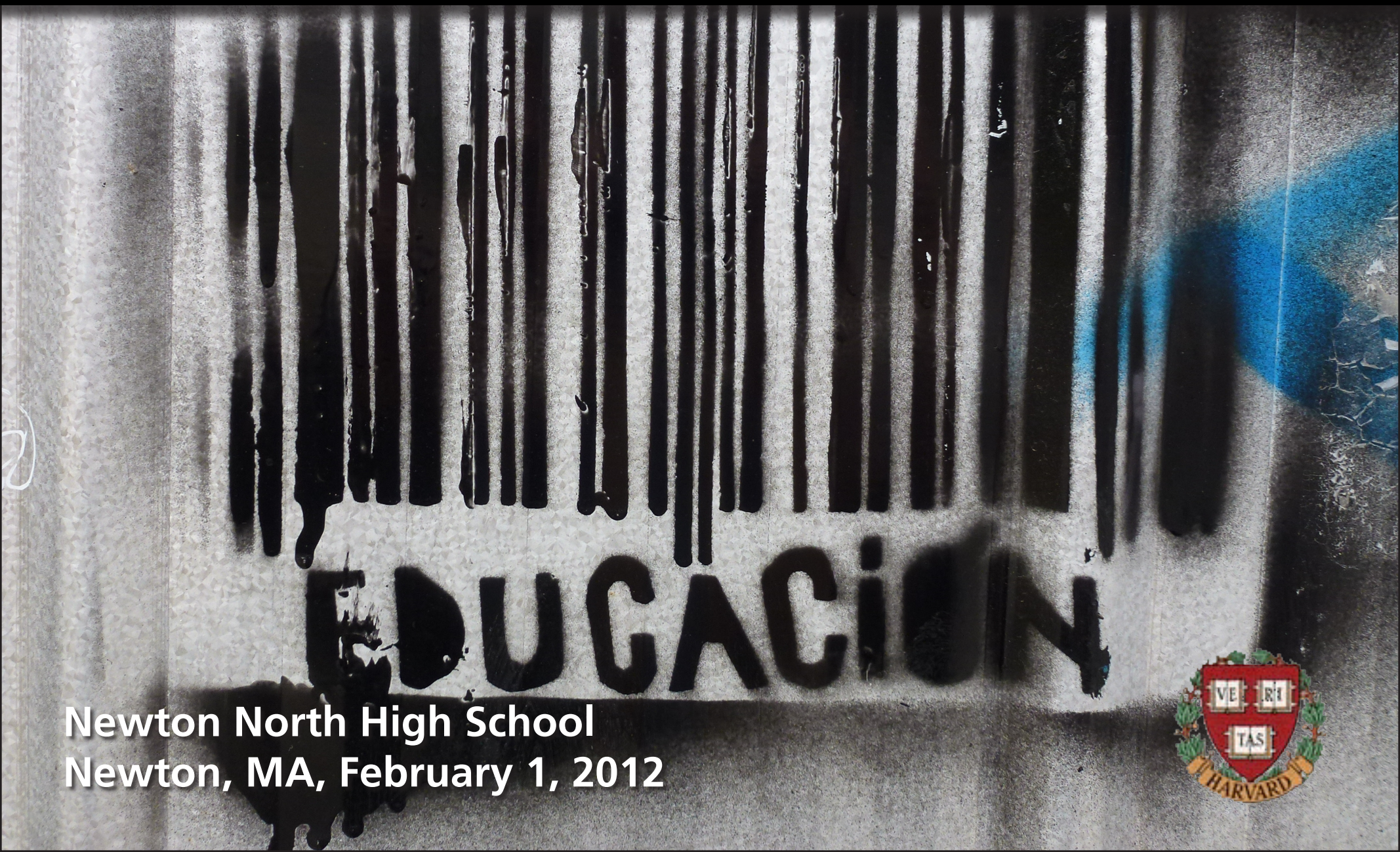
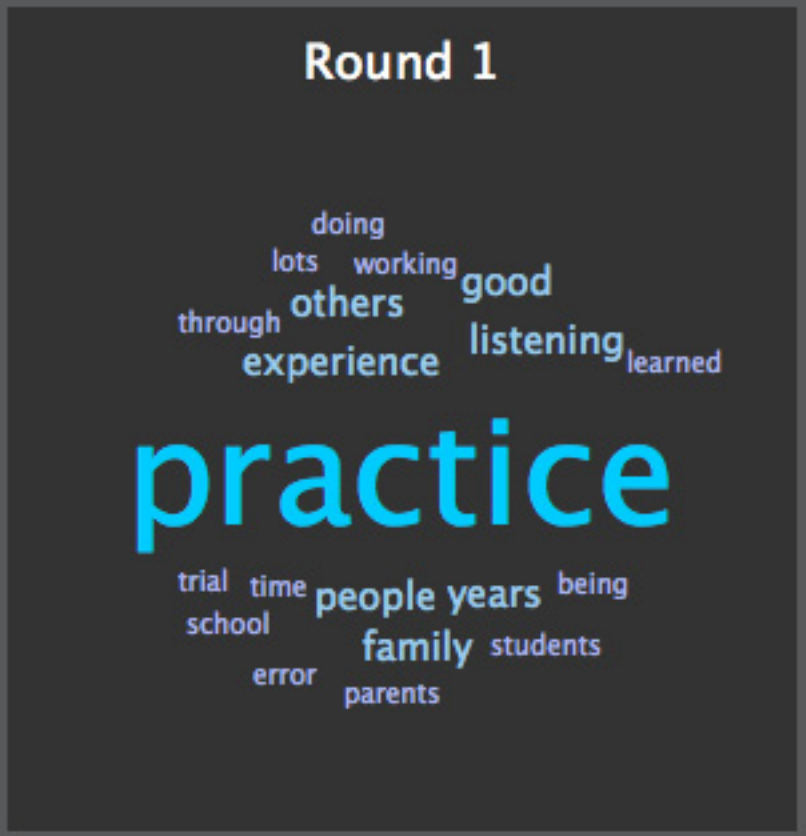
# Catalyzing learning




Newton North High School
Newton, MA, February 1, 2012

# Class session: 123456

Now describe in a couple of words how you became good at whatever it is you entered in the previous question.



