| Question | Individual Result | Points | Team Result | Points | Total Points |
|----------|-------------------|--------|------------------------|--------|--------------|
| 1 | Correct | 4.0 | Correct (on attempt 1) | 4.0 | 4.0 |
| 2 | Correct | 4.0 | Correct (on attempt 2) | 2.0 | 3.0 |
| 3 | Incorrect | 0.0 | Correct (on attempt 1) | 4.0 | 2.0 |
| 4 | Correct | 4.0 | Correct (on attempt 2) | 2.0 | 3.0 |
| 5 | Incorrect | 0.0 | Correct (on attempt 3) | 1.0 | 0.5 |
| Total | | 12.0 | | 13.0 | 12.5 |

<http://bit.ly/remoterAA>

Readiness Assurance

- teambasedlearning.org
- need to make questions difficult
- need to “de-Google” questions



**information
transfer**

sense-making

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 presential 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?”



Announcements

Syllabus

Modules

Assignments

Slack

Grades

People

Perusall

Manage Course

Library Reserves

Academic Integrity Policy

Support Resources

Panopto

Collaborations

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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 #persuall-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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http://bit.ly/perusall_instructions

http://bit.ly/erics_course

Instructor involvement

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?”

A background image of a classroom or meeting room. Several people are seated around a large, light-colored circular table. In the foreground, a woman with dark hair is looking at a laptop screen. To her left, another woman is looking towards the camera. In the background, other people are working on laptops. The room has large windows on the right side, letting in natural light. The overall atmosphere is professional and collaborative.

Instructor involvement

How I prepared myself

Perusall Feedback — Technology

- grouping
- scoring
- LMS
- synchronous use
- content

A group of diverse people are working together in a modern office setting. They are seated around a round white table, which has several laptops, notebooks, and other office supplies on it. The people are engaged in conversation and looking at their devices. The background shows a bright, open-plan office with large windows and other people working.

Grouping

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.).”

Scoring

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 “

Scoring

Leire Nuere Salgado: “Interesting. I’m curious about my result 😏 How does it work with non-native speakers? How accurate it’s the system?”

LMS

Raul Moncayo: “The challenge is to create pedagogical and practical material that motivates reading, either through an LMS platform, papers or more didactic books.”

A group of students in a modern classroom setting, working on laptops and discussing content. The students are seated at round tables, and the room has large windows in the background. The text is overlaid on the image.

Content

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 bit.ly/fliponline

Follow me!



@eric_mazur