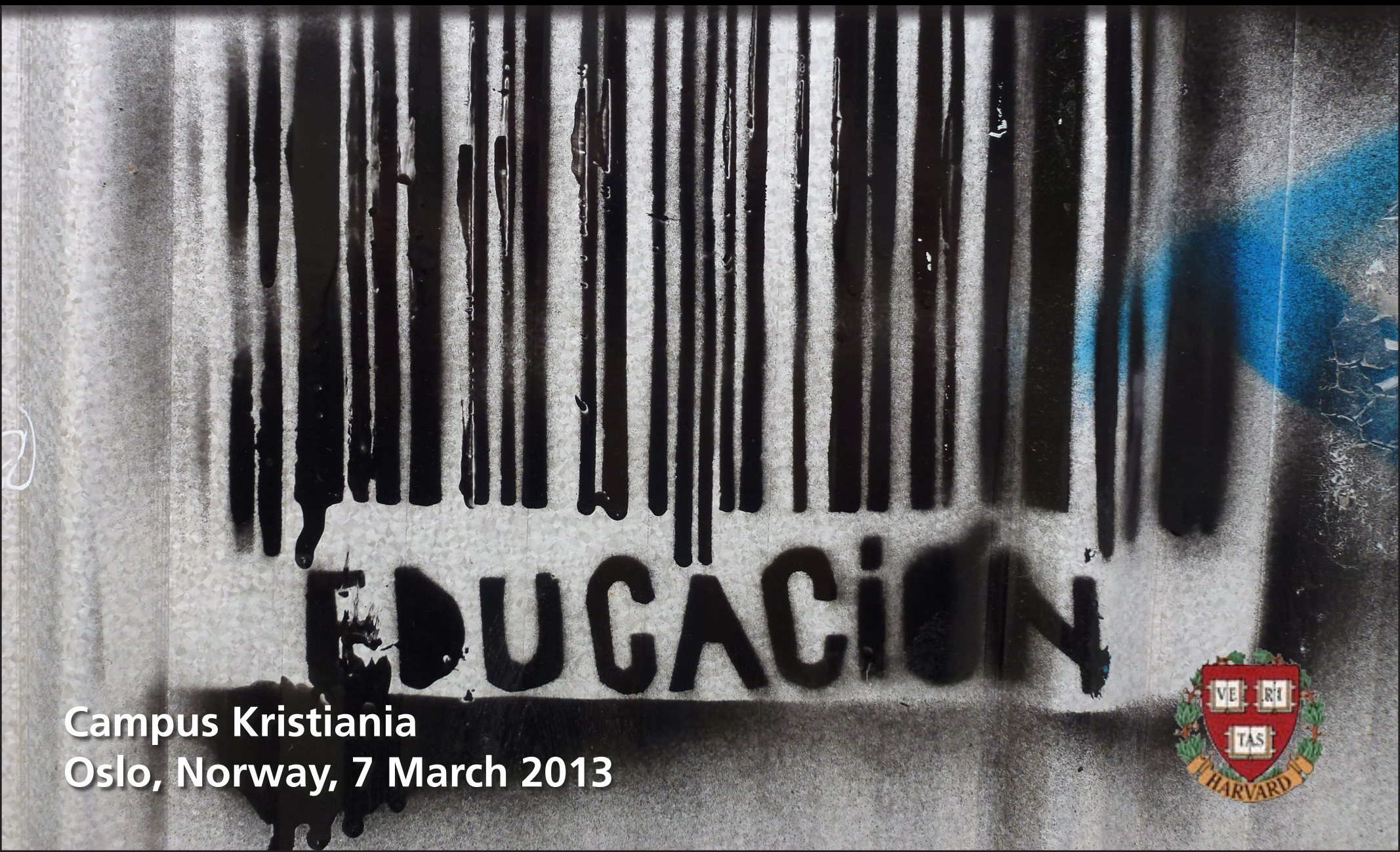
1. Go to http://LCatalytics.com

2a. If you have instructor account: Log in, click “Student view”