# 1 education

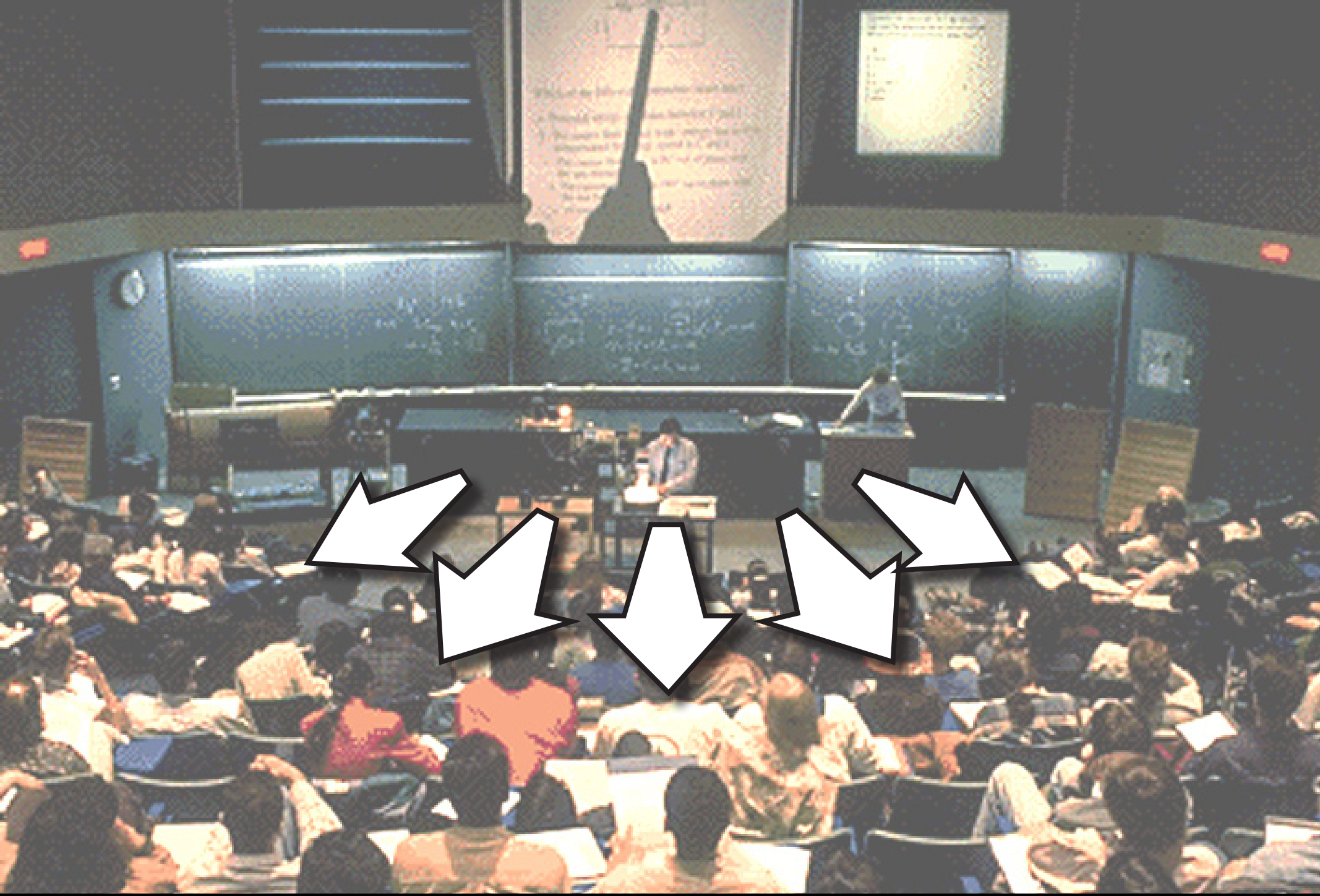
1 education

2 PI

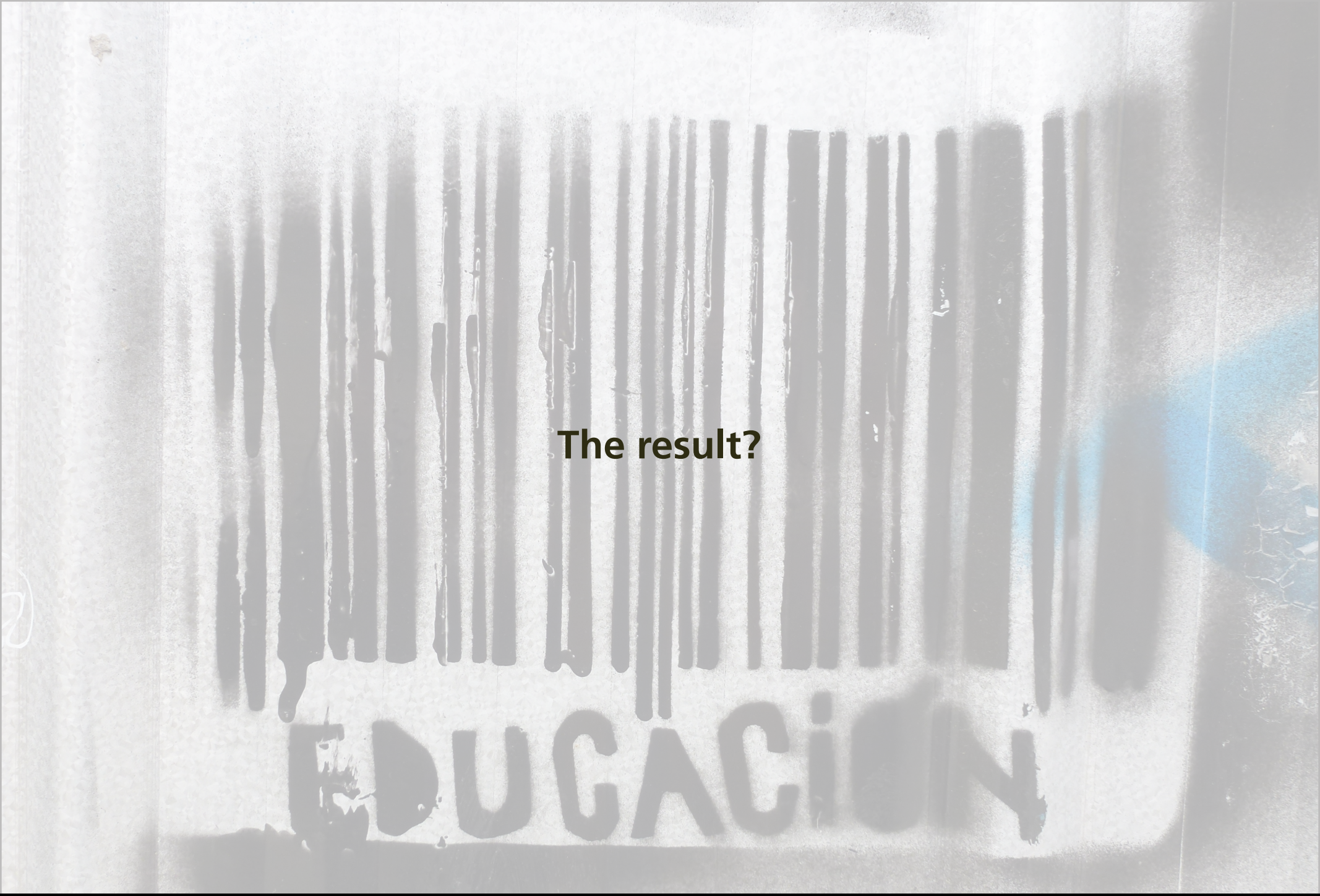
1 education

2 PI

3 PI 2.0



# 1 education


The result?
EDUCACION

1 education

1 education

1 education

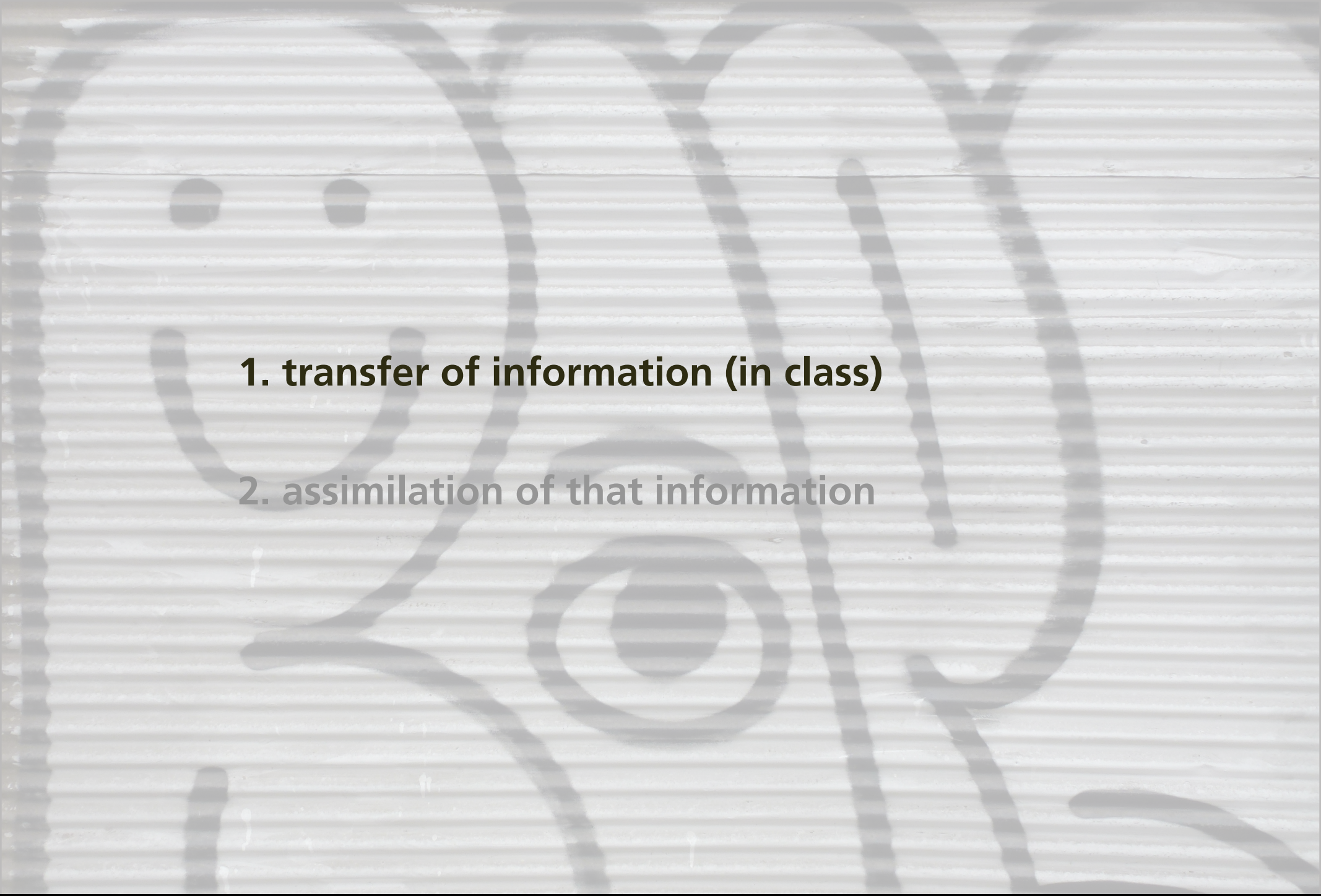
2 PI

1. transfer of information

1. transfer of information

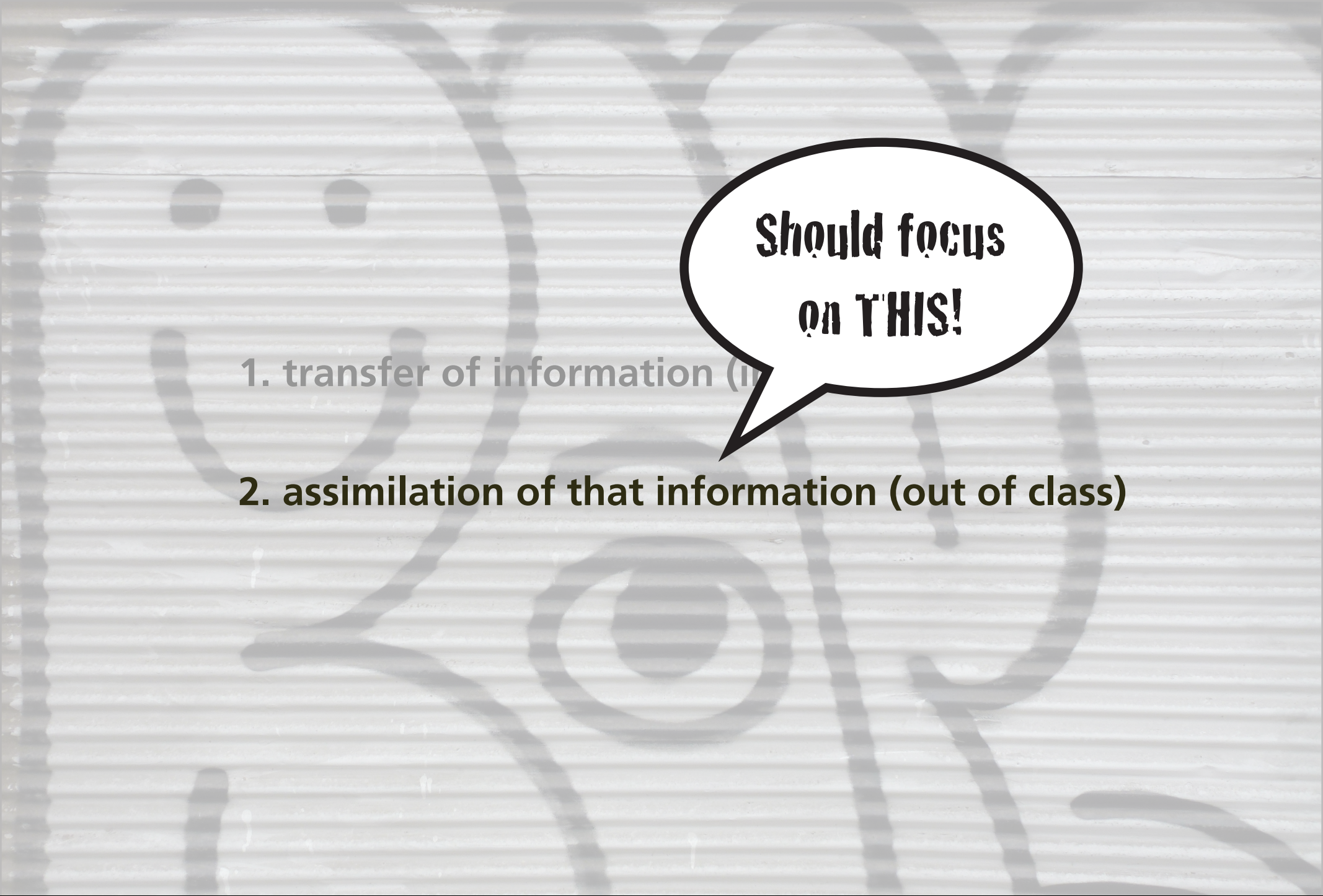
2. assimilation of that information

1 education 2 PI


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)**




1 education 2 PI

1. transfer of information (in class)

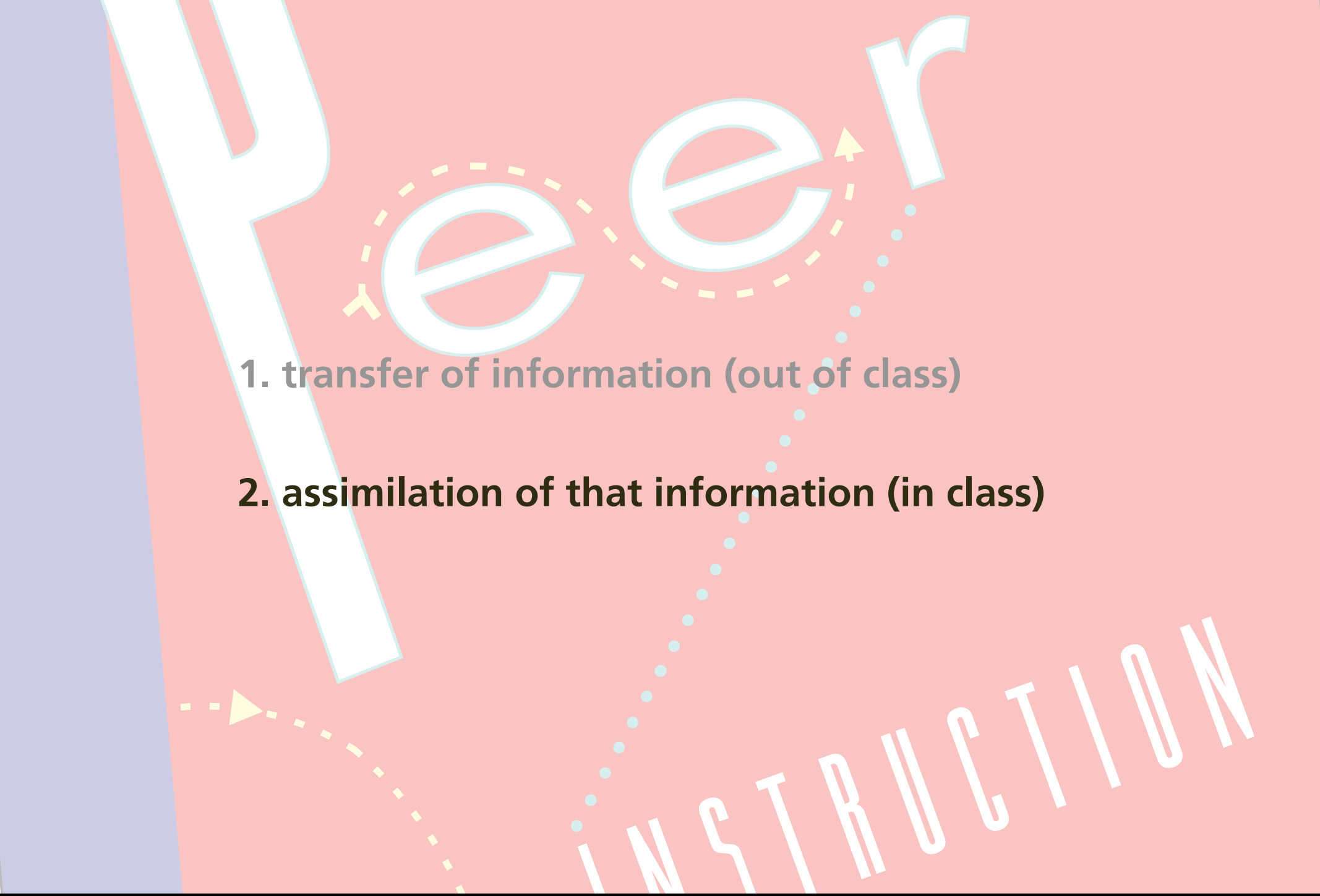
2. assimilation of that information (out of class)

1 education 2 PI

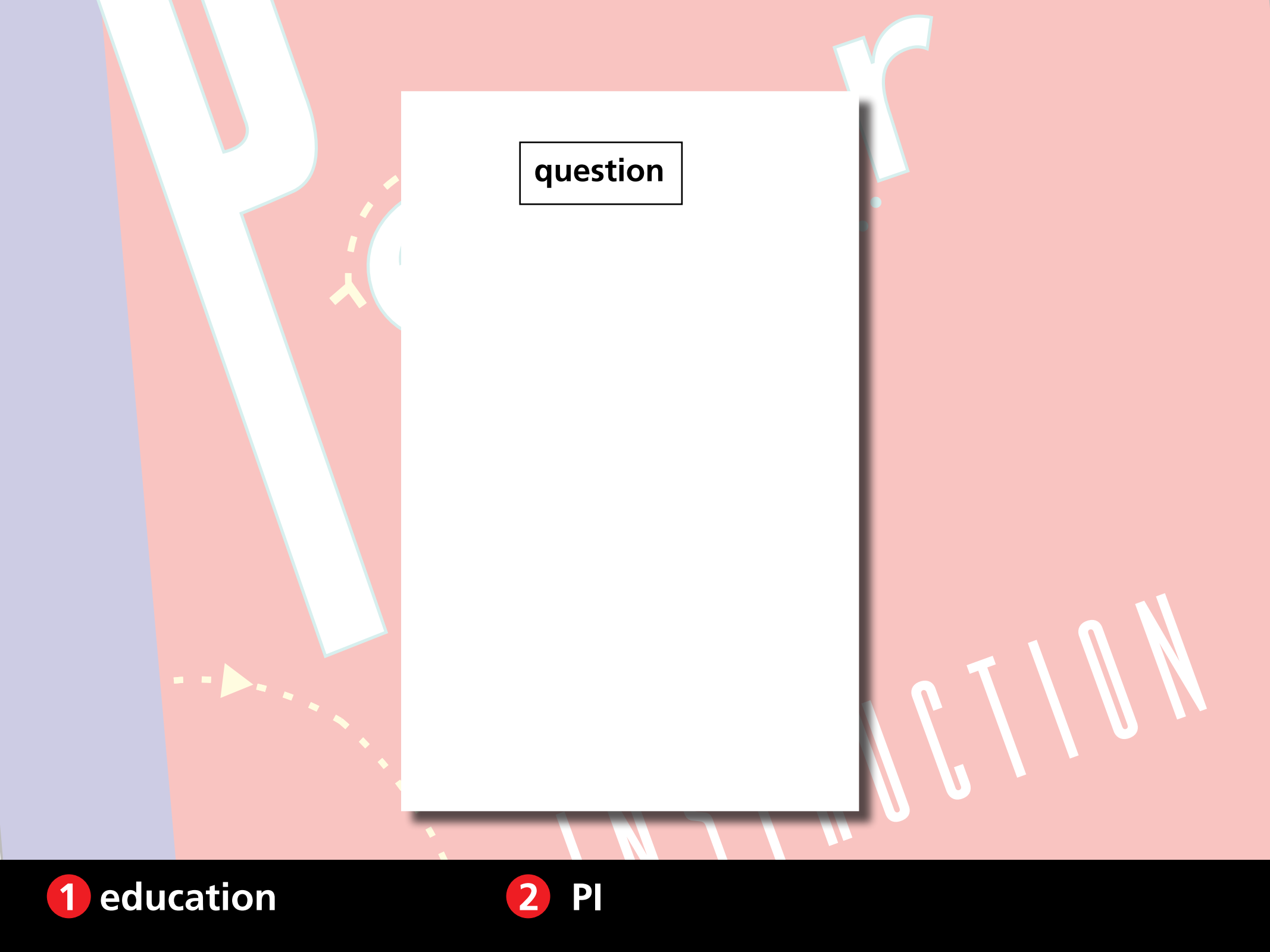
1. transfer of information (out of class)

2. assimilation of that information (in class)

