

Innovating education to educate innovators



AMISA 2024 Educators' Conference
American School of Asuncion
Asuncion, Paraguay, 20 March, 2024





@eric_mazur

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“I’m not teaching anything...”

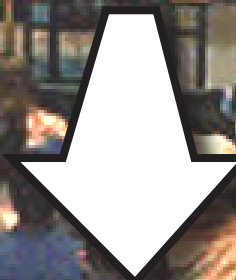
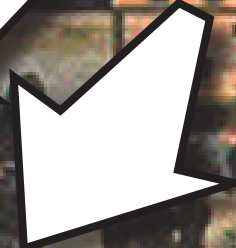
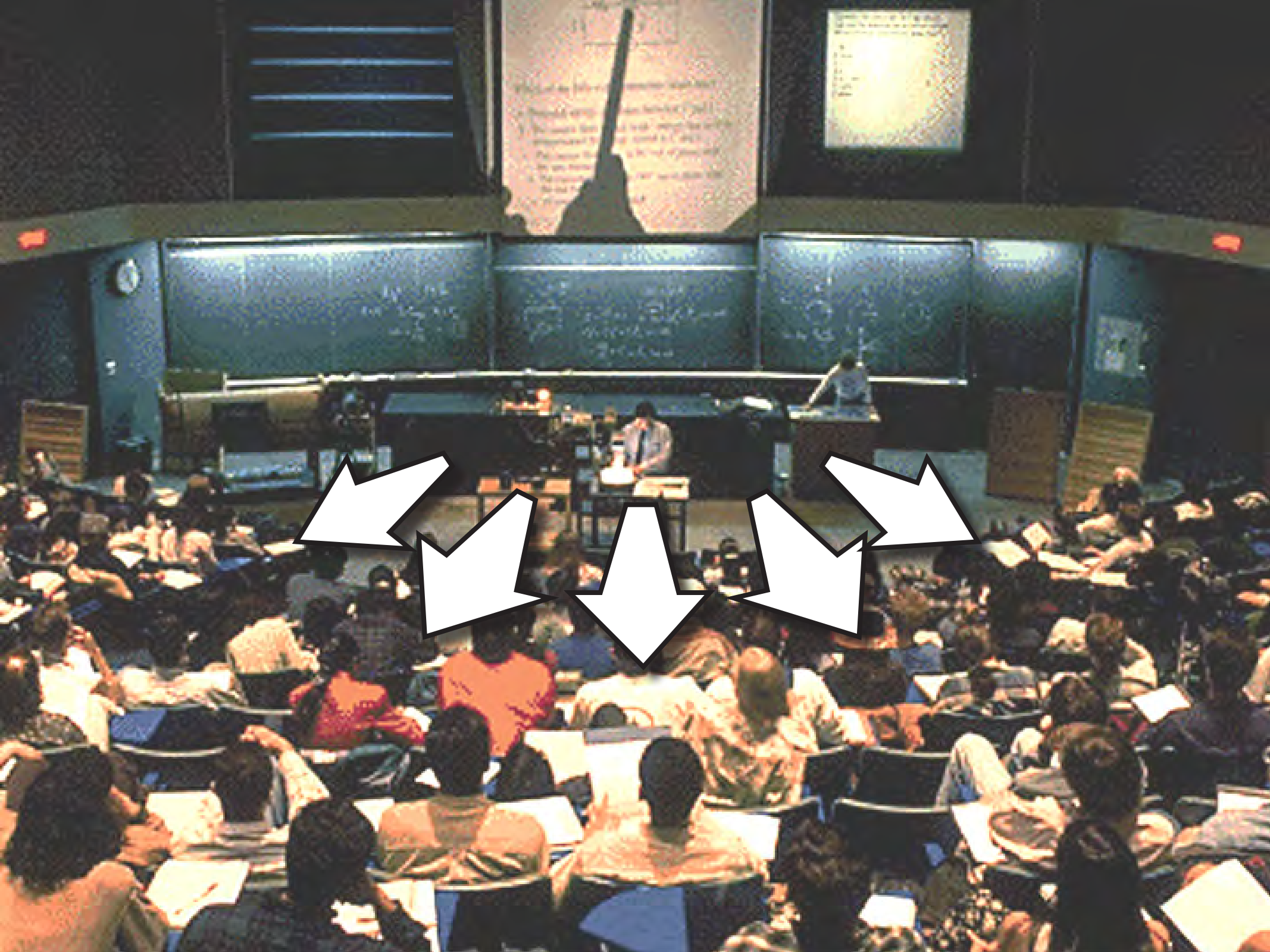
**“I’m not teaching anything...
...they are learning!”**















an illusion. . .