2b. Otherwise: Create *student* account with signup code DEMO

3. Join session 1234567

Peer Instruction Workshop: Part I



Campus Kristiania
Oslo, Norway, 7 March 2013

Peer Instruction Workshop: Part I

Campus Kristiania
Oslo, Norway, 7 March 2013

1 lecture

1 lecture

2 PI

1 lecture

2 PI

3 PI 2.0

1 lecture

2 PI

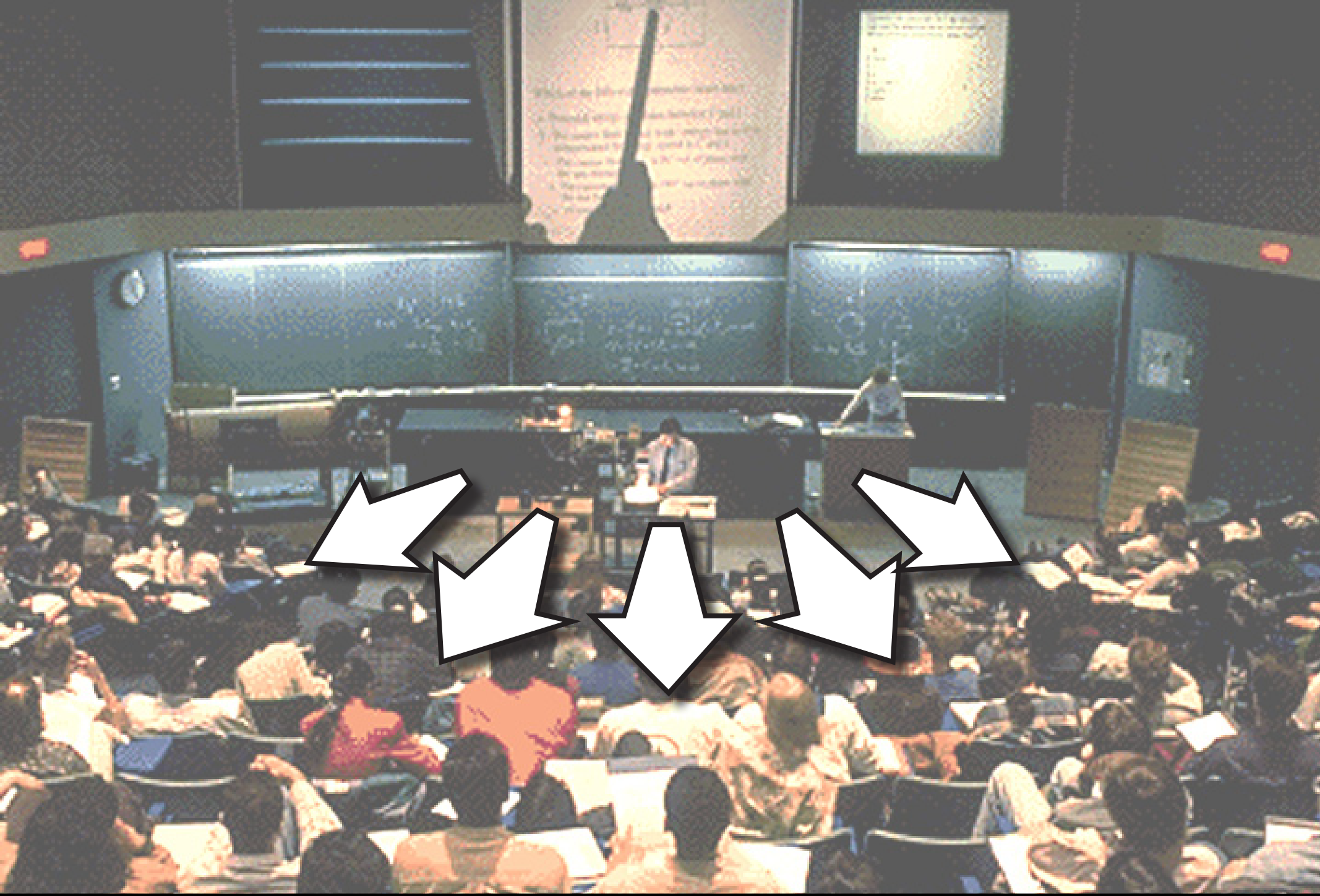
3 PI 2.0

1 lecture

1 lcatalytics.com 2 create student account 3 ID 1234567

Now think how you became good at it

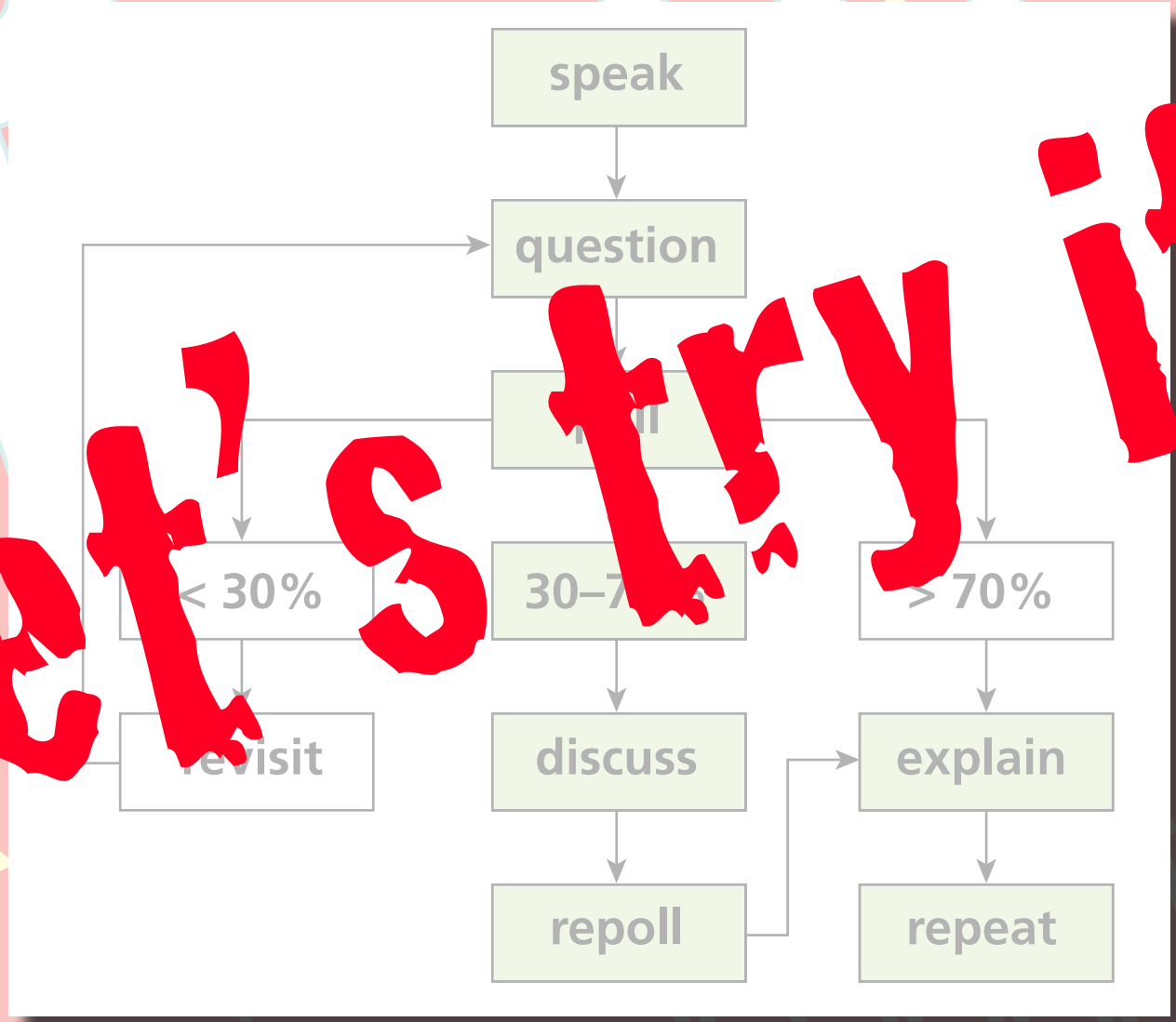
1 lcatalytics.com 2 create student account 3 ID 1234567