1 education 2 PI

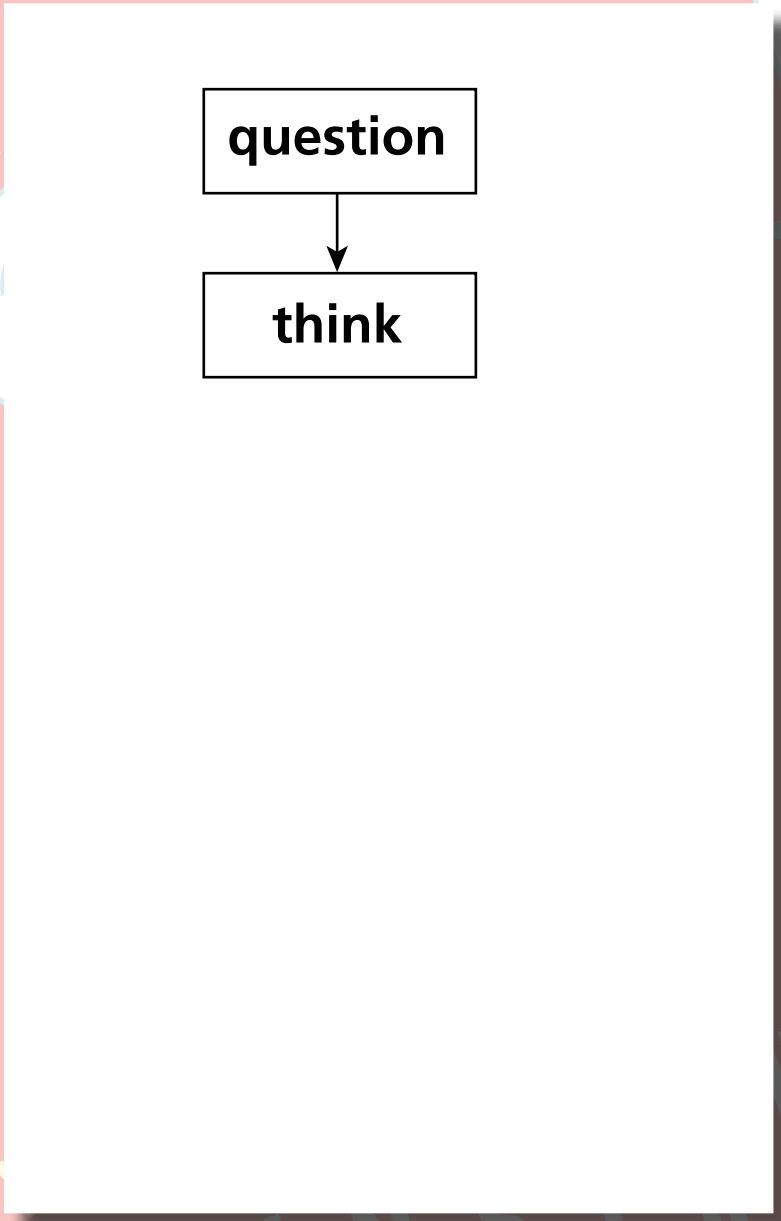


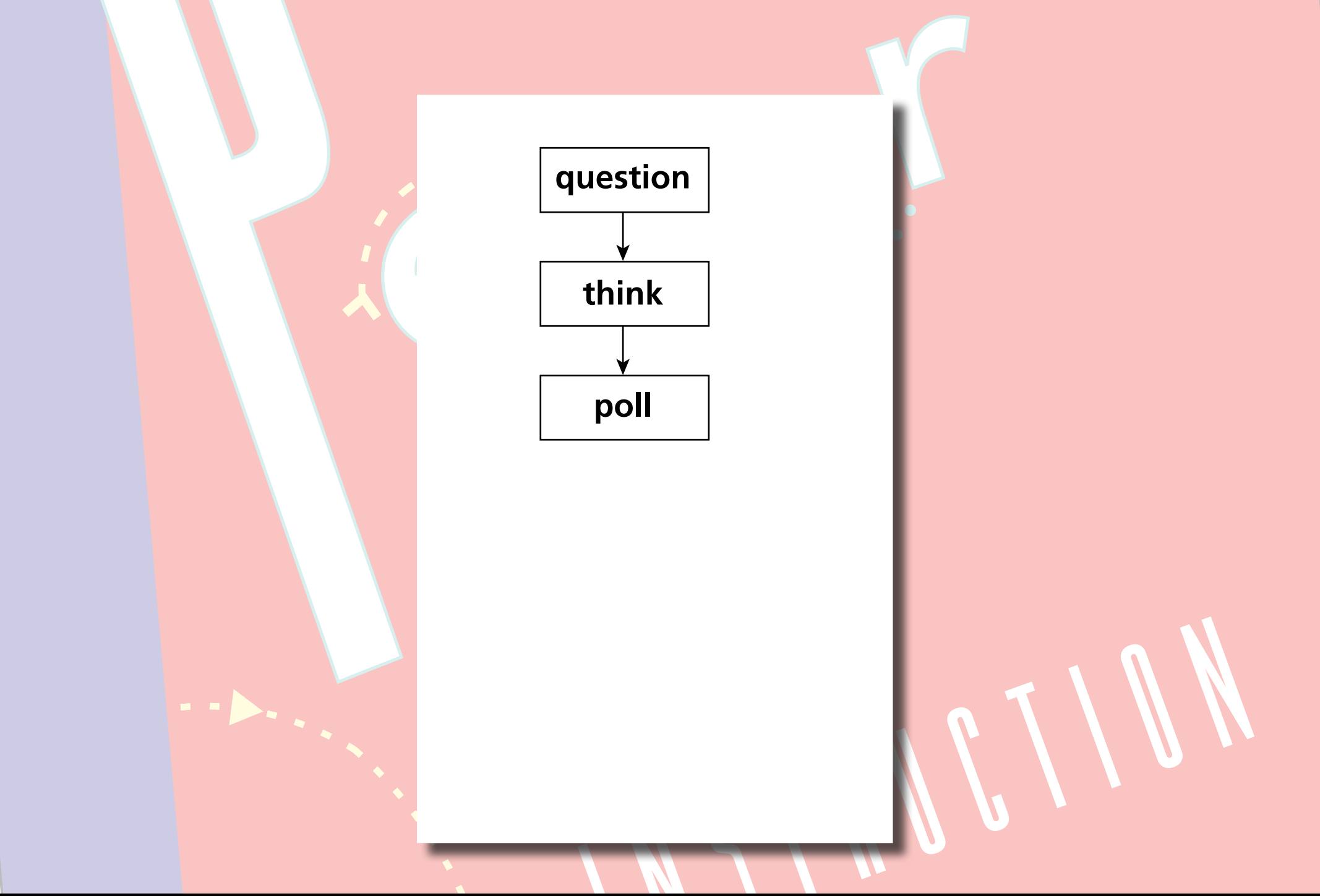

1 education 2 PI




1 education

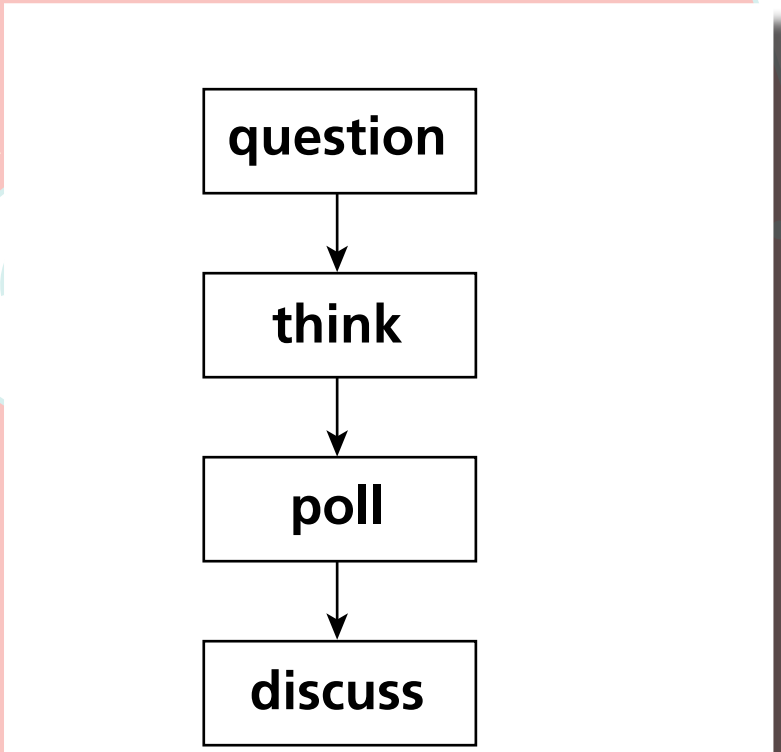
2 PI


question
think



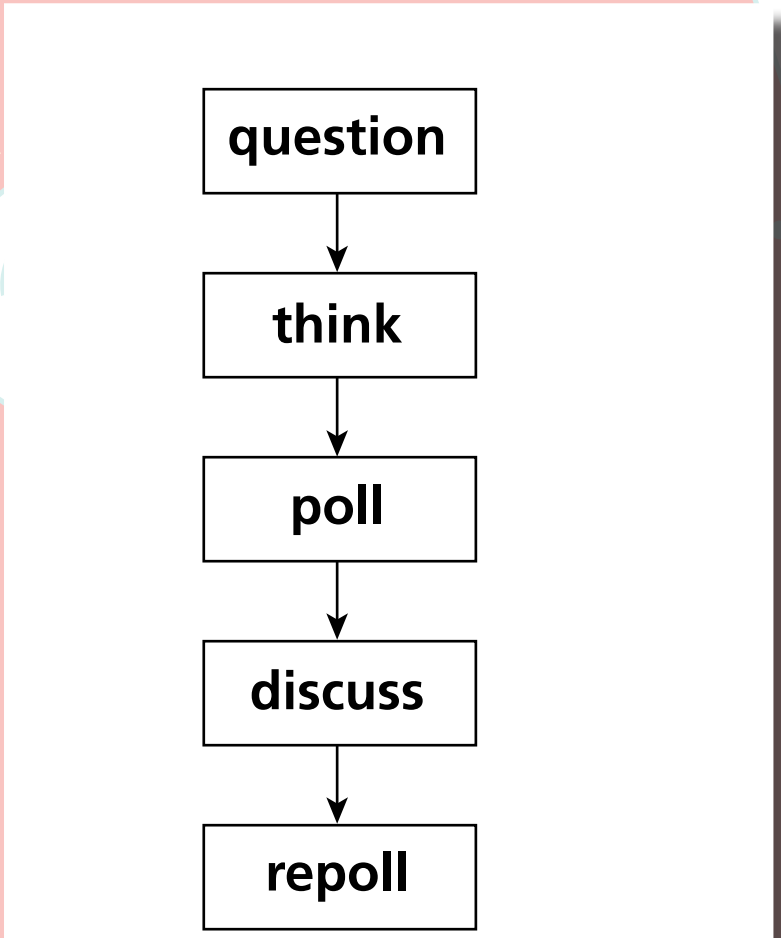

1 education

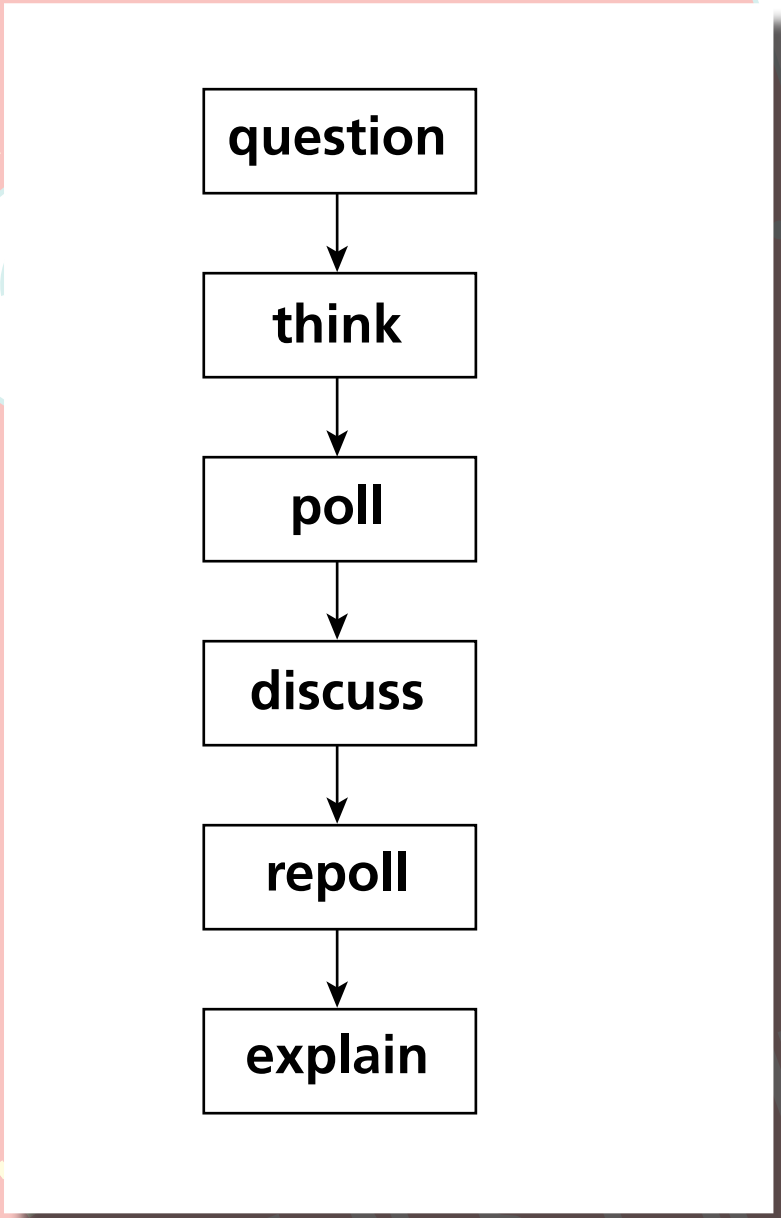
2 PI

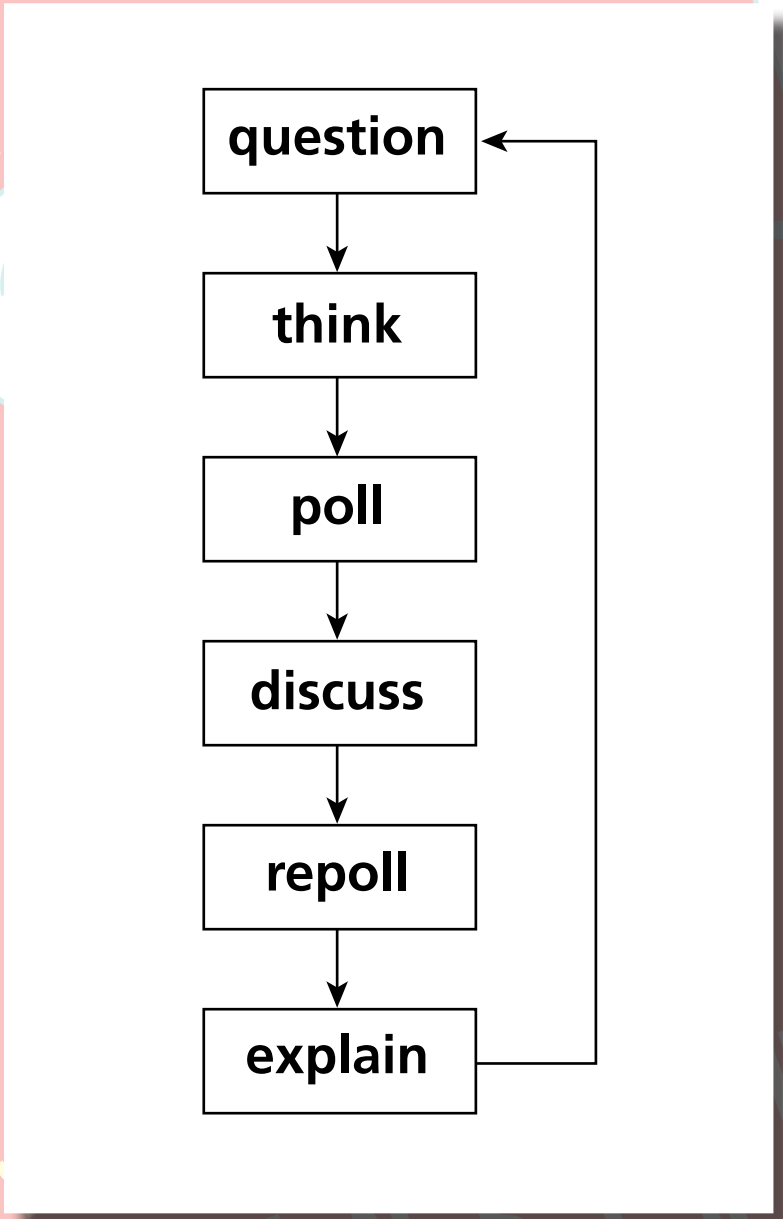



1 education

2 PI

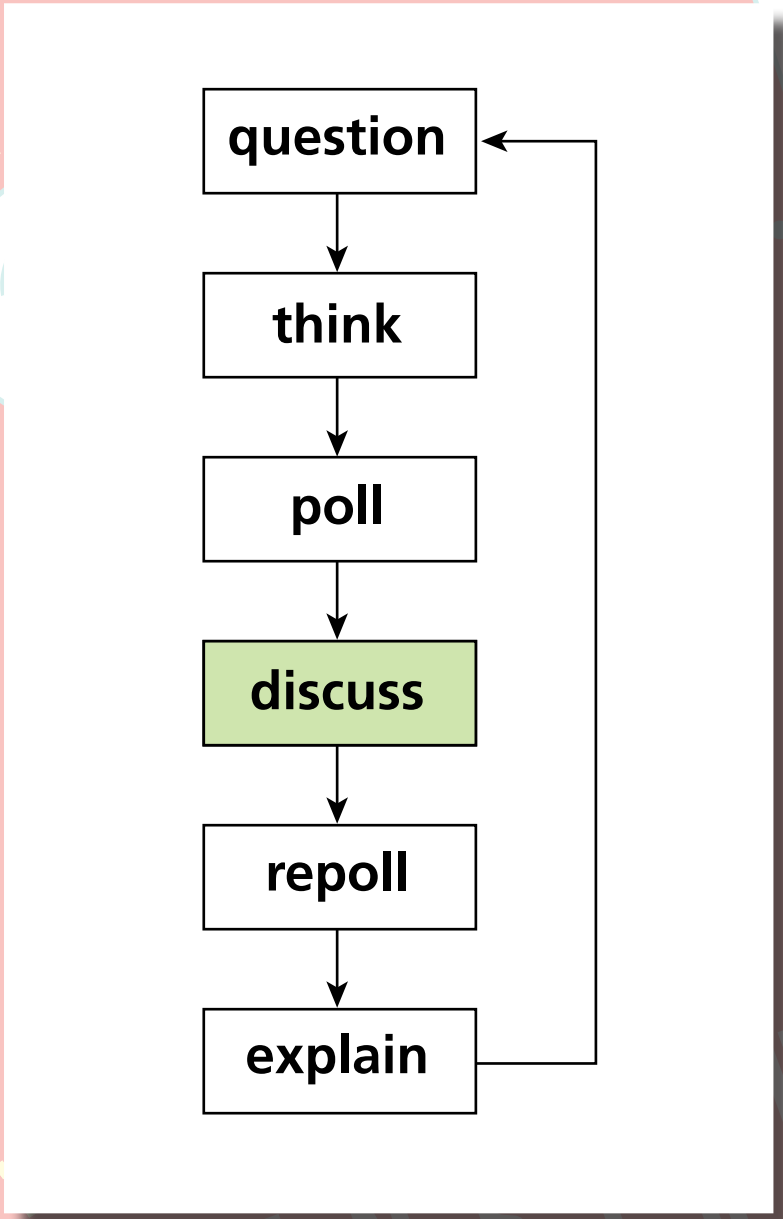

question
think
poll
discuss
repoll


question
think
poll
discuss
repoll
explain




1 education

2 PI




1 education

2 PI

1 education

2 PI

1 education

2 PI

1 education

2 PI

3 PI 2.0

feedback

1 education 2 PI 3 PI 2.0

1 education

2 PI

3 PI 2.0

1 education

2 PI

3 PI 2.0

1 education

2 PI

3 PI 2.0

1 education

2 PI

3 PI 2.0

1 education 2 PI 3 PI 2.0

## How do I…

- design good questions?
- optimize the discussions?
- manage time?

Use intelligent algorithms and data analytics to…

- improve questioning
- manage discussions
- facilitate time management/flow

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a. A 30-year fixed rate
b. A 15-year fixed rate mortgage at
c. A 30-year fixed rate mortgage at 12%
d. A 15-year fixed rate mortgage at 12%

2. The biggest factor that leads American companies to manufacture their products ov
India is:

a. Higher quality of craftsmanship
b. Lower labor costs
c. Decreased transportation costs
d. Effective legal systems

3. Which of the following correctly summarizes the accounting equation for a sole proprietorship?

a. Assets = Liabilities + Owners' equity
b. Liabilities = Assets + Owners' equity
c. Owner's equity = Assets + Liabilities
d. Revenue = Assets – Liabilities

4. In order to present a business plan to a group of potential investors, a businessperson would most likely use which

a. Powerpoint
b. Quickbooks
c. Peoplesoft
d. Excel

5. In order to start an online business, and individual would need all but which of the following:

business model

preciation?

extensible plug-in architecture for question types

1 education 2 PI 3 PI 2.0

## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

## Sample question types:

- direction
- expression
- **long answer, short answer, word cloud (fill in text)**
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

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2. word cloud Now describe in a couple of words how you became good at whatever it is you entered in the previous question.

Deliver Show all results

1 education 2 PI 3 PI 2.0

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2. word c… …e good at whatever it is you entered in the previous question.

Deliver Show all results

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2. word cl… …e good at whatever it is you entered in the previous question.

Deliver Show all results

Round 1

123 responses

experiences

learning observing

reading people being

experience time

practice

work

working others school

good through family

watching many

listening

61 get it now

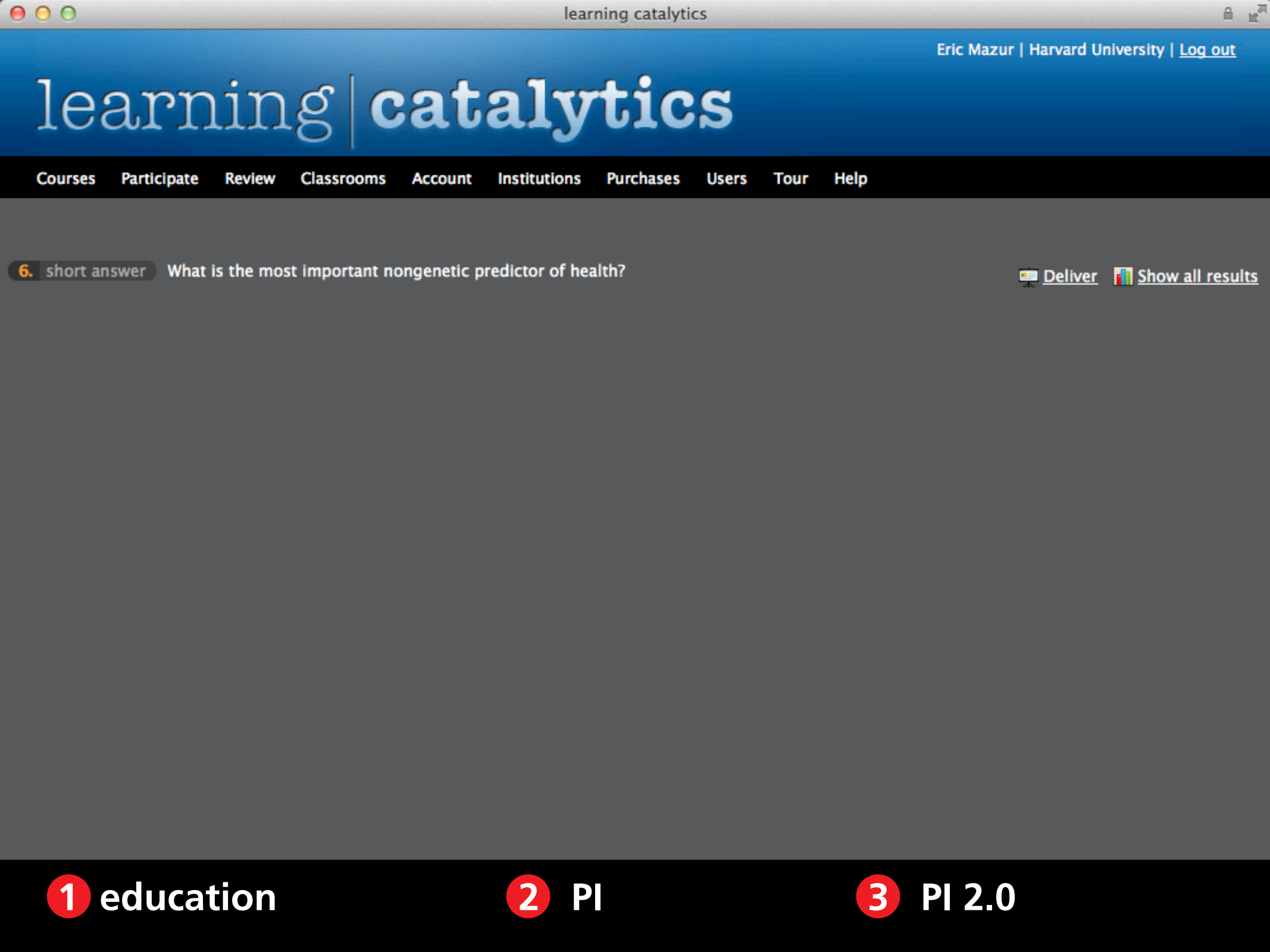
4 still don't get it

1 educa…

3 PI 2.0

## Sample question types:

- direction
- expression
- long answer, **short answer,** word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage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6. short answer What is the most important nongenetic predictor of health?
Deliver Show all results
1 education
2 PI
3 PI 2.0

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6. short… …of health?