1. transfer of information



1. transfer of information

2. assimilation of that information



1. transfer of information (in class)

2. assimilation of that information



1. transfer of information (in class)

2. assimilation of that information (out of class)



**Should focus
on THIS!**

1. transfer of information (in class)

2. assimilation of that information (out of class)



1. transfer of information (in class)

2. assimilation of that information (out of class)



1. transfer of information (out of class)

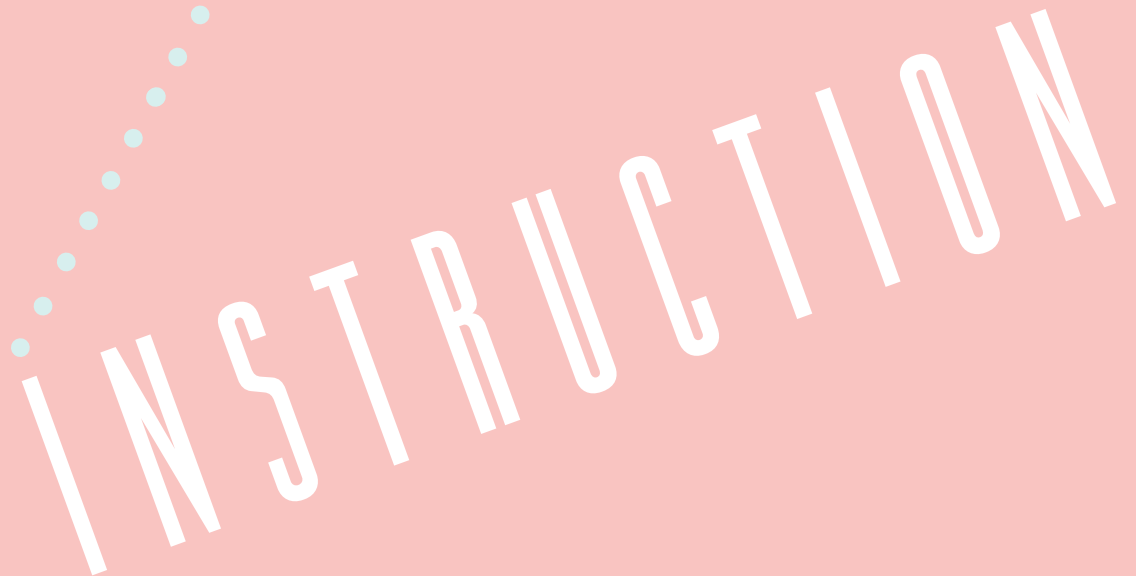
2. assimilation of that information (in class)

The word "Peer" is written in a large, white, sans-serif font with a light blue outline. A dashed yellow line with arrowheads at both ends forms a circle around the two 'e's. A dotted blue line starts from the bottom left, passes through the 'e's, and continues towards the top right.

Peer

1. transfer of information (out of class)

2. assimilation of that information (in class)

The word "INSTRUCTION" is written in a white, sans-serif font, tilted upwards from left to right. A dotted blue line starts from the bottom left, passes through the 'e's in "Peer", and continues towards the top right, ending near the word "INSTRUCTION".