1 lecture

1 lecture

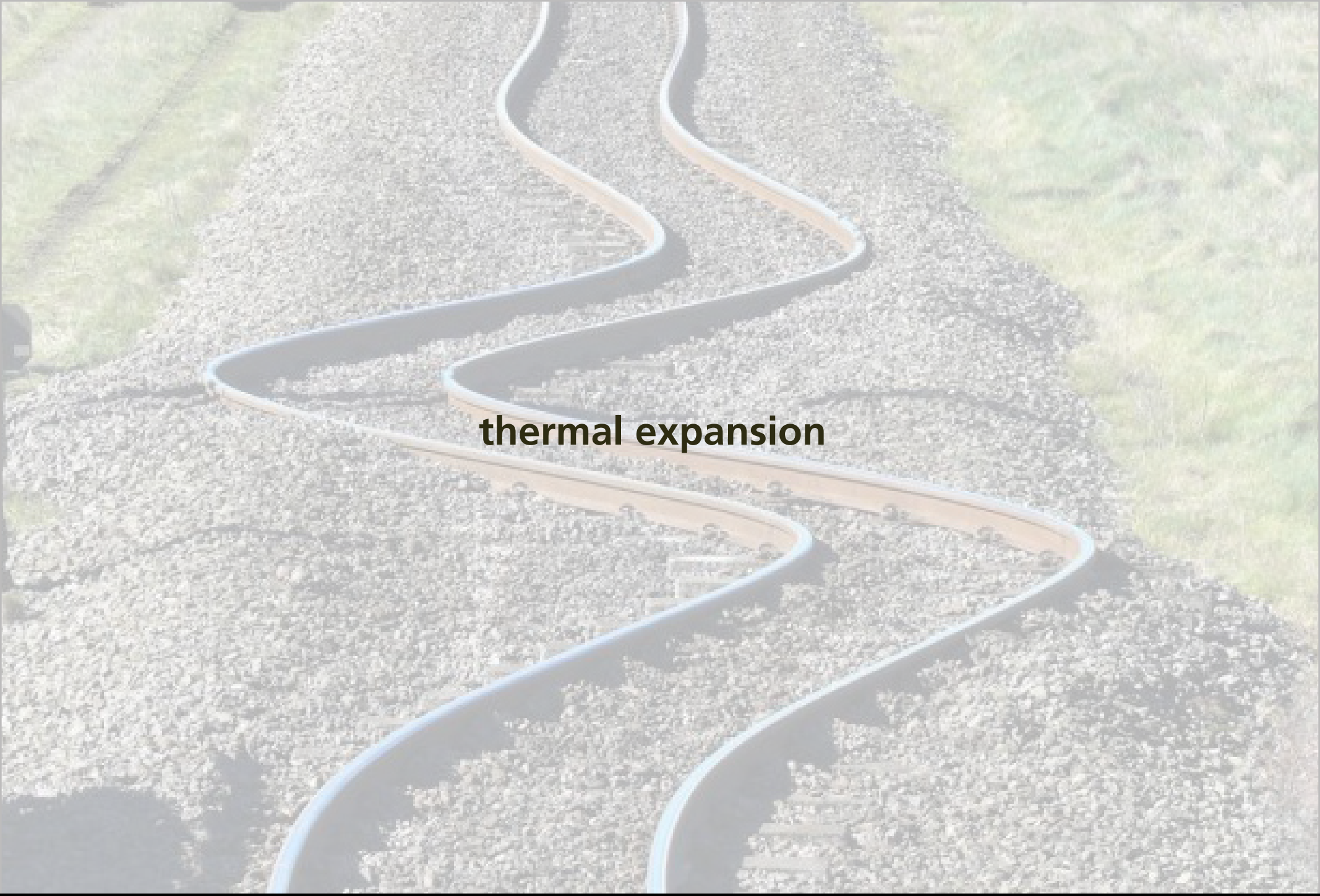
2 PI



Let's try it!