Deliver Show all results

1 educa…

3 PI 2.0

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6. short… …of health?

Deliver Show all results

**Round 1**

9 responses

- behavior
- enviorment
- smoking
- socioeconomic status
- unhealthy life style
- lifestyle behaviors (exercise, diet, etc.)
- behavior
- public health
- environment

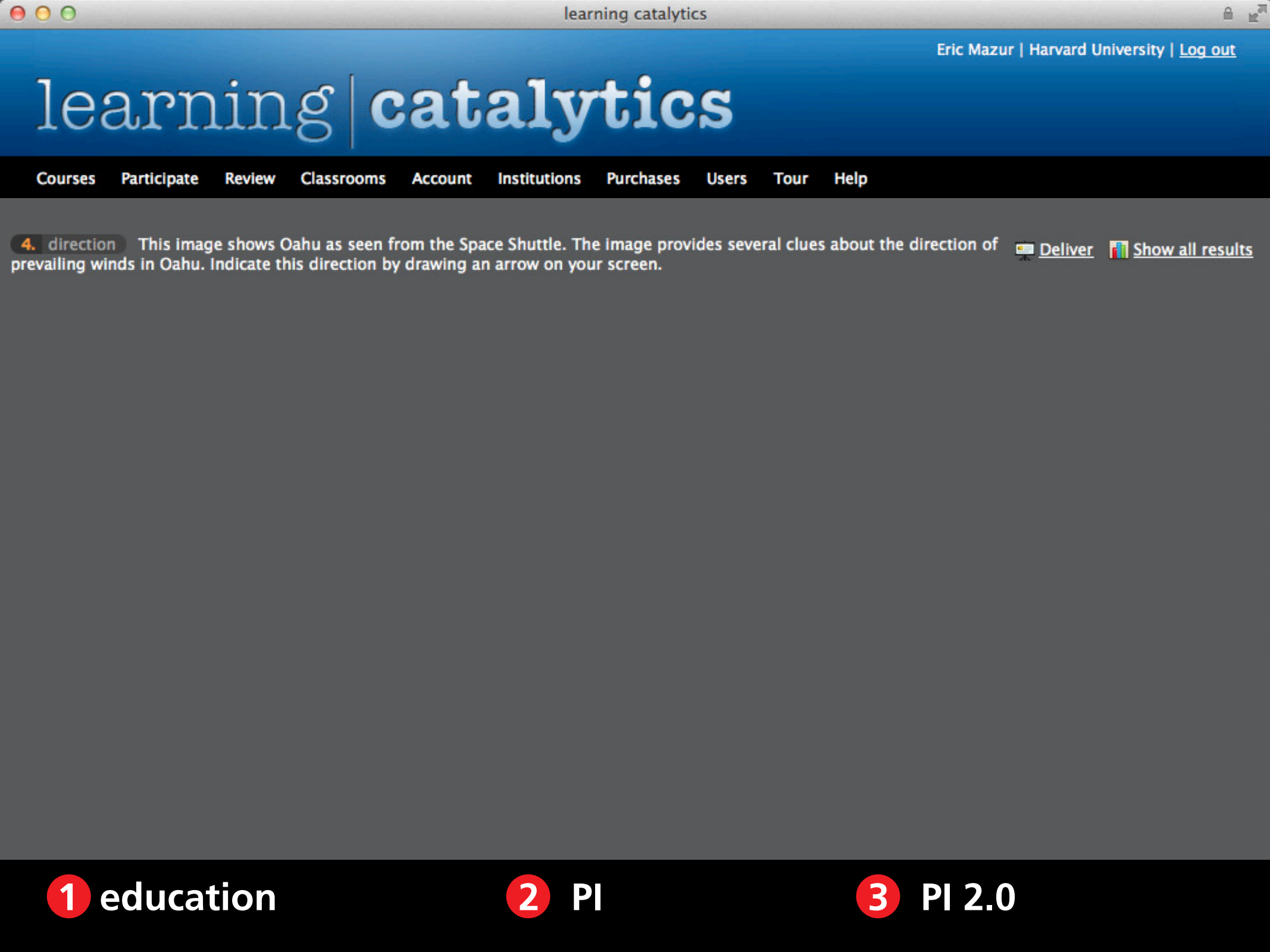
1 educa…

3 PI 2.0

## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

1 blc.learningcatalytics.com 2 sign up 3 ID 1234567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Courses Participate Review Classrooms Account Institutions Purchases Users Tour Help
4. direction This image shows Oahu as seen from the Space Shuttle. The image provides several clues about the direction of prevailing winds in Oahu. Indicate this direction by drawing an arrow on your screen.
Deliver
Show all results
1 education
2 PI
3 PI 2.0

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4. directi… …tle. The image provides several clues about the direction of prevailing … …n your screen.

Deliver Show all results

1 educa…

3 PI 2.0

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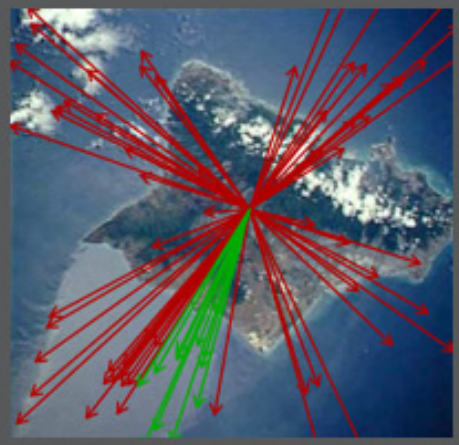
4. directi… prevailing …tle. The image provides several clues about the direction of …n your screen.

Deliver Show all results

**Round 1**

77 responses, 16% correct



17 get it now

3 still don't get it

1 educa…

3 PI 2.0

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optics i

current session: 766079 | 69 students

Back to all lectures | Stop session | Review results | Seat map | Show floating session ID | Edit | Delete

◀ Jump to ▼ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ▶

4. direction Light enters horizontally into the combination of two perpendicular mirrors as shown below.

Deliver | Show all results

Indicate the direction of the incident light after it reflects off of both mirrors.

feedback & support

1 education 2 PI 3 PI 2.0

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Courses Participate Review Cla tions Purchases Users Tour Help

optics i

current session: 766079 | 69 students

ap Show floating session ID Edit Delete

6 7 8 9 10 11 12 13 14 15

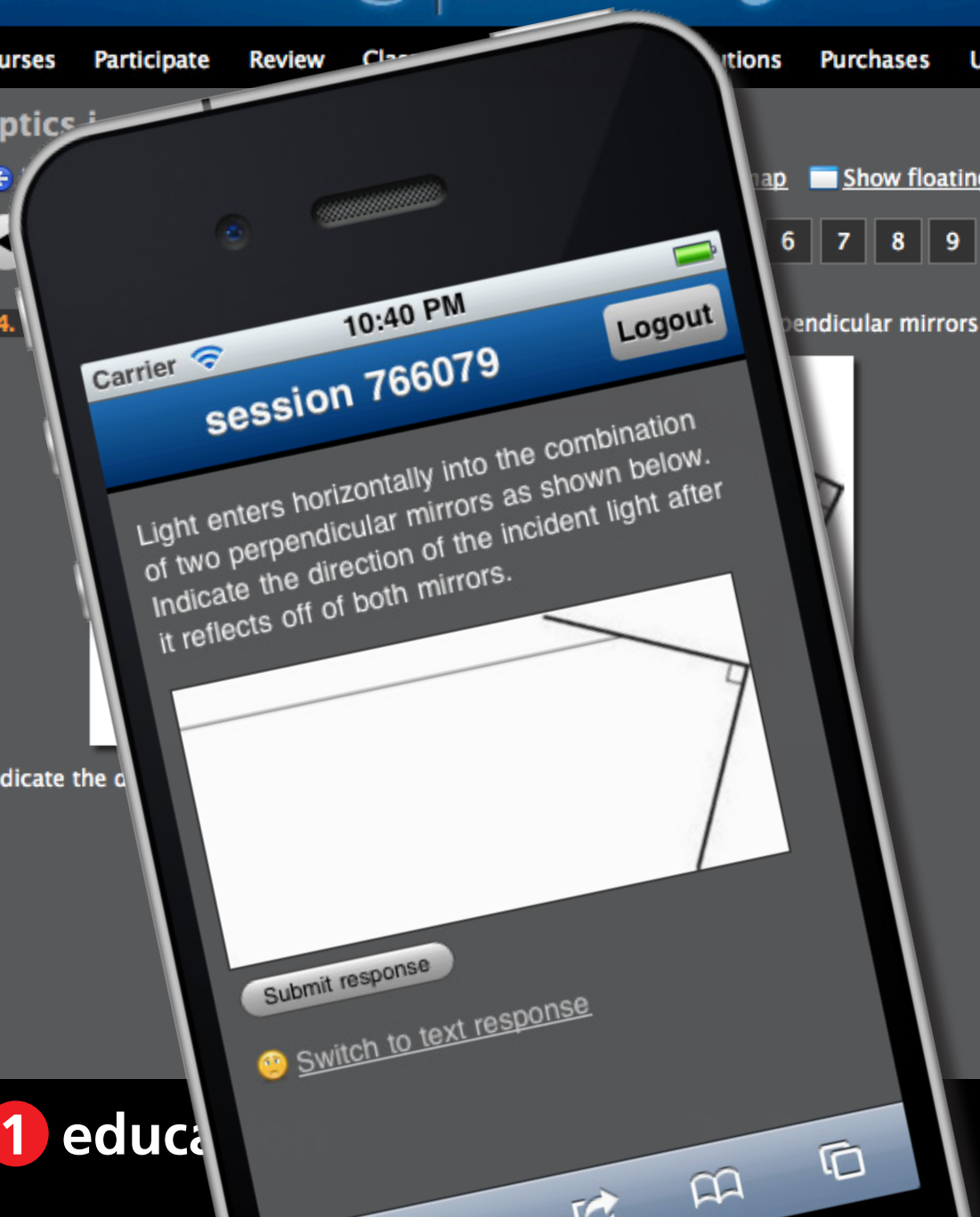
4.

endicular mirrors as shown below.

Deliver Show all results

Indicate the d

feedback & support




1 educa

3 PI 2.0

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optics i

current session: 766079 | 69 students

ap Show floating session ID Edit Delete

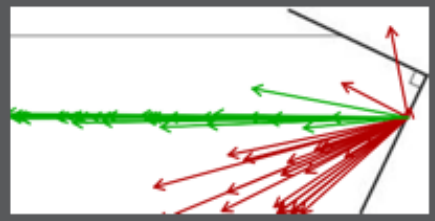
6 7 8 9 10 11 12 13 14 15

4. endicular mirrors as shown below.

Deliver Show all results

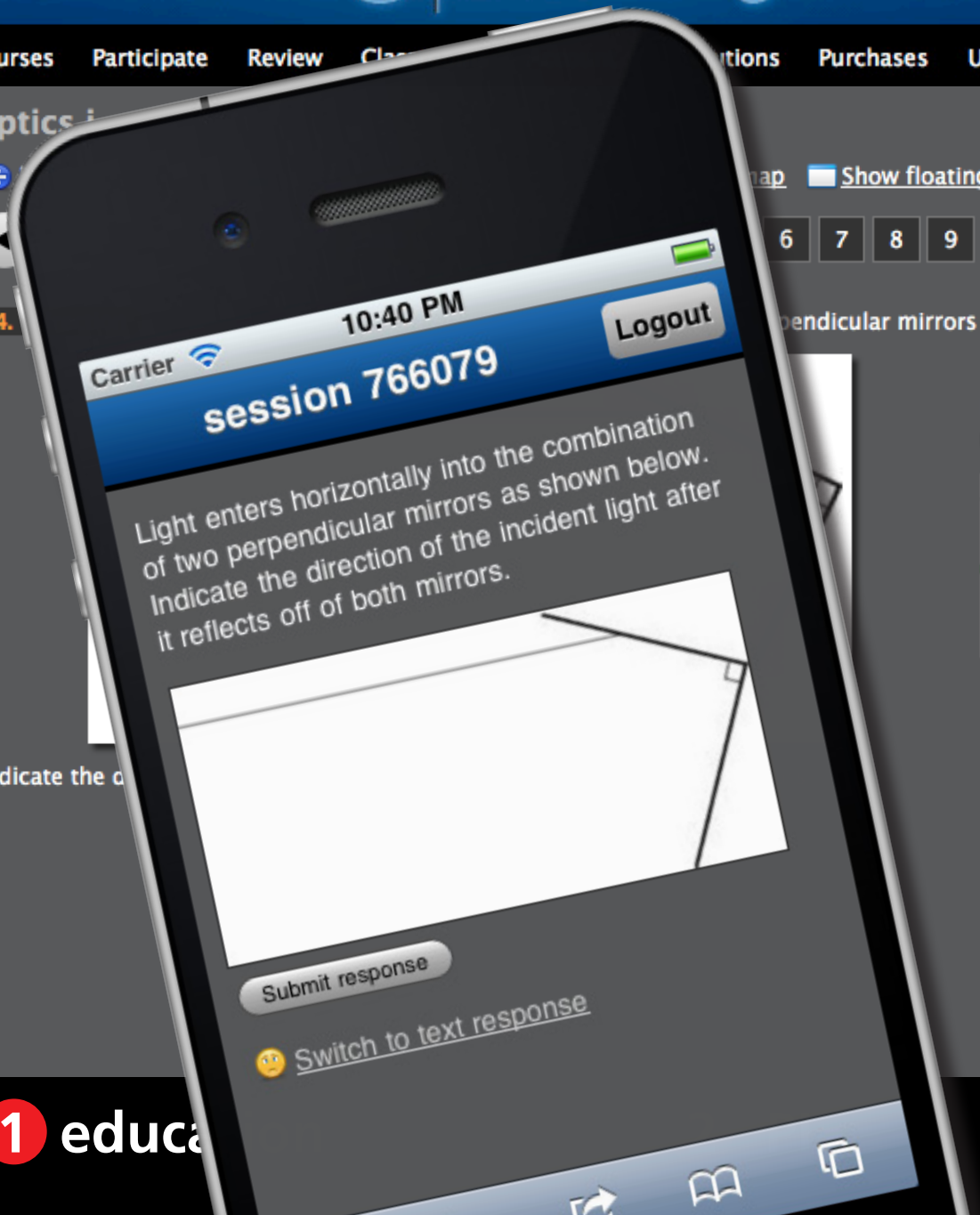
Round 1

57 responses, 58% correct



Indicate the d

feedback & support




1 educa

3 PI 2.0

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optics i

current session: 766079 | 69 students

ap Show floating session ID Edit Delete

6 7 8 9 10 11 12 13 14 15

4.

endicular mirrors as shown below.