INSTRUCTION

question

question



think

question



think



poll

question



think



poll



discuss

question



think



poll



discuss



repoll

question



think



poll



discuss



repoll



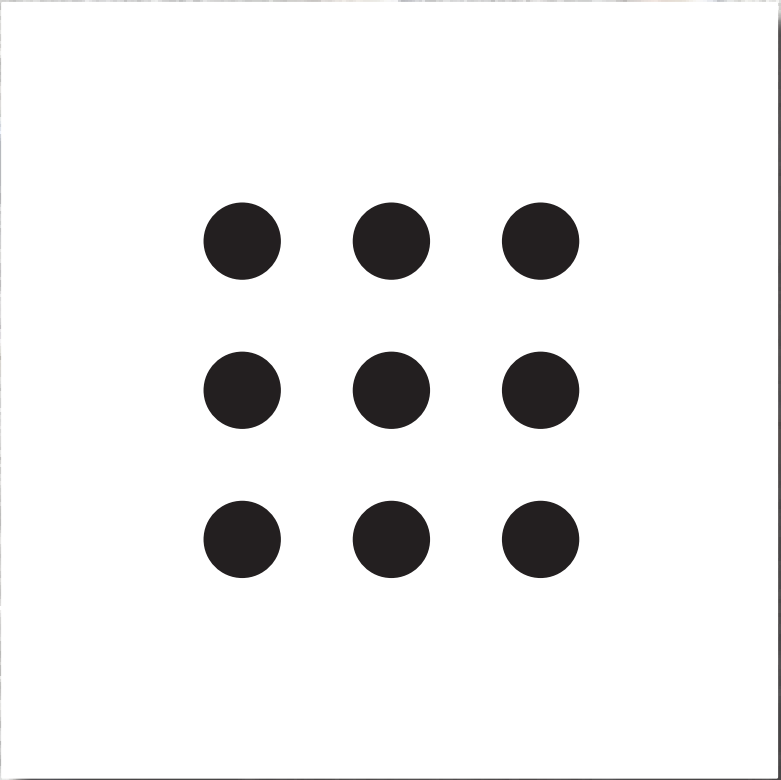
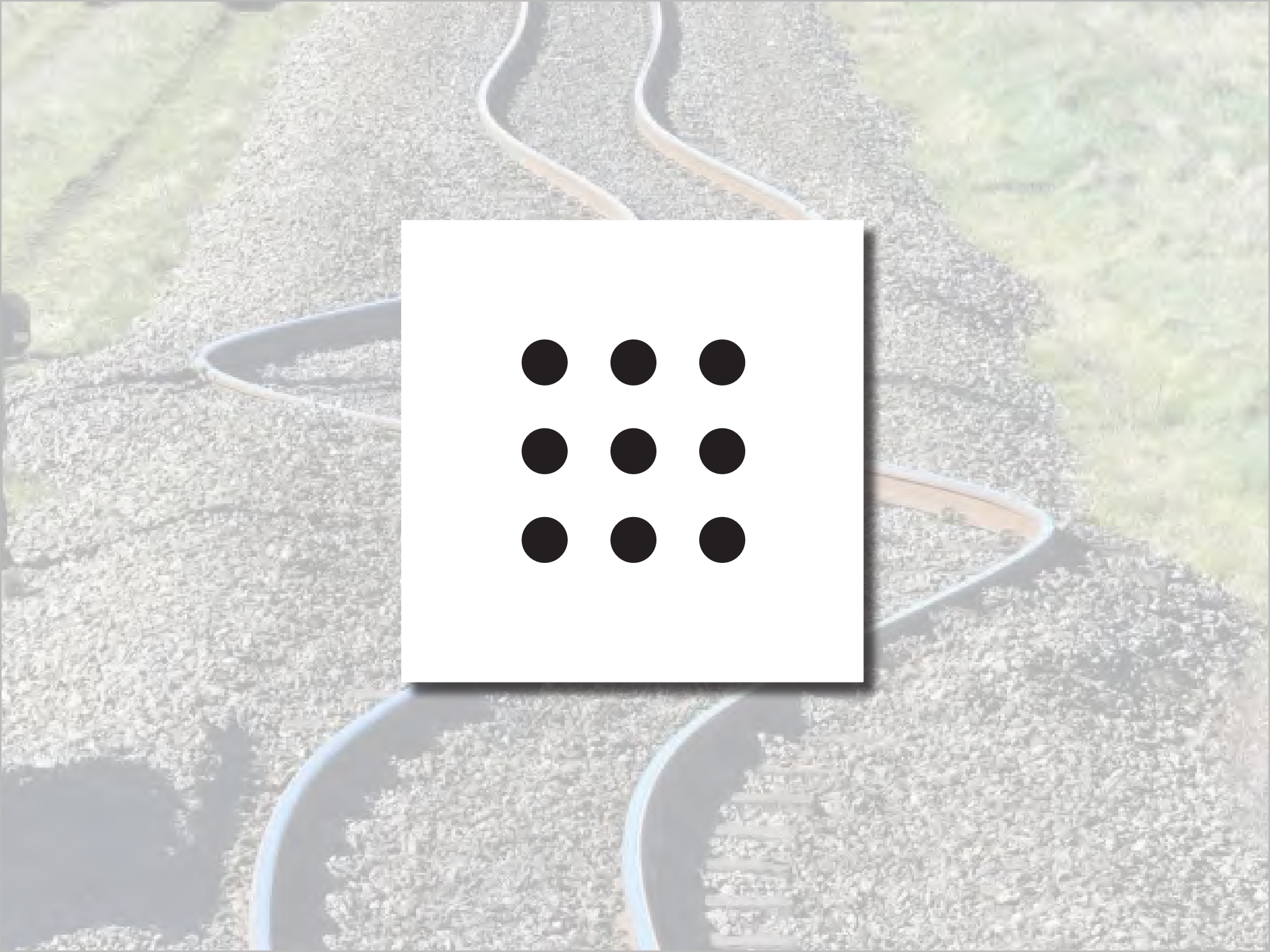
explain