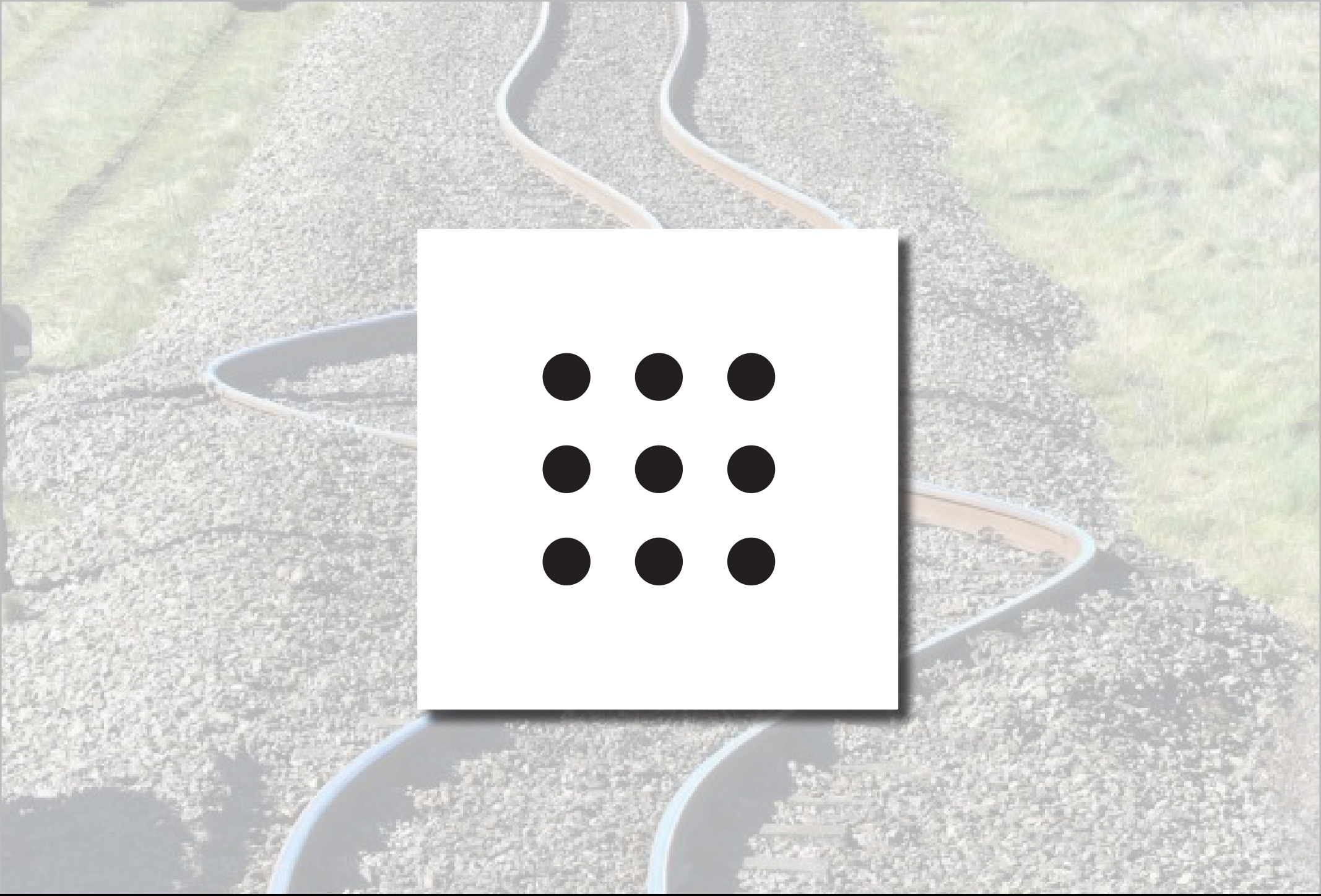
1 lecture

2 PI



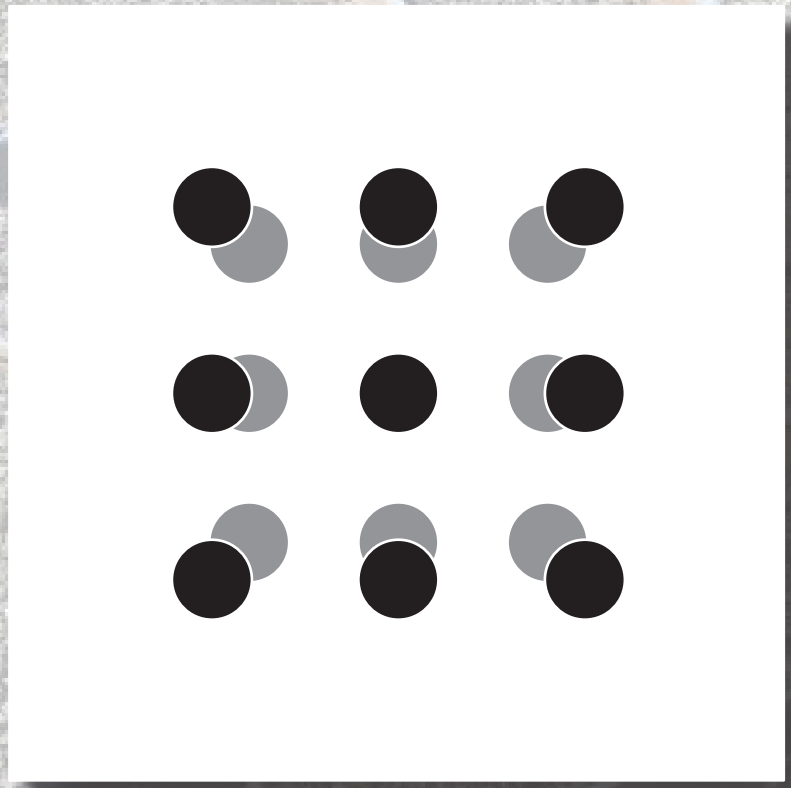
1 lecture

2 PI



1 lecture

2 PI



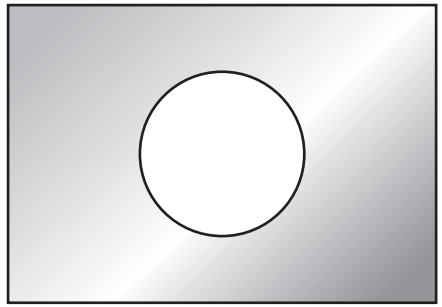
1 lecture

2 PI

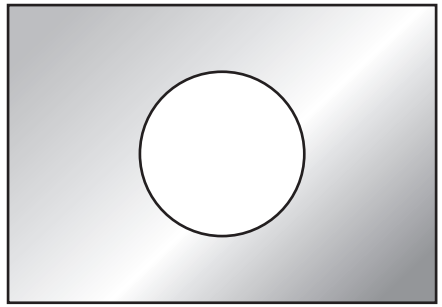
1 lecture

2 PI

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



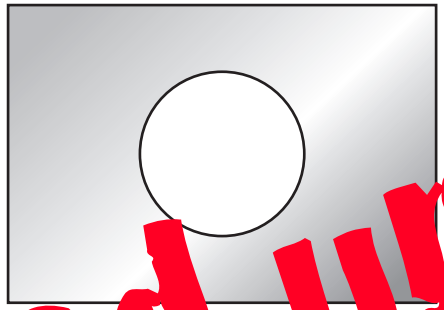
Consider a rectangular metal plate with a circular hole in it.



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.

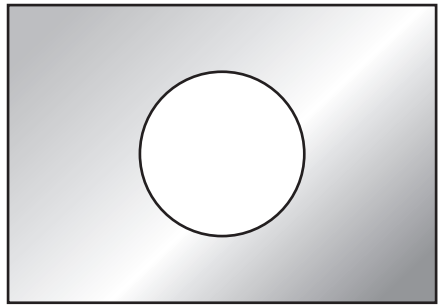


When the plate is uniformly heated, the diameter of the hole

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…

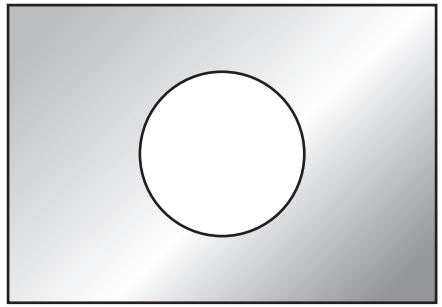
1. made a commitment
2. externalized your answer
3. moved from the answer/fact to reasoning

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.