Deliver Show all results

Round 1

57 responses, 58% correct

Round 2

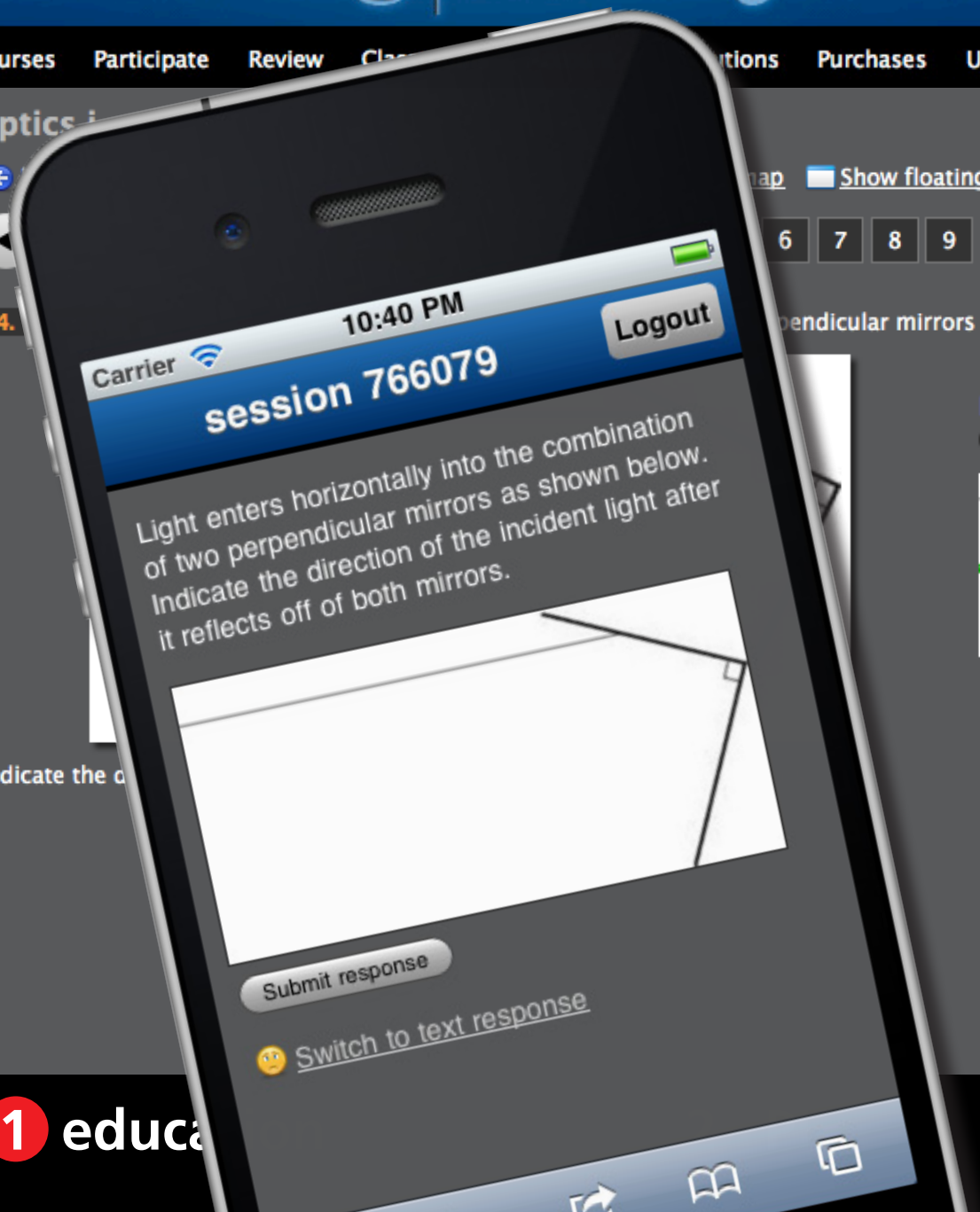
51 responses, 73% correct

8 get it now

0 still don't get it

Indicate the d

feedback & support




1 educa

3 PI 2.0

## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

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arlington school district

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5. region Where is Tanzania?

Stop delivery Deliver again Assign groups Show all results

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1 education 2 PI 3 PI 2.0

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arlington school district

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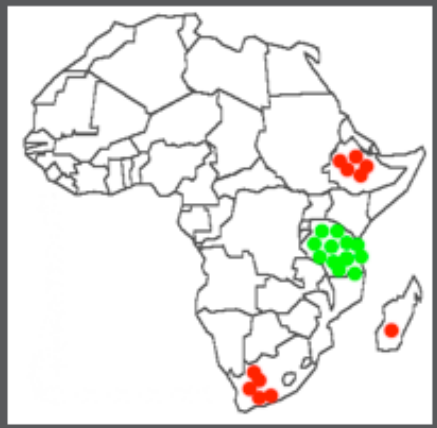
Jump to ▼ 1 2 3 4 5

5. region Where is Tanzania?

Stop delivery | Deliver again | Assign groups | Show all results

Round 1

24 responses, 75% correct



feedback & support

1 education 2 PI 3 PI 2.0

## Sample question types:

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- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

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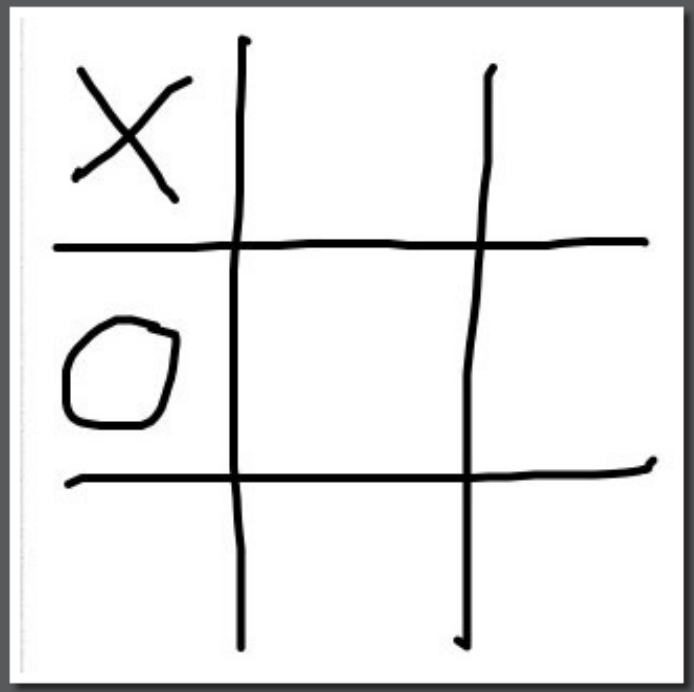
Jump to ▼ 1 2 3 4

4. region It's X's turn -- what's the best next move?

Stop delivery | Deliver again | Assign groups | Show all results



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arlington school district

current session: 123456 | 31 students

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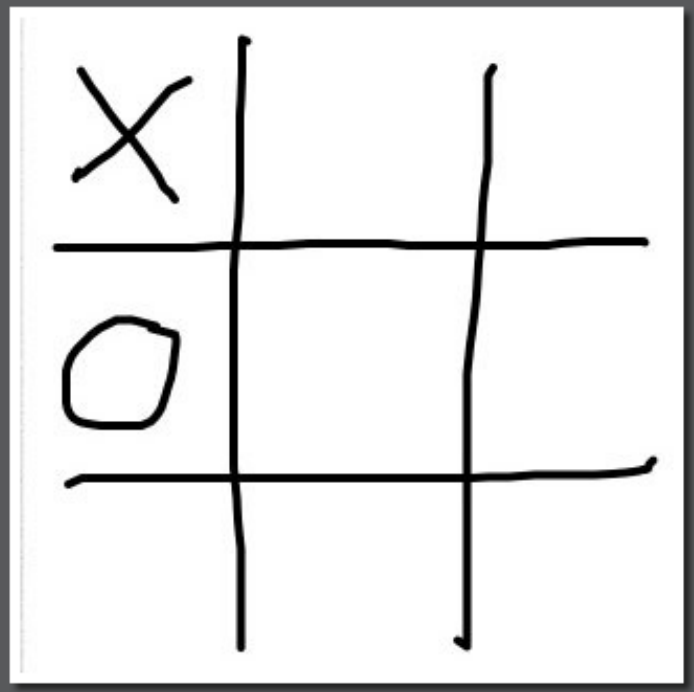
Jump to ▼ 1 2 3 4

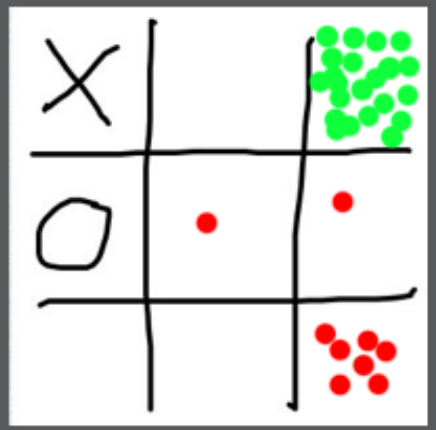
4. region It's X's turn -- what's the best next move?

Stop delivery | Deliver again | Assign groups | Show all results



Round 1

31 responses, 71% correct



feedback & support

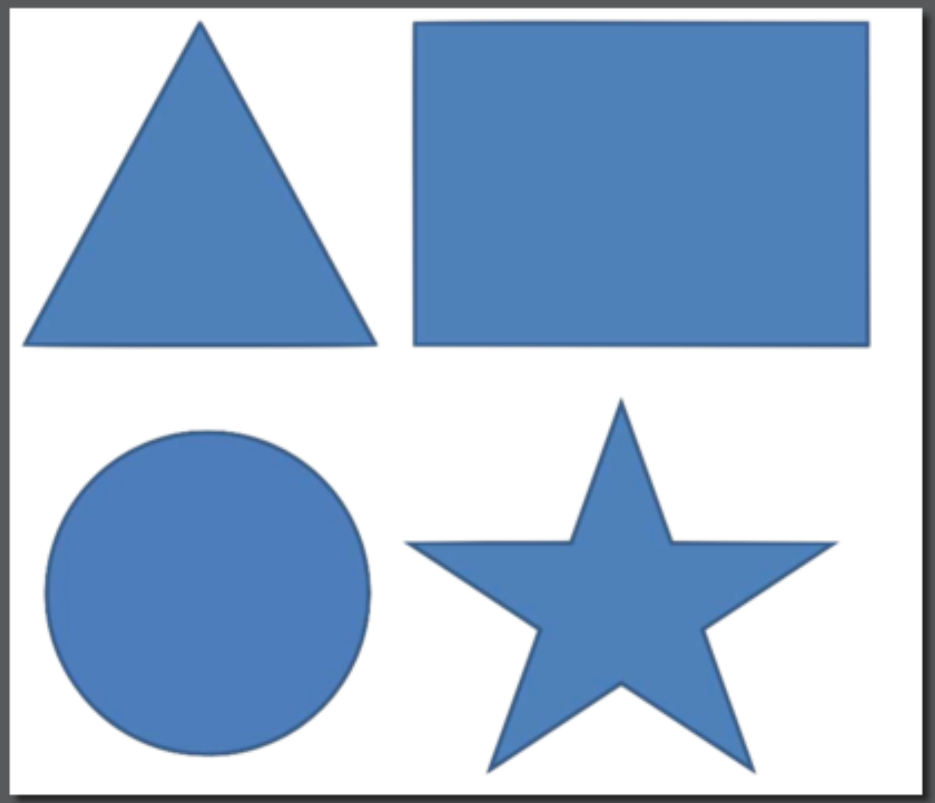
1 education 2 PI 3 PI 2.0

## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

5. region **circle**

Stop delivery Deliver again Assign groups Show all results



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Show all results
Carrier
10:57 PM
Refresh
session 333281
Logout
circle
Submit response
Switch to text response
1 educat
3 PI 2.0

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Courses
Participate
Review
Purchases
Users
Tour
Help
Stop delivery
Deliver again
Assign groups
Show all results
Round 1
15 responses, 67% correct
Carrier
10:57 PM
Logout
Refresh
session 333281
circle
Submit response
Switch to text response
1
3
PI 2.0

## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- **numerical (enter a number)**
- ranking
- region (select point on image)
- sketch
- highlight passage

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6. numerical 7 + 13 = ?

Stop delivery | Deliver again | Assign groups | Show all results

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6

6. numerical 7 + 13 = ?

...ry Deliver again Assign groups Show all results

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1 education

PI 2.0

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current session: 48222 | 28 students

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6

6. numerical 7 + 13 = ?

...ry Deliver again Assign groups Show all results

Round 1

28 responses, 50% correct

6: 7%

13: 29%

20: 50%

21: 14%

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1 education

PI 2.0

## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

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## transformations of parabolas

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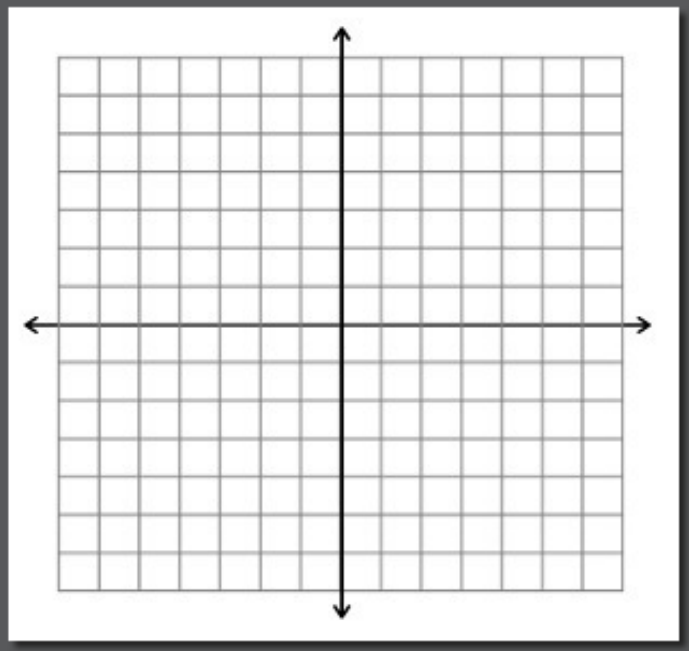
4. sketch Sketch a graph of the function $f(x) = (x-3)^2 + 2$.

Stop delivery | Deliver again | Assign groups | Show all results



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## transformations of parabolas

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4. sketch Sketch a graph of the function $f(x) = (x-3)^2 + 2$.

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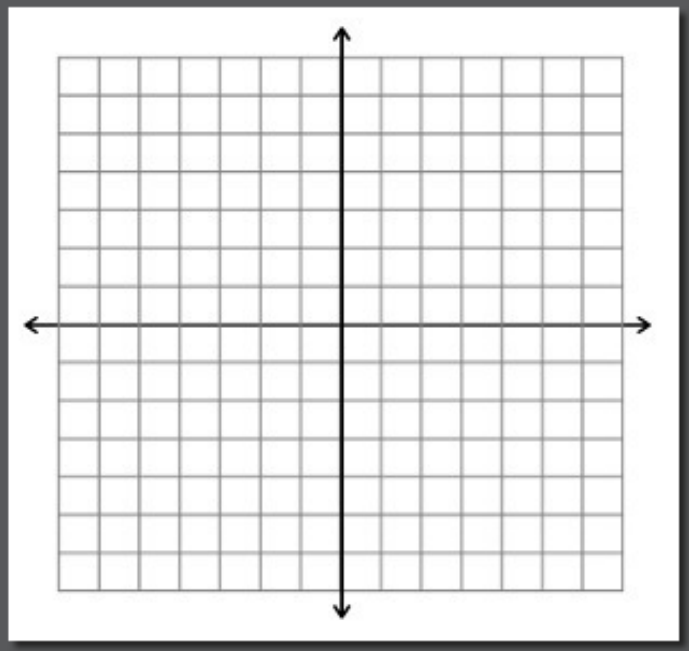
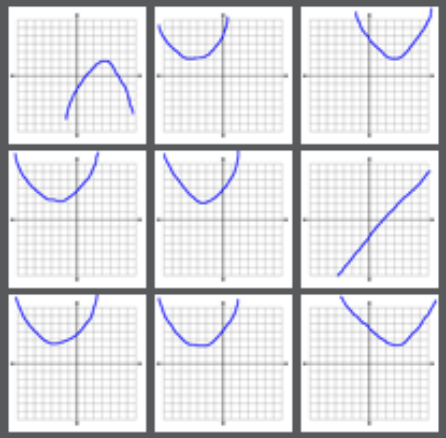


Round 1

9 responses



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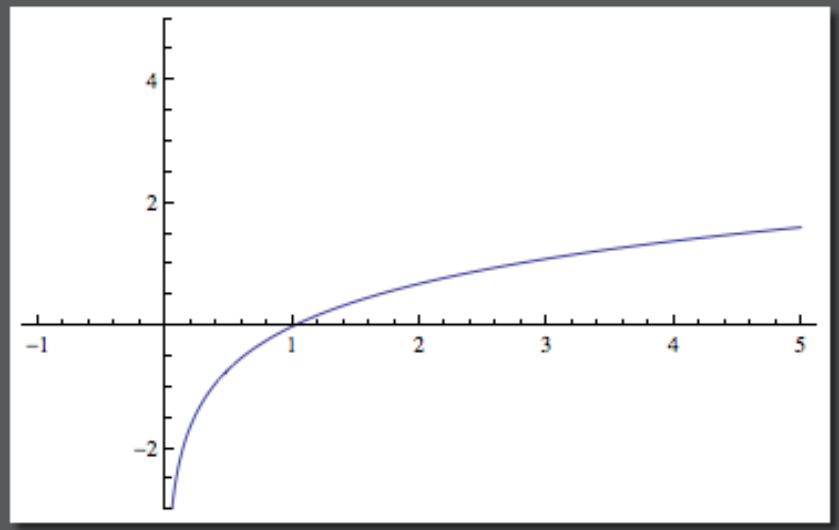
## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple-choice, many-choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

This is a graph of $f(x) = \ln x$. Sketch a graph of the derivative $f'(x)$.