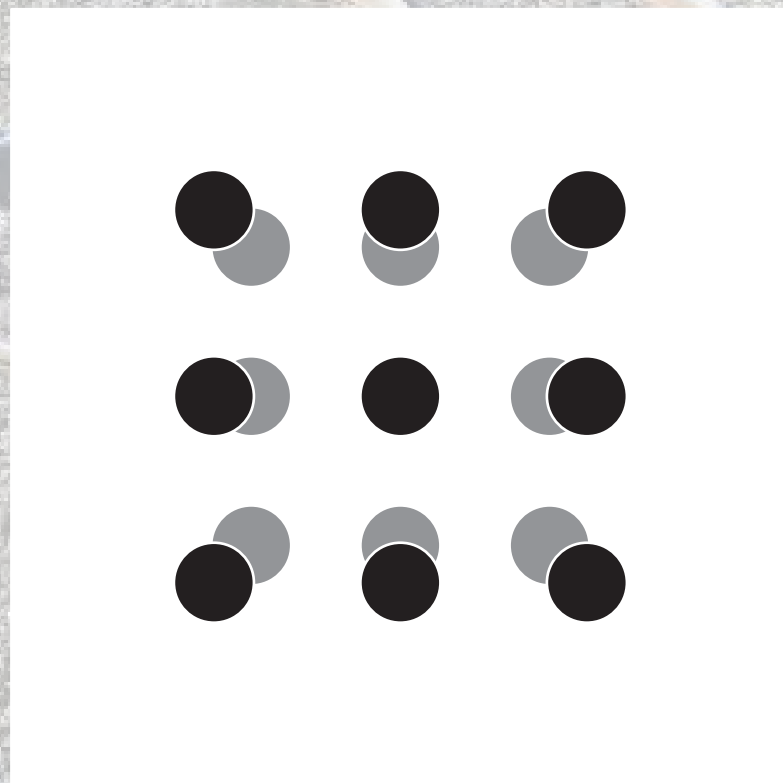




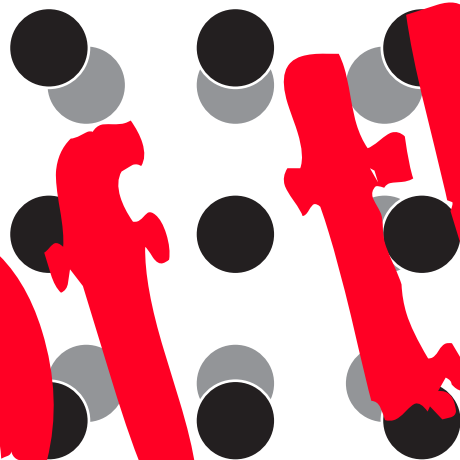
An aerial photograph of a railway track. The track is composed of two parallel rails, one of which is highlighted in a bright orange color. The rails are laid on a bed of dark grey gravel. The track is not straight but follows a wavy, serpentine path across the landscape. The surrounding area is covered in green grass. The text "thermal expansion" is written in a bold, black, sans-serif font, centered over the middle of the track.