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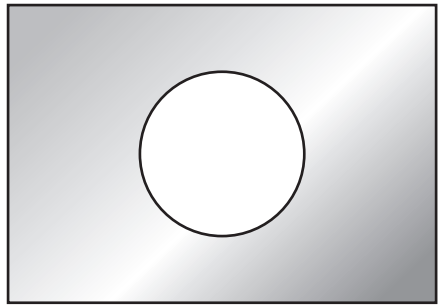
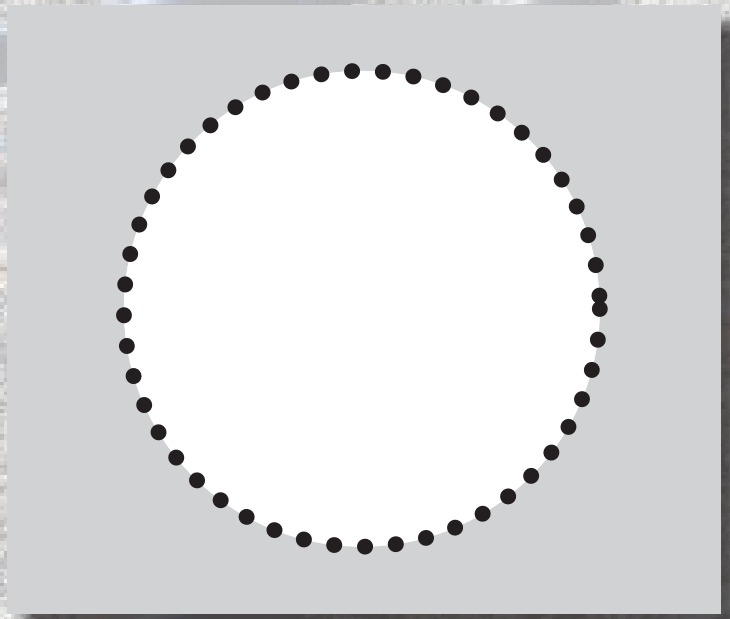
Consider a rectangular metal plate with a circular hole in it.



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

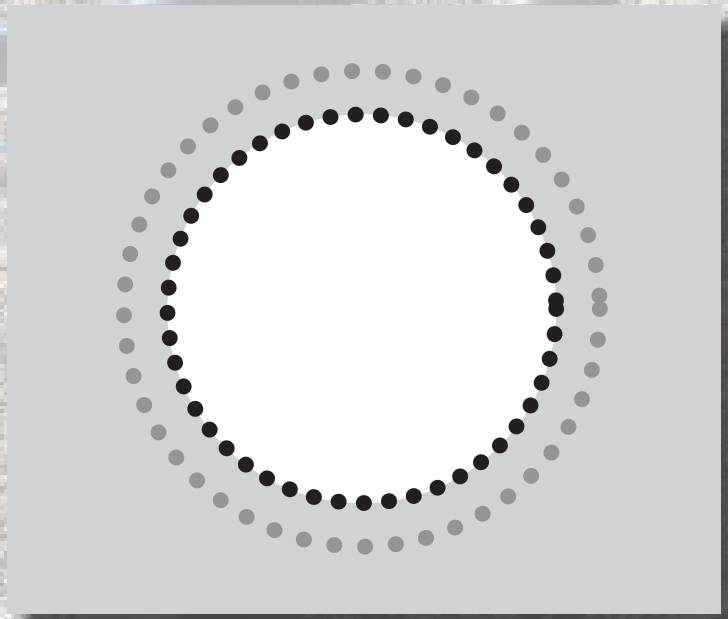
1. increases. ✔
2. stays the same.
3. decreases.