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This is a graph of $f(x)$ =

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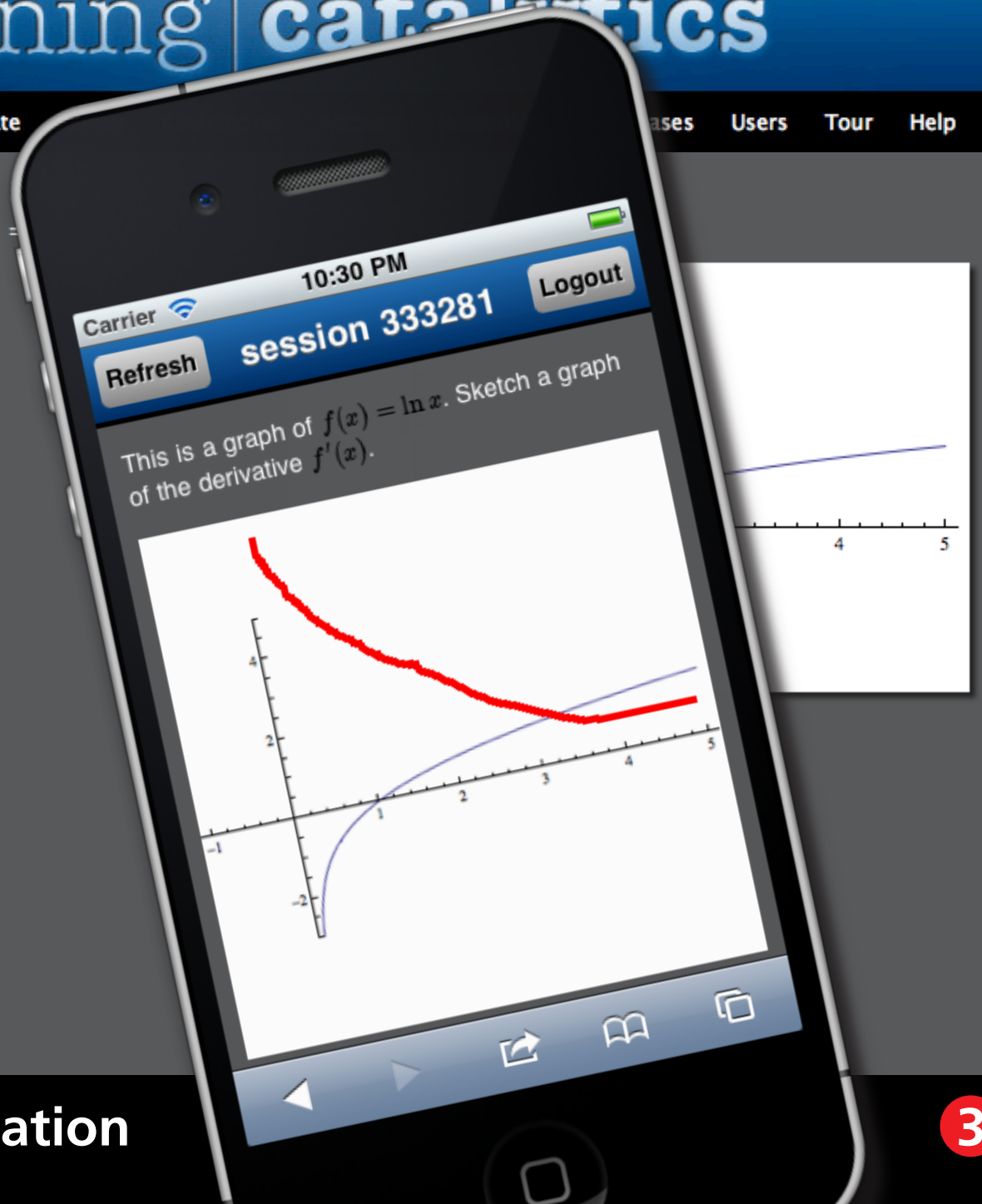
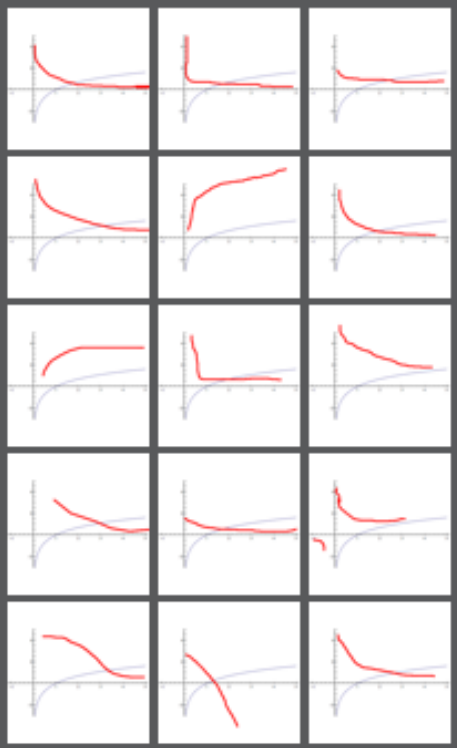
This is a graph of $f(x)$ =




Round 1

15 responses



6 get it now

0 still don't get it

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## Sample question types:

- direction
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1. highlighting What do you see as the most important part of this Shakespeare sonnet?

Stop delivery Deliver again Assign groups Show all results

For shame! deny that thou bear'st love to any,
Who for thyself art so unprovident.
Grant, if thou wilt, thou art beloved of many,
But that thou none lovest is most evident;
For thou art so possess'd with murderous hate
That 'gainst thyself thou stick'st not to conspire.
Seeking that beauteous roof to ruinate
Which to repair should be thy chief desire.
O, change thy thought, that I may change my mind!
Shall hate be fairer lodged than gentle love?
Be, as thy presence is, gracious and kind,
Or to thyself at least kind-hearted prove:
Make thee another self, for love of me,
That beauty still may live in thine or thee.

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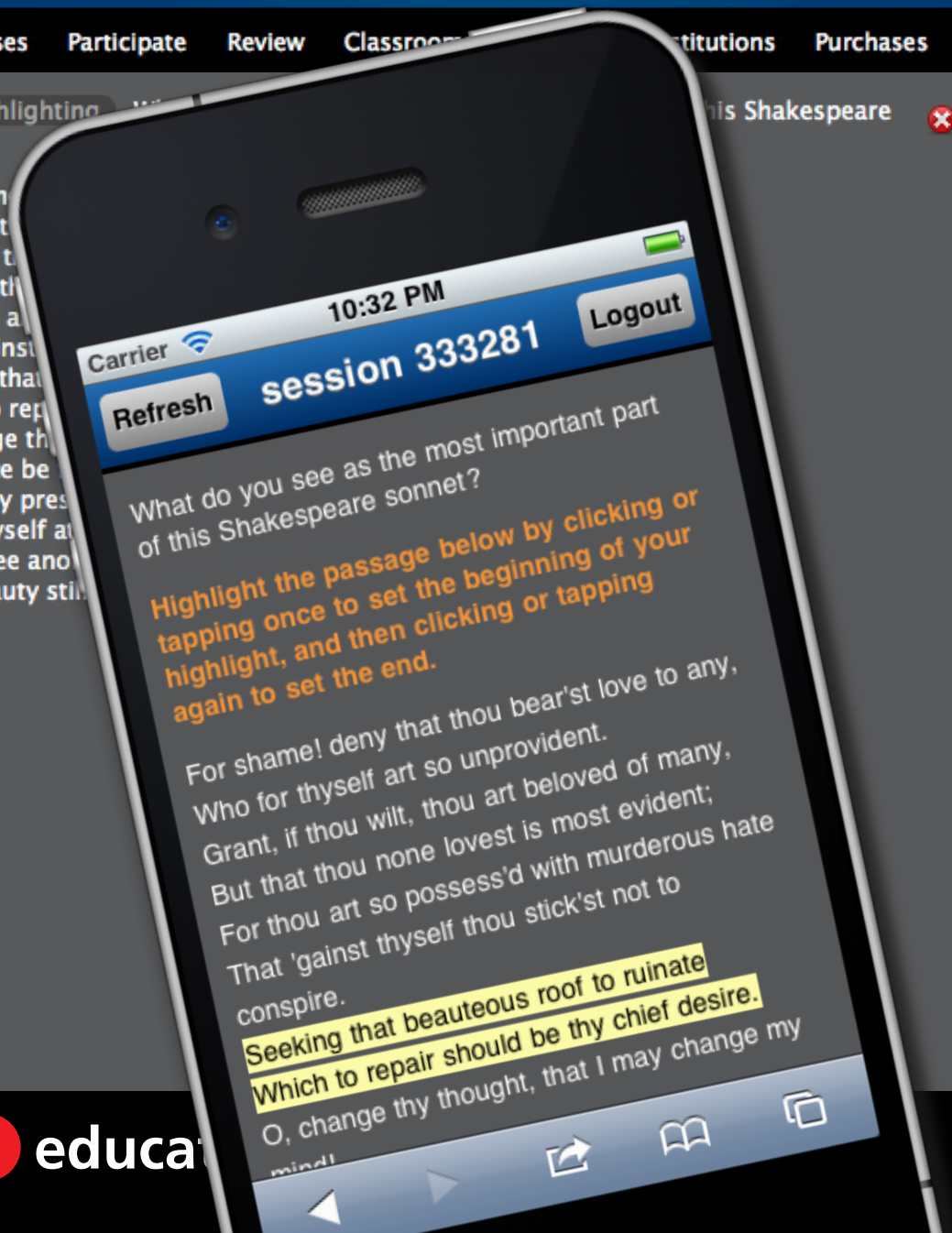
1. highlighting … …is Shakespeare sonnet?

Stop delivery Deliver again Assign groups Show all results

For sham…
Who for t…
Grant, if t…
But that th…
For thou a…
That 'gainst…
Seeking tha…
Which to rep…
O, change th…
Shall hate be…
Be, as thy pres…
Or to thyself a…
Make thee ano…
That beauty sti…

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3 PI 2.0

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Stop delivery
Deliver again
Assign groups
Show all results
Round 1
3 responses
For shame! deny that thou bear'st love to any,
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Which to repair should be thy chief desire.
O, change thy thought, that I may change my mind!
Shall hate be fairer lodged than gentle love?
Be, as thy presence is, gracious and kind,
Carrier
10:32 PM
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session 333281
What do you see as the most important part of this Shakespeare sonnet?
Highlight the passage below by clicking or tapping once to set the beginning of your highlight, and then clicking or tapping again to set the end.
1 educa
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## Sample question types:

- direction
- expression
- long answer, short answer, word cloud (fill in text)
- multiple choice, multiple choice
- numerical (enter a number)
- ranking
- region (select point on image)
- sketch
- highlight passage

data analytics

1 lecture

2 PI

3 PI 2.0

# human interaction

1 lecture

2 PI

3 PI 2.0

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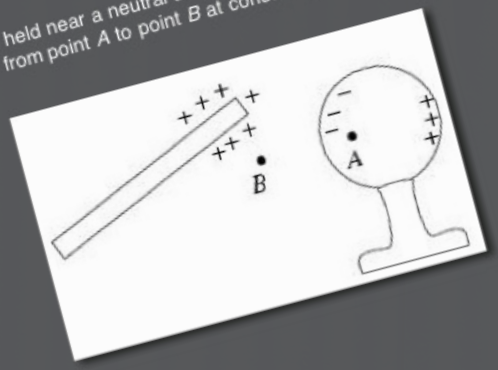
A positively charged rod is held near a neutral conducting sphere as illustrated below. A positively charged particle is moved from point *A* to point *B* at constant speed. The potential difference from *A* to *B* is



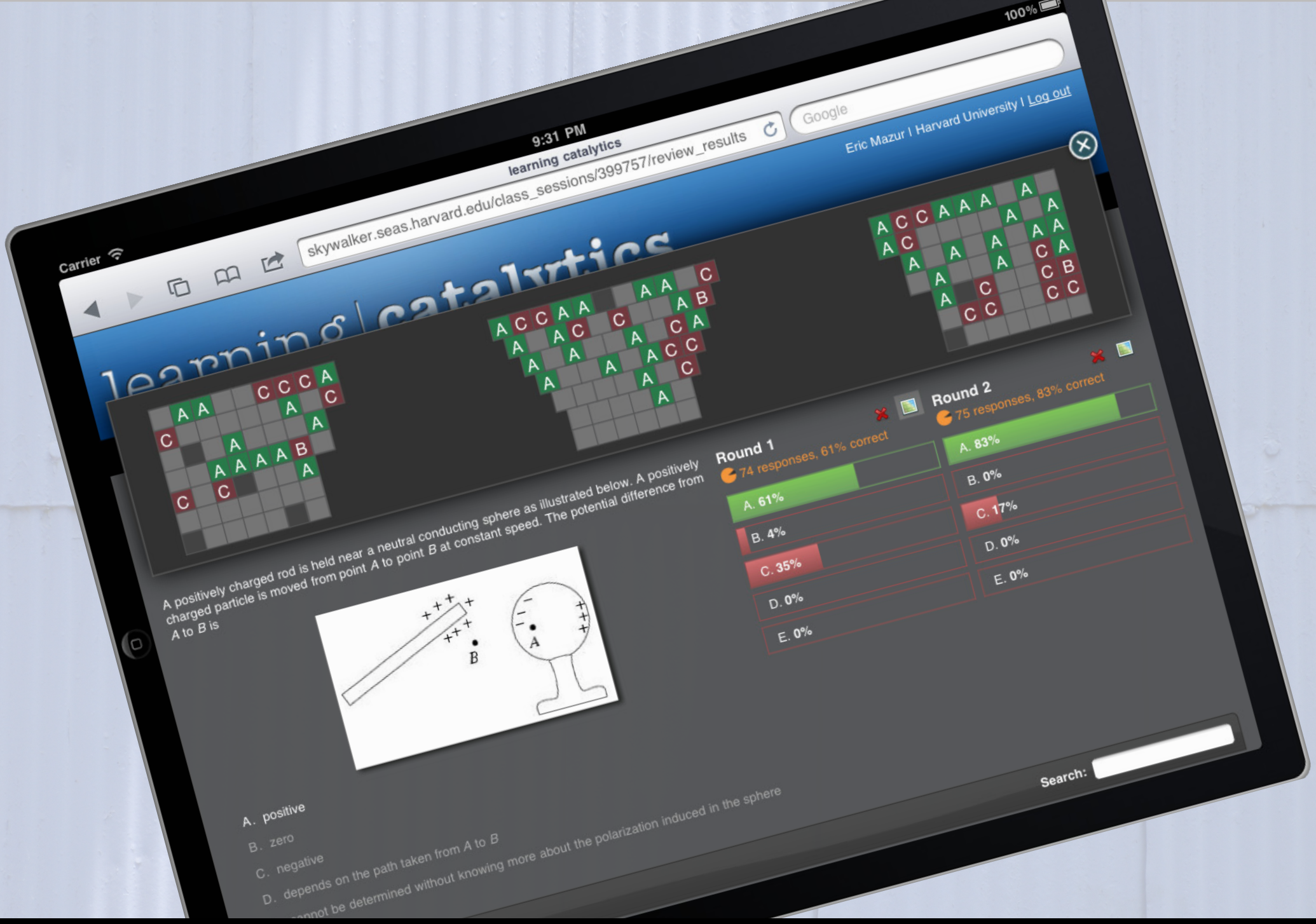

A. positive
B. zero
C. negative
D. depends on the path taken from *A* to *B*
cannot be determined without knowing more about the polarization induced in the sphere

Round 1
74 responses, 61% correct
A. 61%
B. 4%
C. 35%
D. 0%
E. 0%

Round 2
75 responses, 83% correct
A. 83%
B. 0%
C. 17%
D. 0%
E. 0%

Search:

1 lecture 2 PI 3 PI 2.0




1 lecture

2 PI

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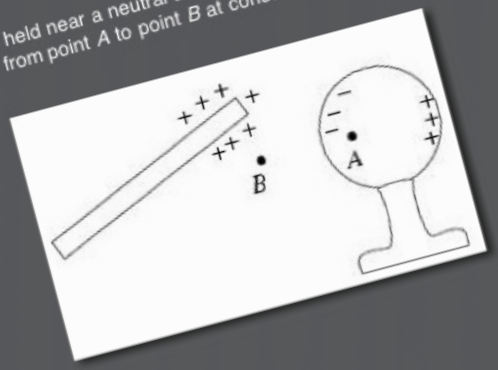


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**Round 1**
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75 responses, 83% correct
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B. 0%
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E. 0%

Search:

1 lecture 2 PI 3 PI 2.0

1 lecture

2 PI

3 PI 2.0

let system manage pairing

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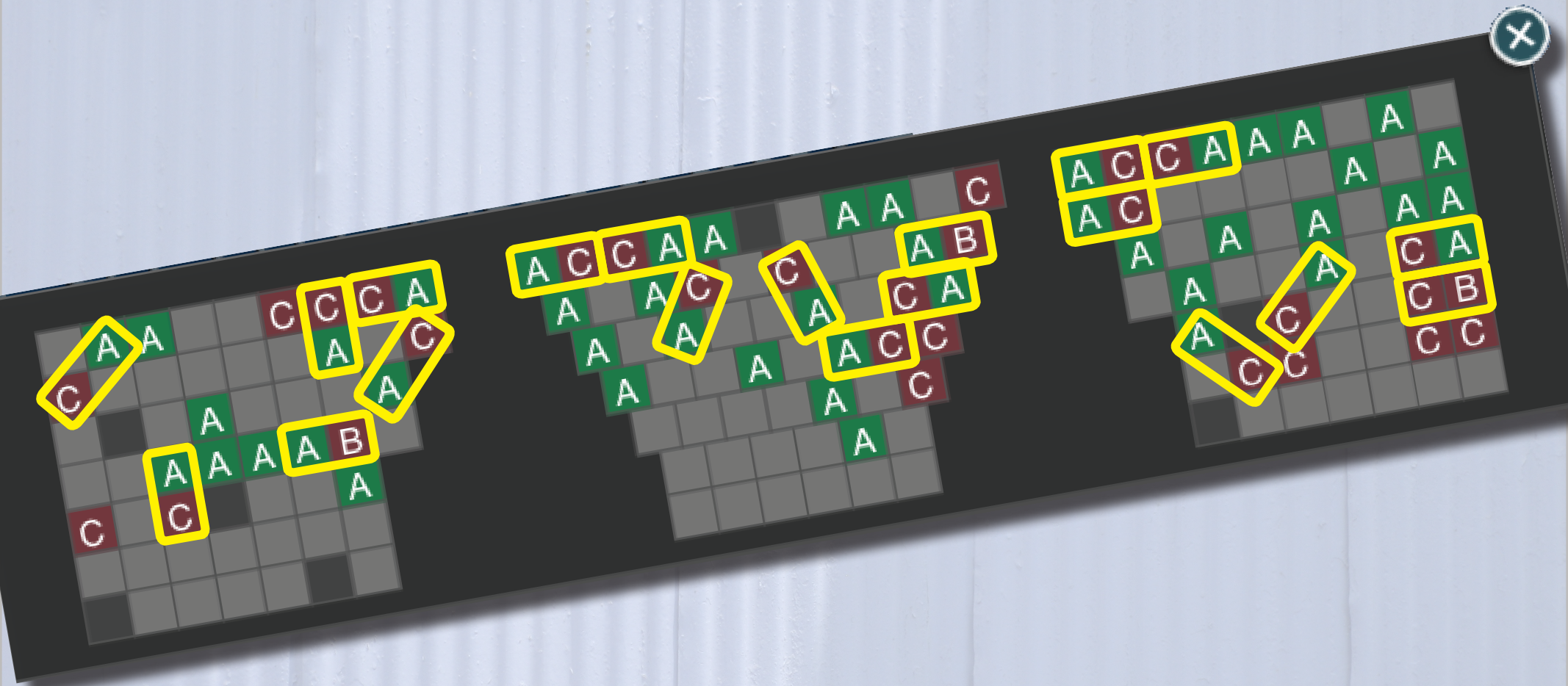