thermal expansion





all of them



**Consider a rectangular metal plate
with a circular hole in it.**



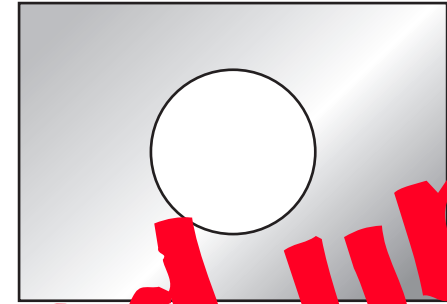
Consider a rectangular metal plate with a circular hole in it.



When the plate is uniformly heated, the diameter of the hole

- 1. increases.**
- 2. stays the same.**
- 3. decreases.**

Consider a rectangular metal plate with a circular hole in it.



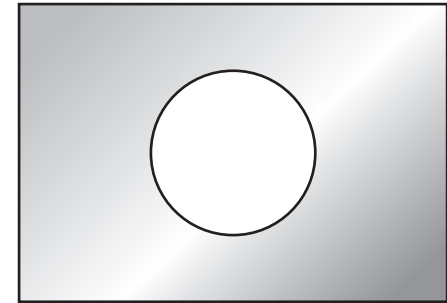
When the plate is uniformly heated, the diameter of the hole

1. increases.
2. stays the same.
3. decreases.

you got all fired up!

Consider a rectangular metal plate with a circular hole in it.

When the plate is uniformly heated, the diameter of the hole



- 1. increases.**
- 2. stays the same.**
- 3. decreases.**

Before I tell you the answer, let's analyze what happened.

Before I tell you the answer, let's analyze what happened.

You...

Before I tell you the answer, let's analyze what happened.

You...

1. made a commitment

Before I tell you the answer, let's analyze what happened.

You...

- 1. made a commitment**
- 2. externalized your answer**

Before I tell you the answer, let's analyze what happened.

You...

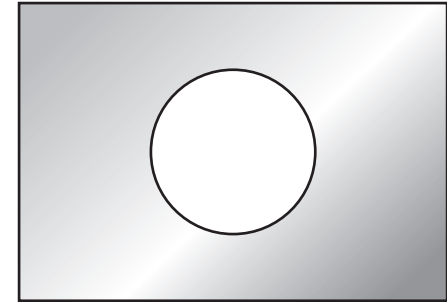
- 1. made a commitment**
- 2. externalized your answer**
- 3. moved from the answer/fact to reasoning**

Before I tell you the answer, let's analyze what happened.

You...

- 1. made a commitment**
- 2. externalized your answer**
- 3. moved from the answer/fact to reasoning**
- 4. became emotionally invested in the learning process**

Consider a rectangular metal plate with a circular hole in it.



When the plate is uniformly heated, the diameter of the hole

- 1. increases.**
- 2. stays the same.**
- 3. decreases.**

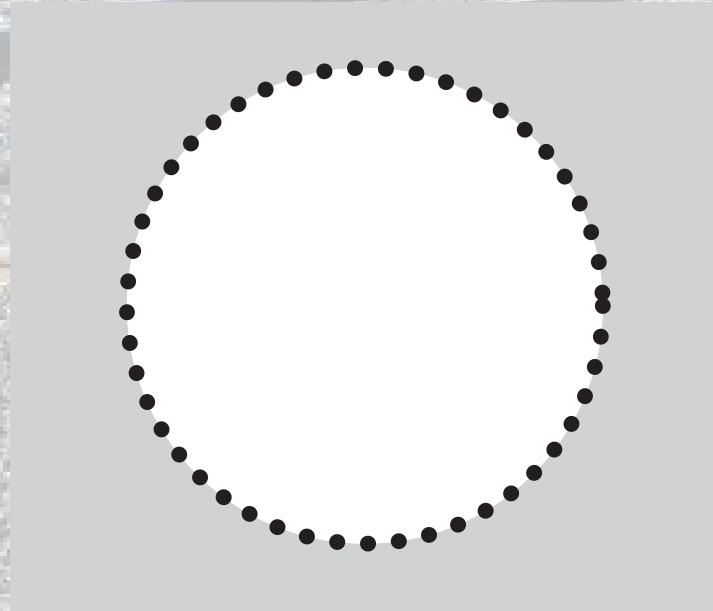
Consider a rectangular metal plate with a circular hole in it.



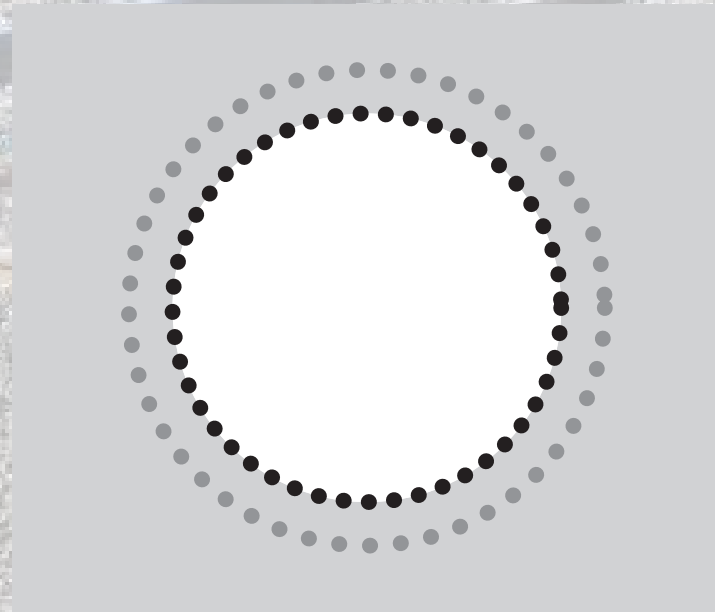
When the plate is uniformly heated, the diameter of the hole

- 1. increases. ✓**
2. stays the same.
3. decreases.