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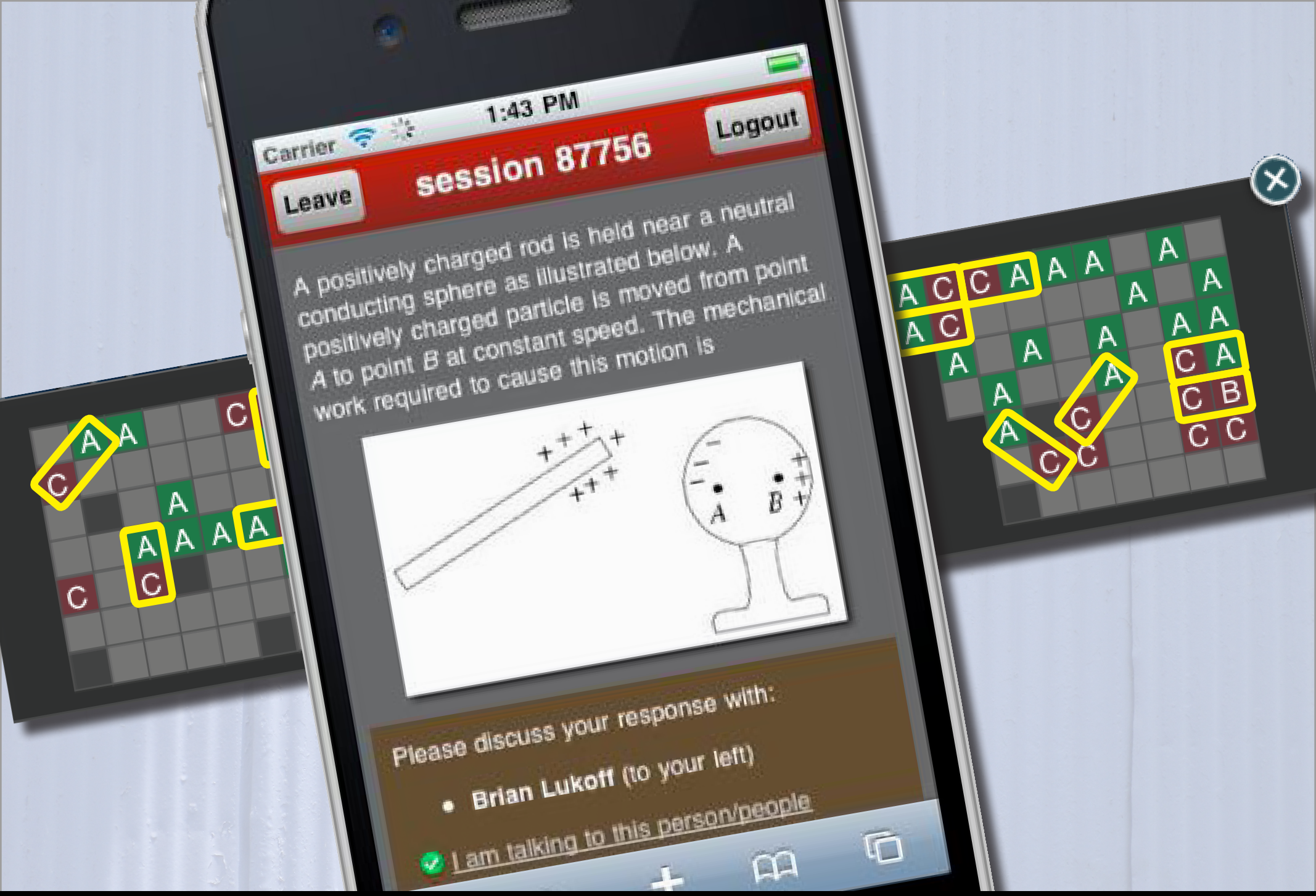


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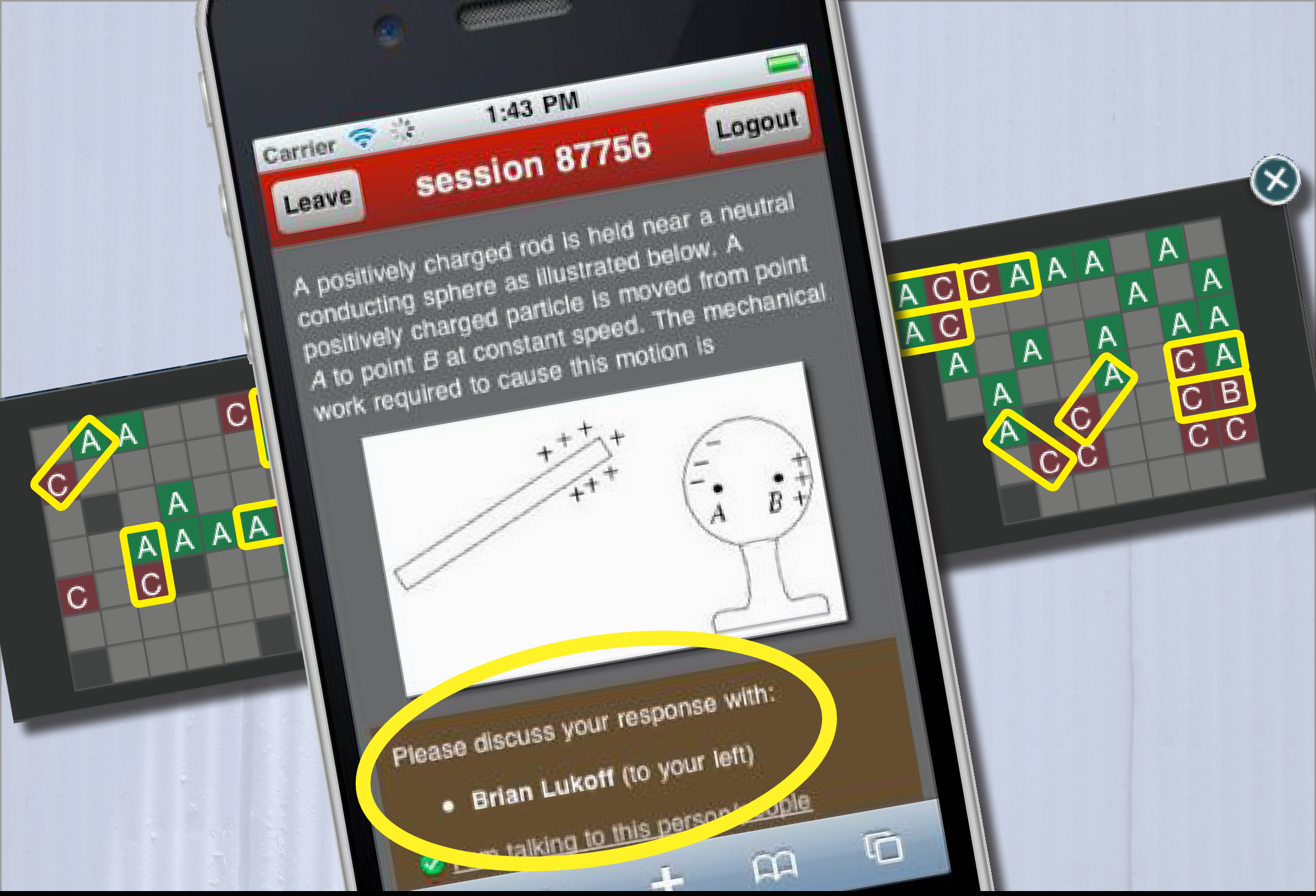


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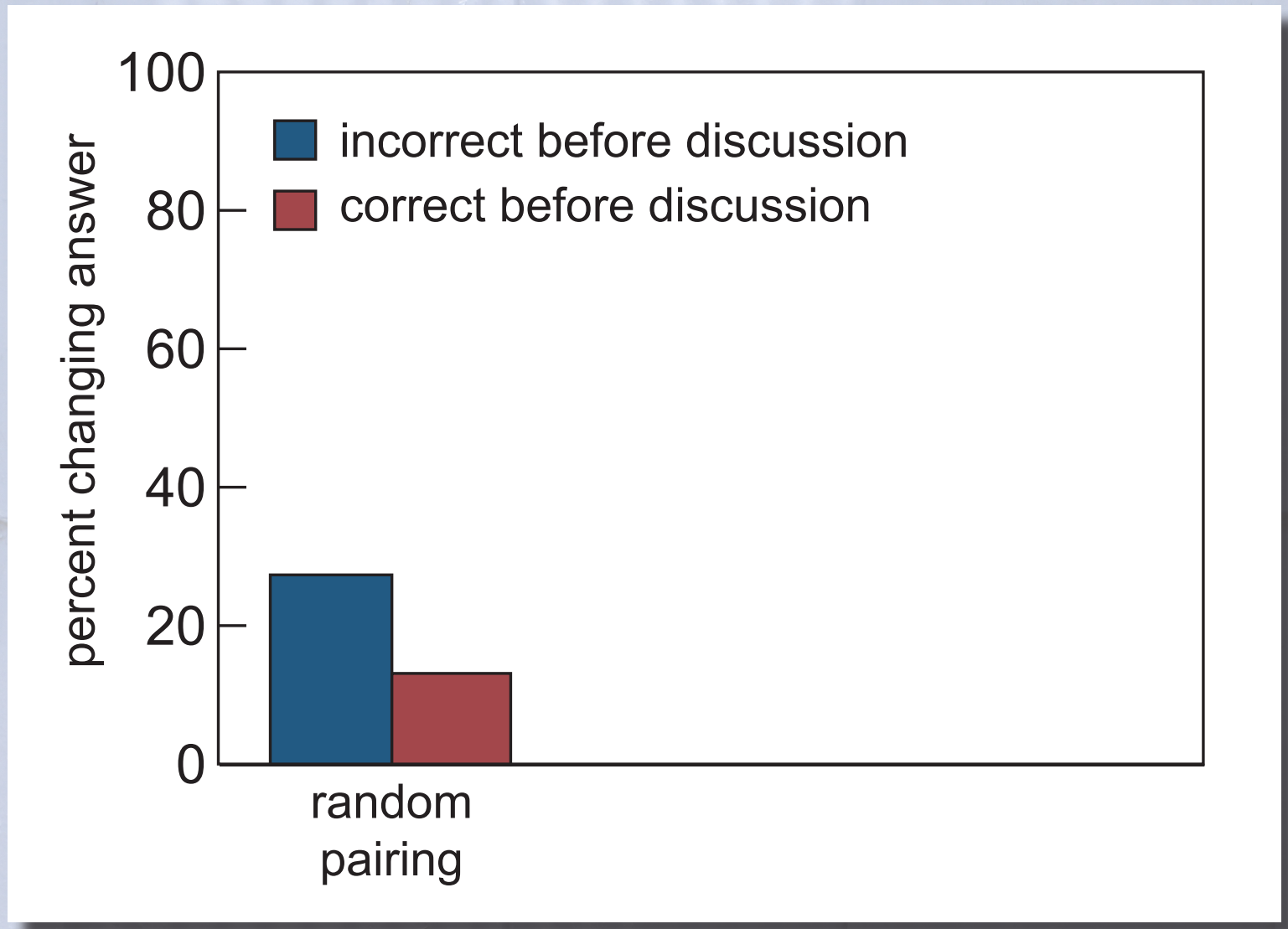
100
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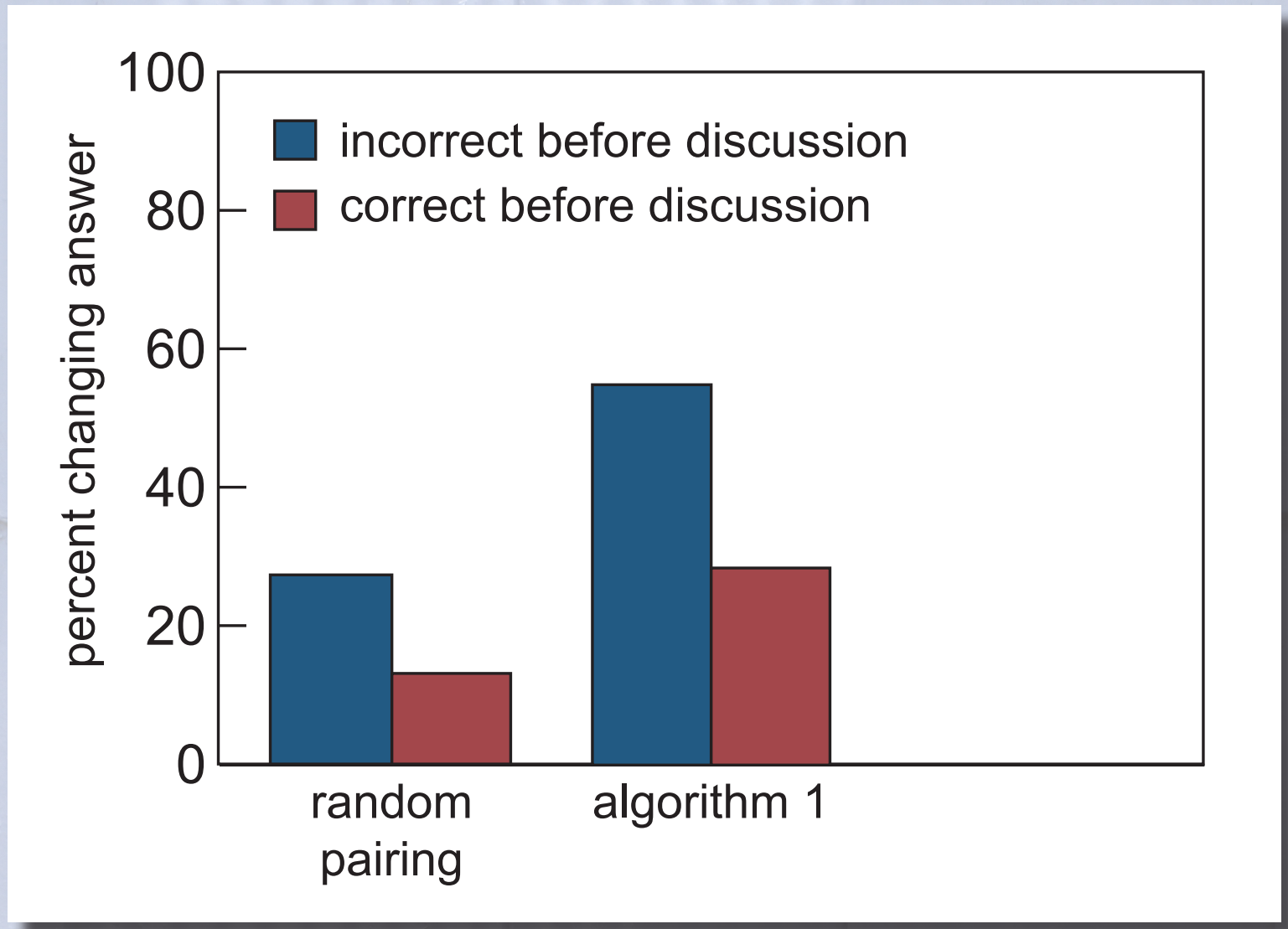
60
40
20
0
percent changing answer
incorrect before discussion
correct before discussion
random
pairing

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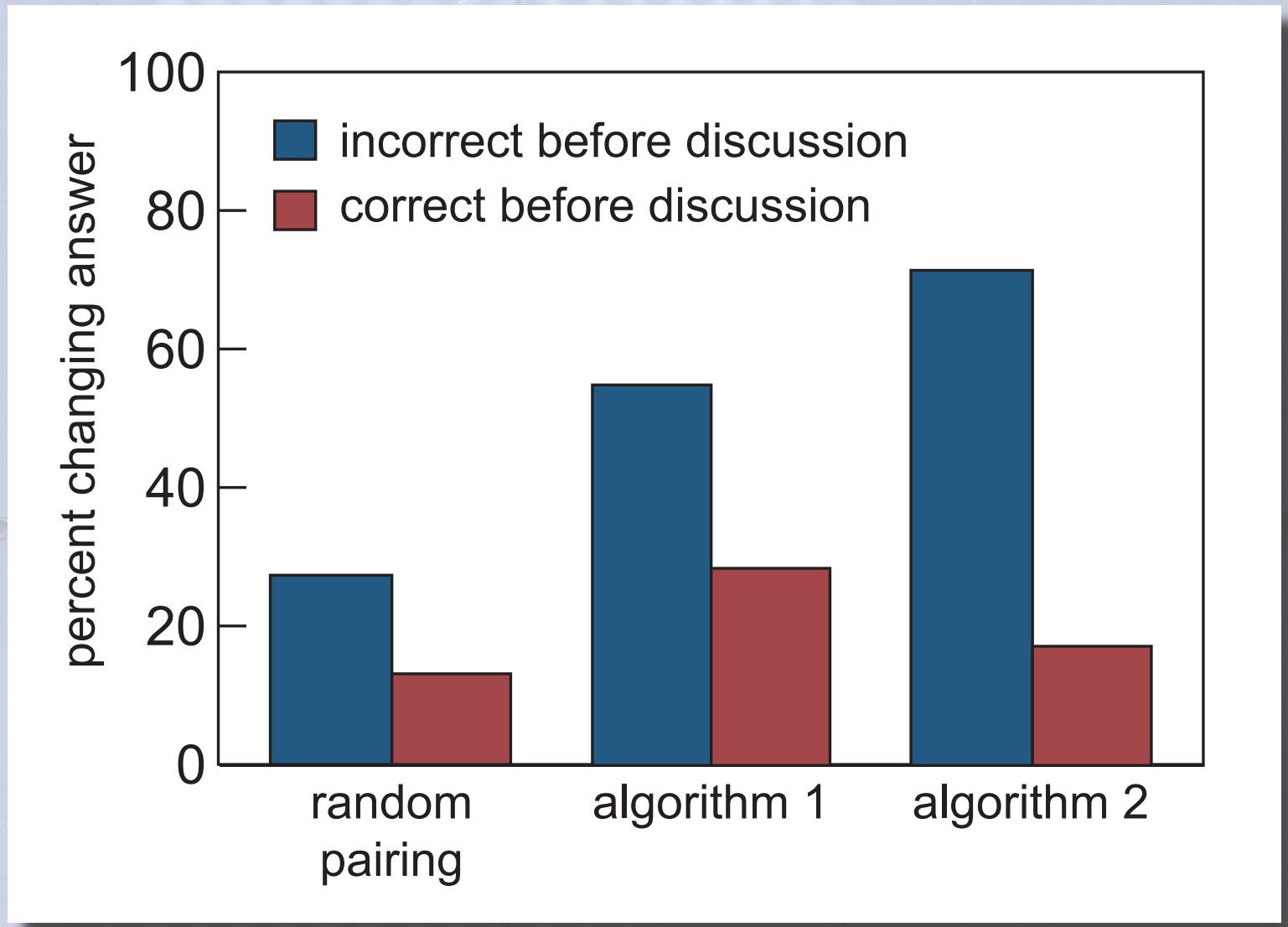


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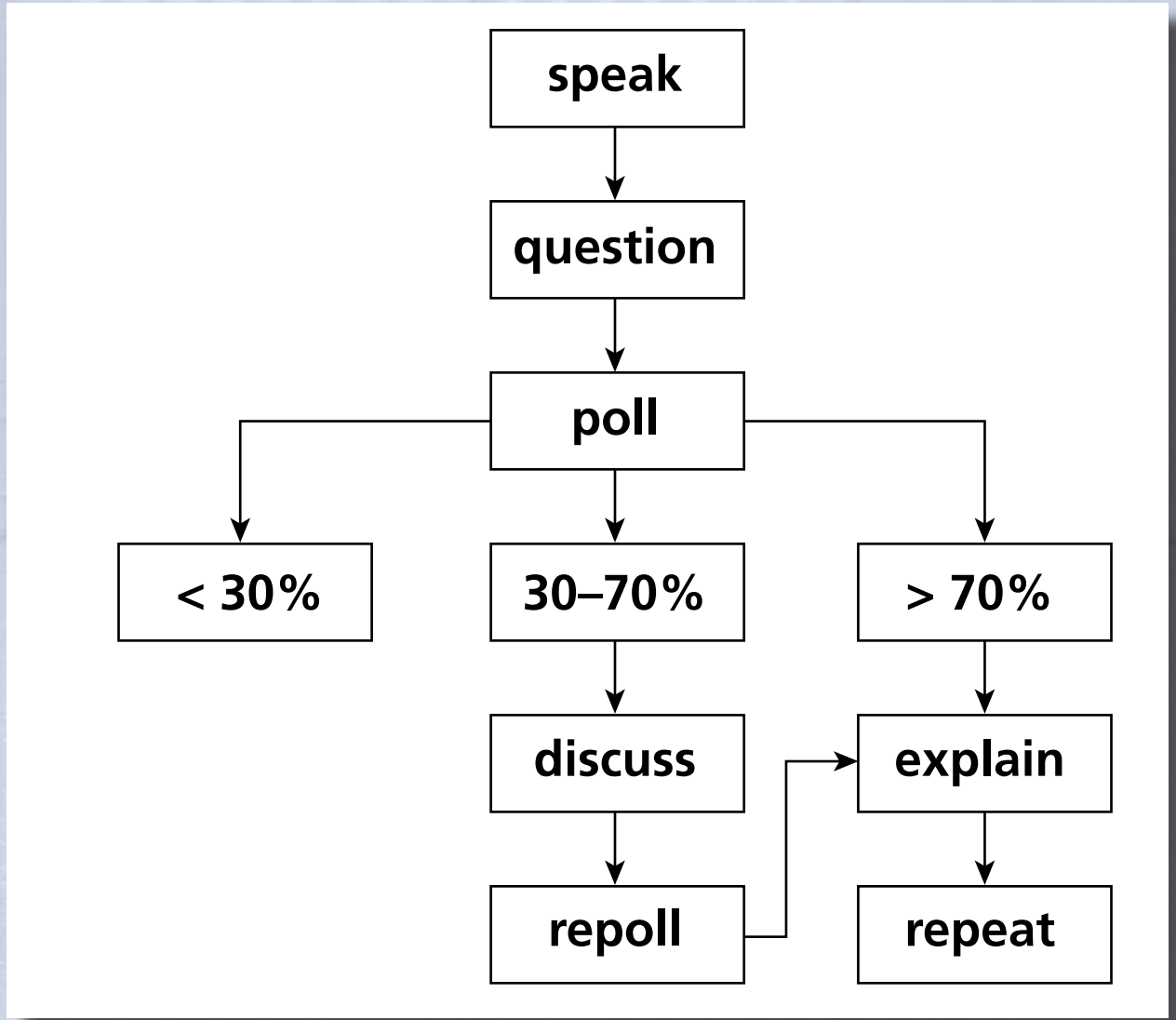


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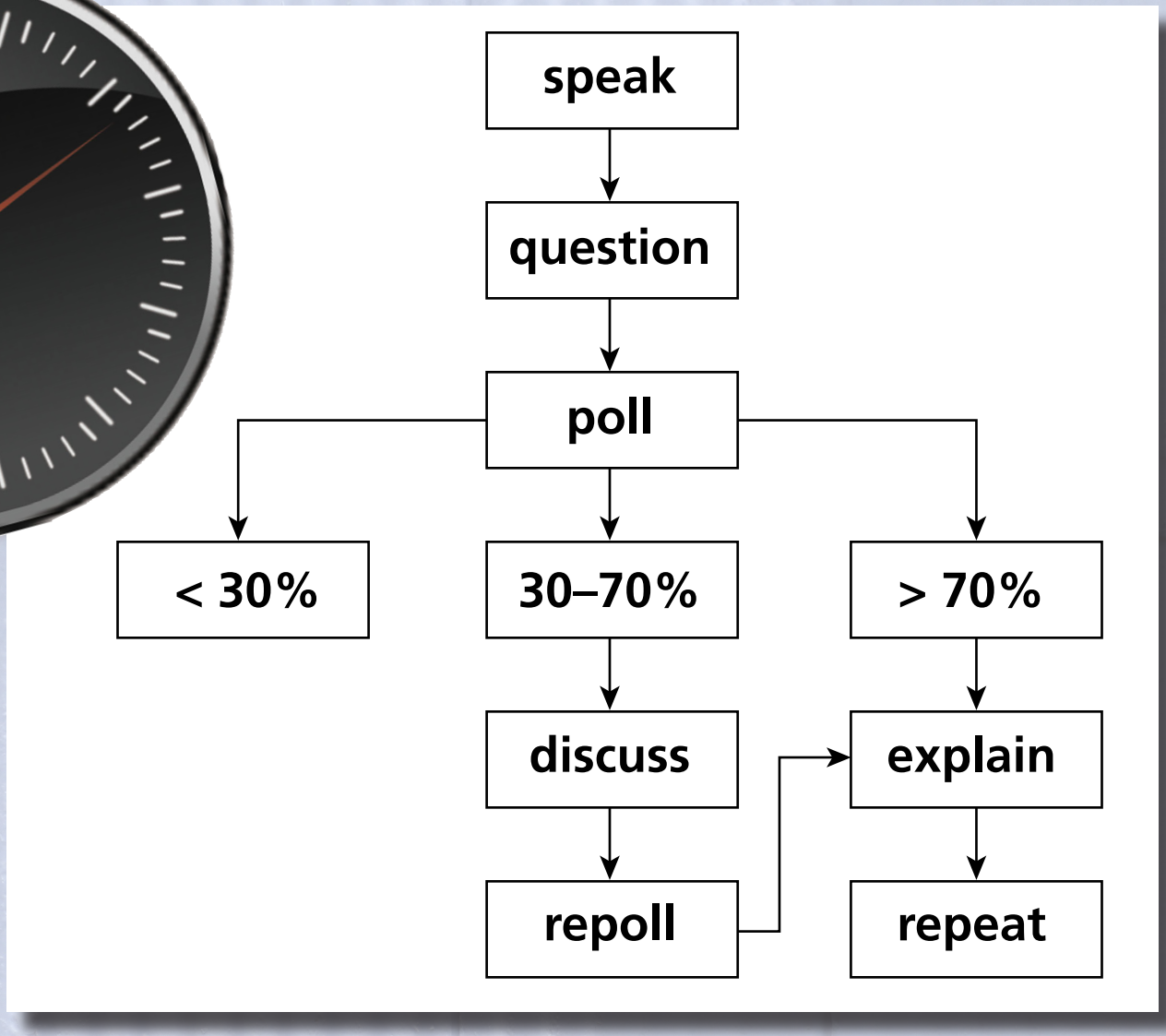


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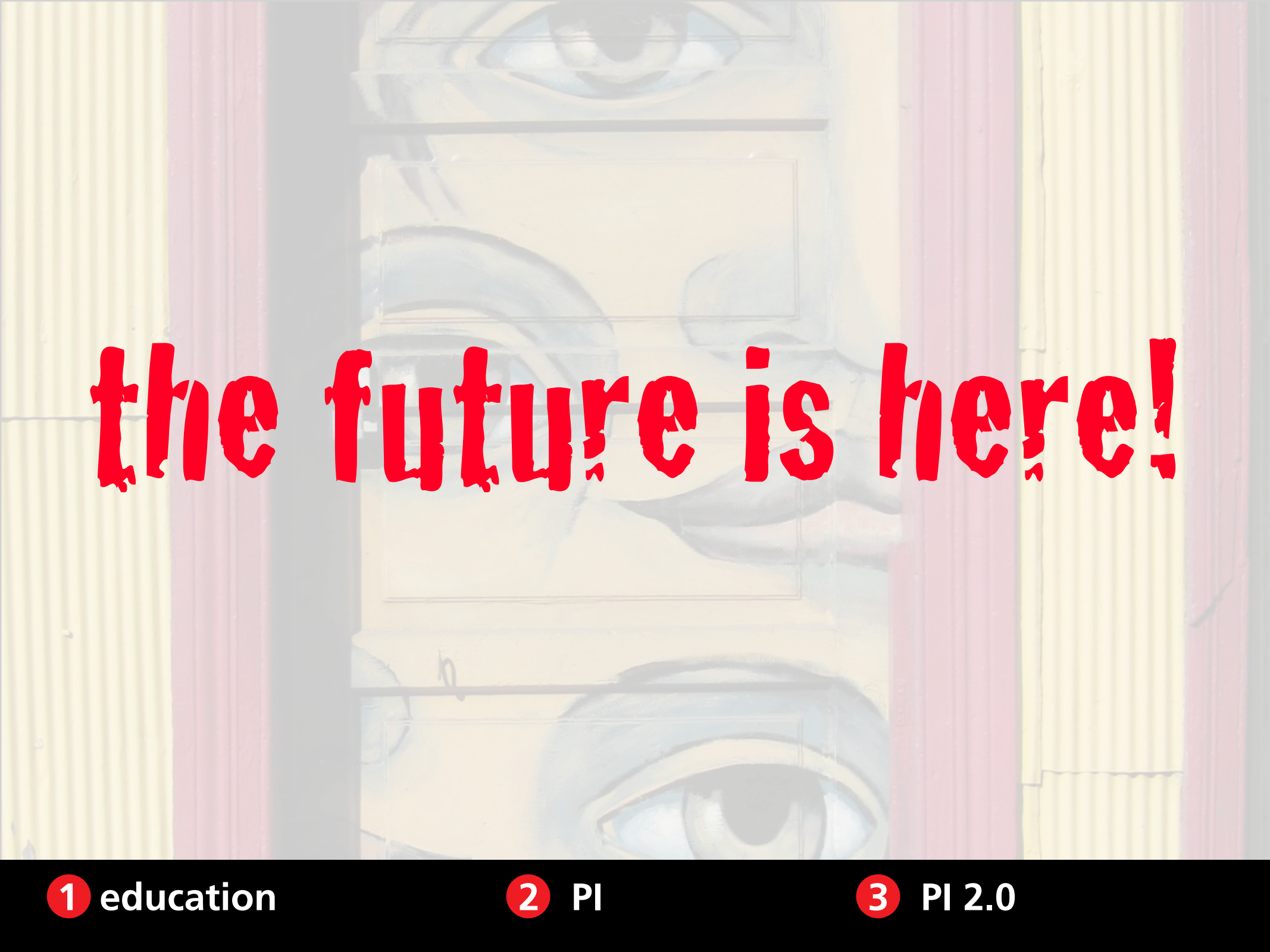
the future is here!
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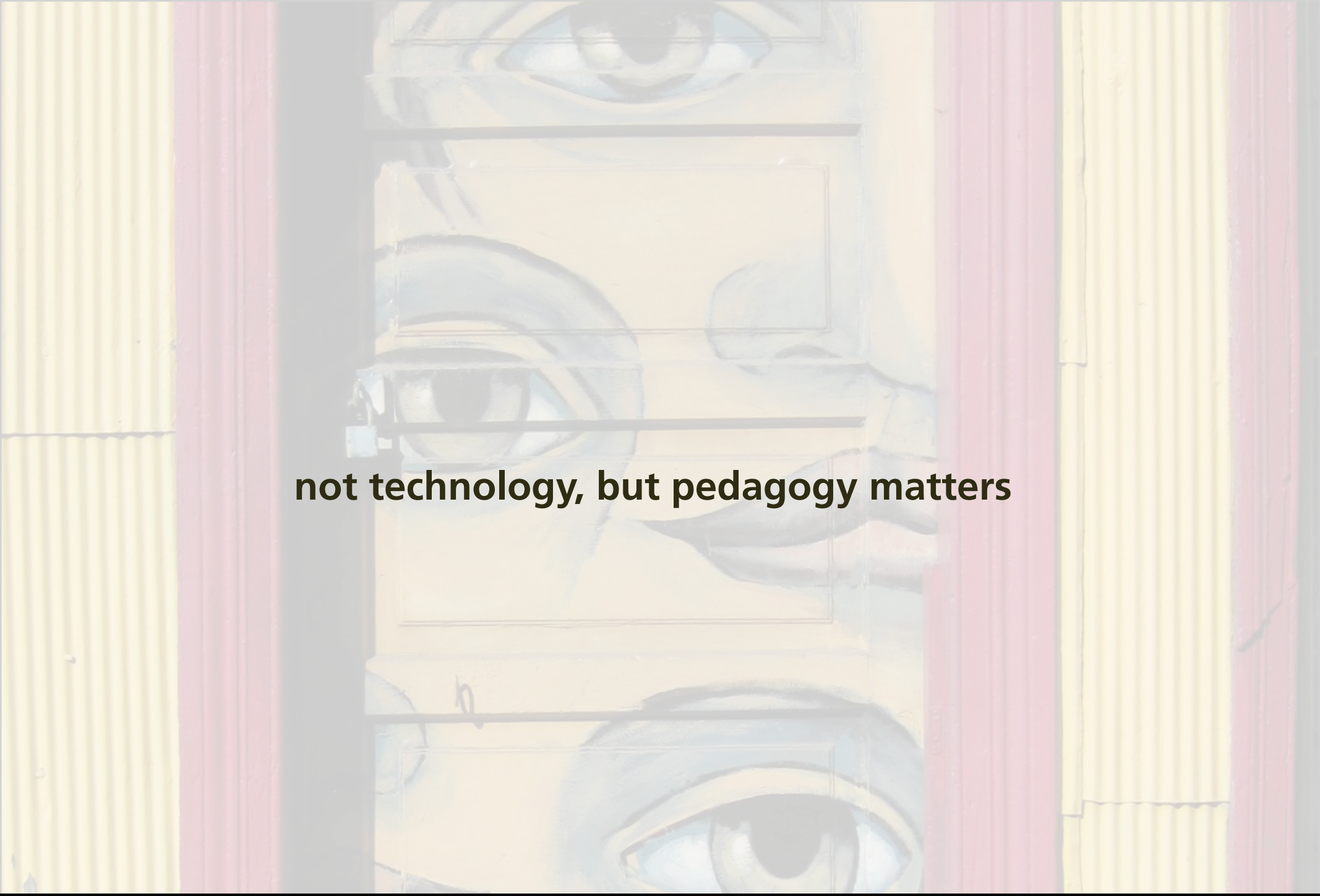
Education is not just about:

- transferring information
- getting students to do what we do

Education is not just about:

- transferring information
- getting students to do what we do

discovery & exploration a must!



not technology, but pedagogy matters

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