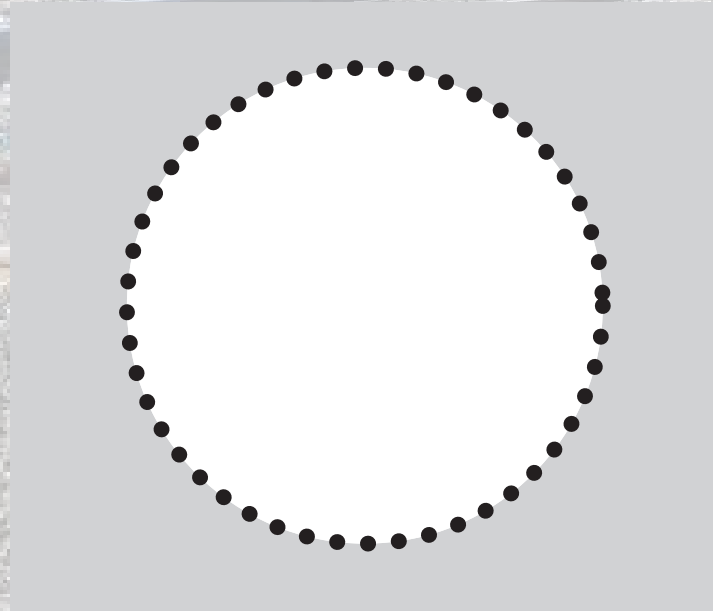
consider atoms at rim of hole



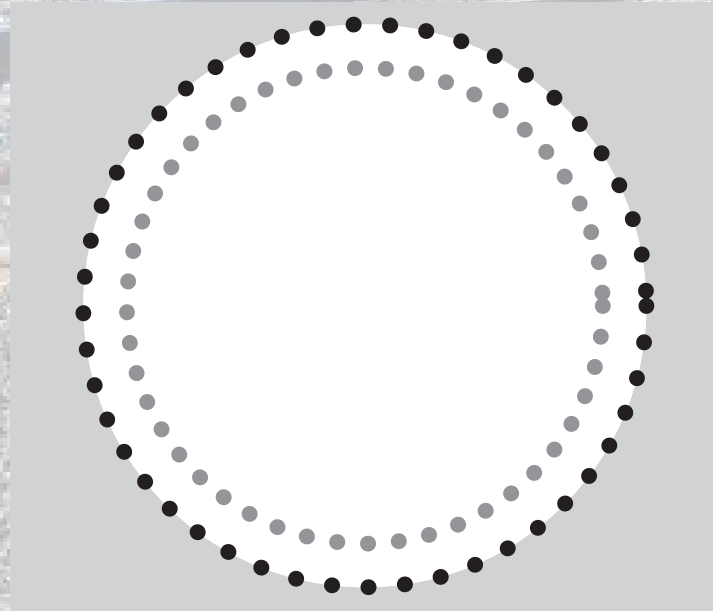
consider atoms at rim of hole



consider atoms at rim of hole



consider atoms at rim of hole



consider atoms at rim of hole

you won't forget this

A diagram showing a spiral path on a gravel surface, with a central circular callout containing the text "you won't forget this". The callout is a white circle with a black dotted border, set against a gray square background. The text "you won't forget this" is written in a large, bold, red, sans-serif font, slanted upwards from left to right, and is partially obscured by the callout.



points worth noting

- **my “clear” lecture wasn’t very good**
- **discussion promoted “aha” moments**

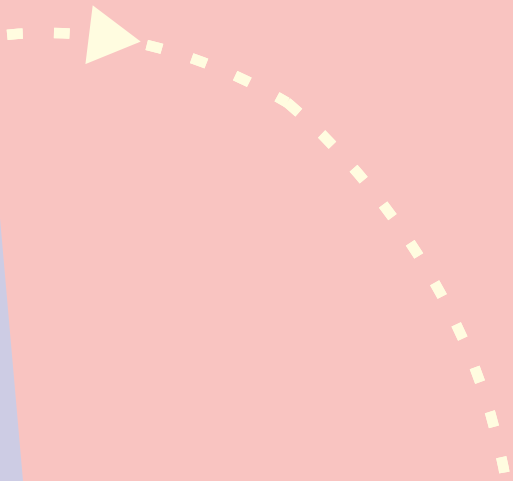
Peer

A decorative dashed yellow line with arrows at both ends, curving around the word "Peer". Small blue dots are scattered along the path of the line.

back to pl

A decorative dotted blue line that starts near the word "back" and extends diagonally downwards towards the word "INSTRUCTION".

INSTRUCTION

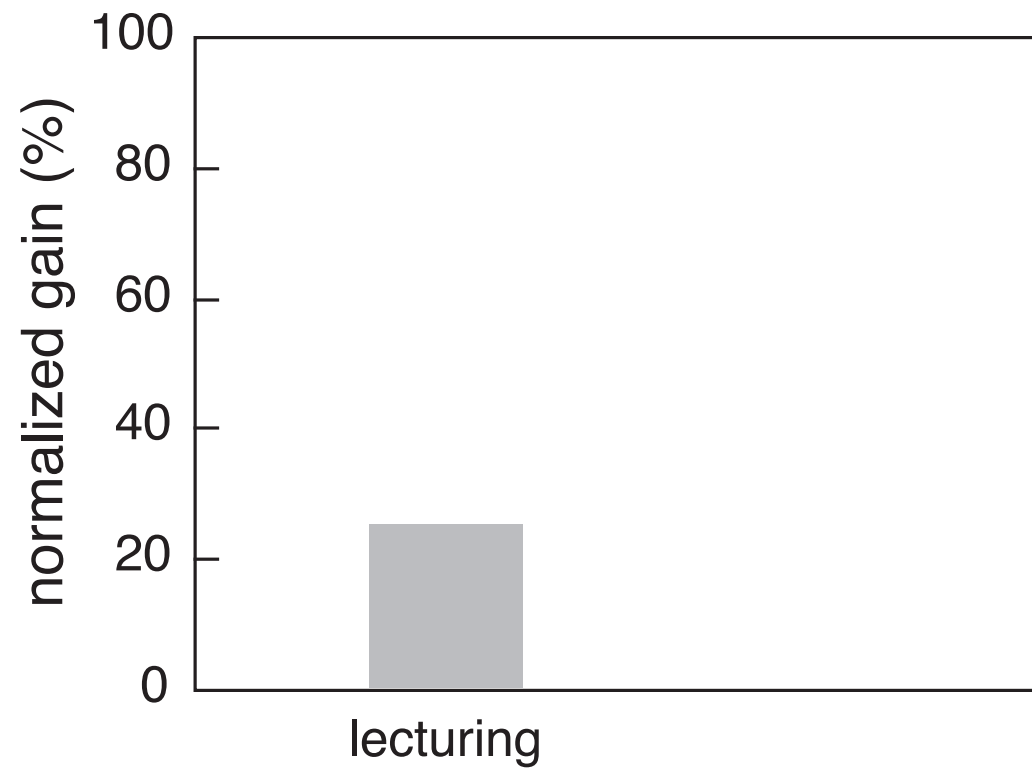
A decorative dashed yellow line with an arrow pointing to the right, located at the bottom left of the image.

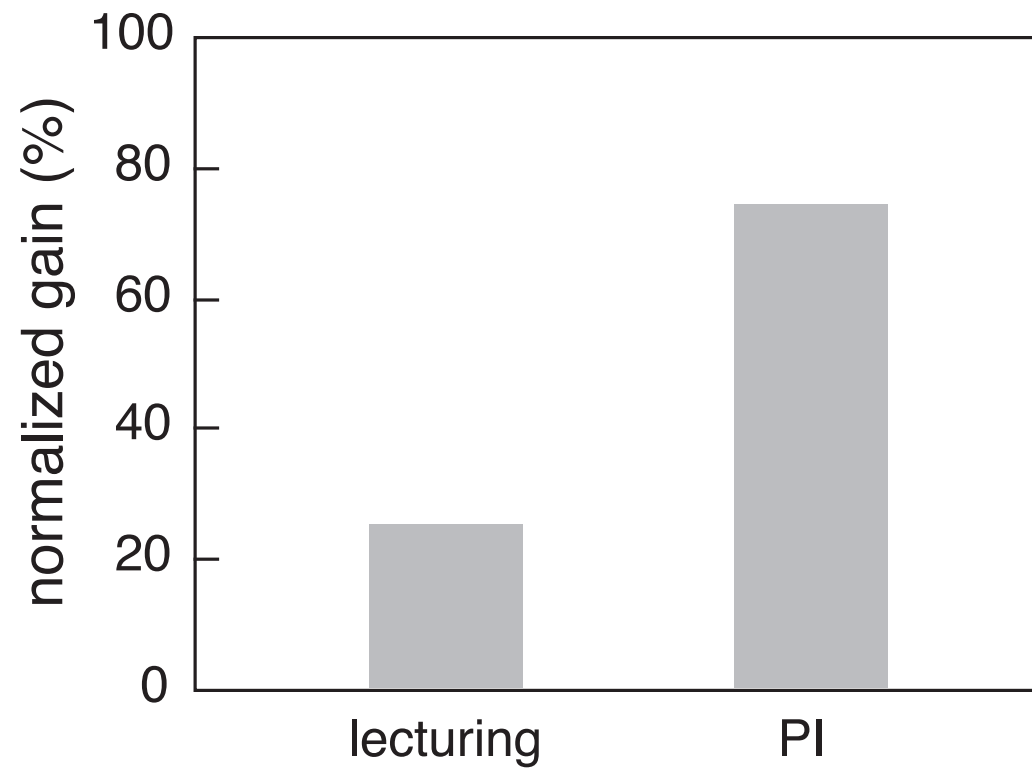




Higher learning gains

INSTRUCTION







Higher learning gains

Better retention

INSTRUCTION

The background of the slide is a faded, artistic illustration of a book cover. It features a central face with large, expressive eyes. The face is rendered in a style that blends with the book's design, which includes horizontal bands of color (yellow, red, and blue) and a textured, almost wood-grain-like pattern. The overall tone is muted and artistic.

Education is not just about:

- **transferring information**
- **getting students to do what we do**



Education is not just about:

- **transferring information**
- **getting students to do what we do**

active engagement/social interaction a must!

for a copy of these slides

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