consider atoms at rim of hole



1 lecture 2 PI

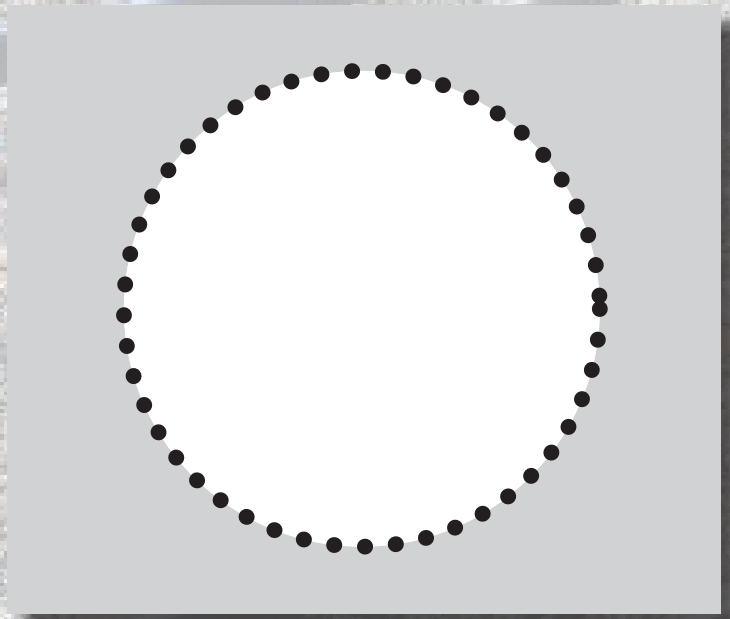
consider atoms at rim of hole



1 lecture

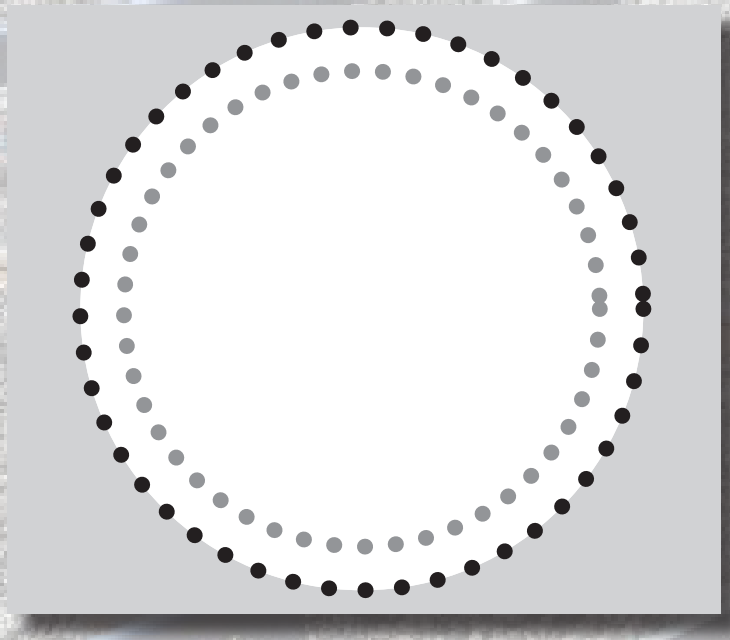
2 PI

consider atoms at rim of hole



1 lecture 2 PI

consider atoms at rim of hole



1 lecture 2 PI

consider atoms at rim of hole

you won't forget this

1 lecture

2 PI


Join now!
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1 lecture

2 PI

3 PI 2.0

feedback

1 lecture

2 PI

3 PI 2.0


1991
1 lecture
2 PI
3 PI 2.0

1 lecture

2 PI

3 PI 2.0

1 lecture 2 PI 3 PI 2.0

1 lecture

2 PI

3 PI 2.0

1 lecture 2 PI 3 PI 2.0

How do I…

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

1 lecture 2 PI 3 PI 2.0

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1 lecture 2 PI 3 PI 2.0

learning | catalytics

Gary King

Brian Lukoff

Eric Mazur

1 lecture

2 PI

3 PI 2.0

Use intelligent algorithms and data analytics to…

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

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

Sample question types:

- direction
- mathematical expression
- long answer, short answer, word cloud
- numerical, data collection
- ranking, priority
- region (select point on image)
- sketch, composite sketch
- highlight passage

Sample question types:

- **direction**
- mathematical expression
- long answer, short answer, word cloud
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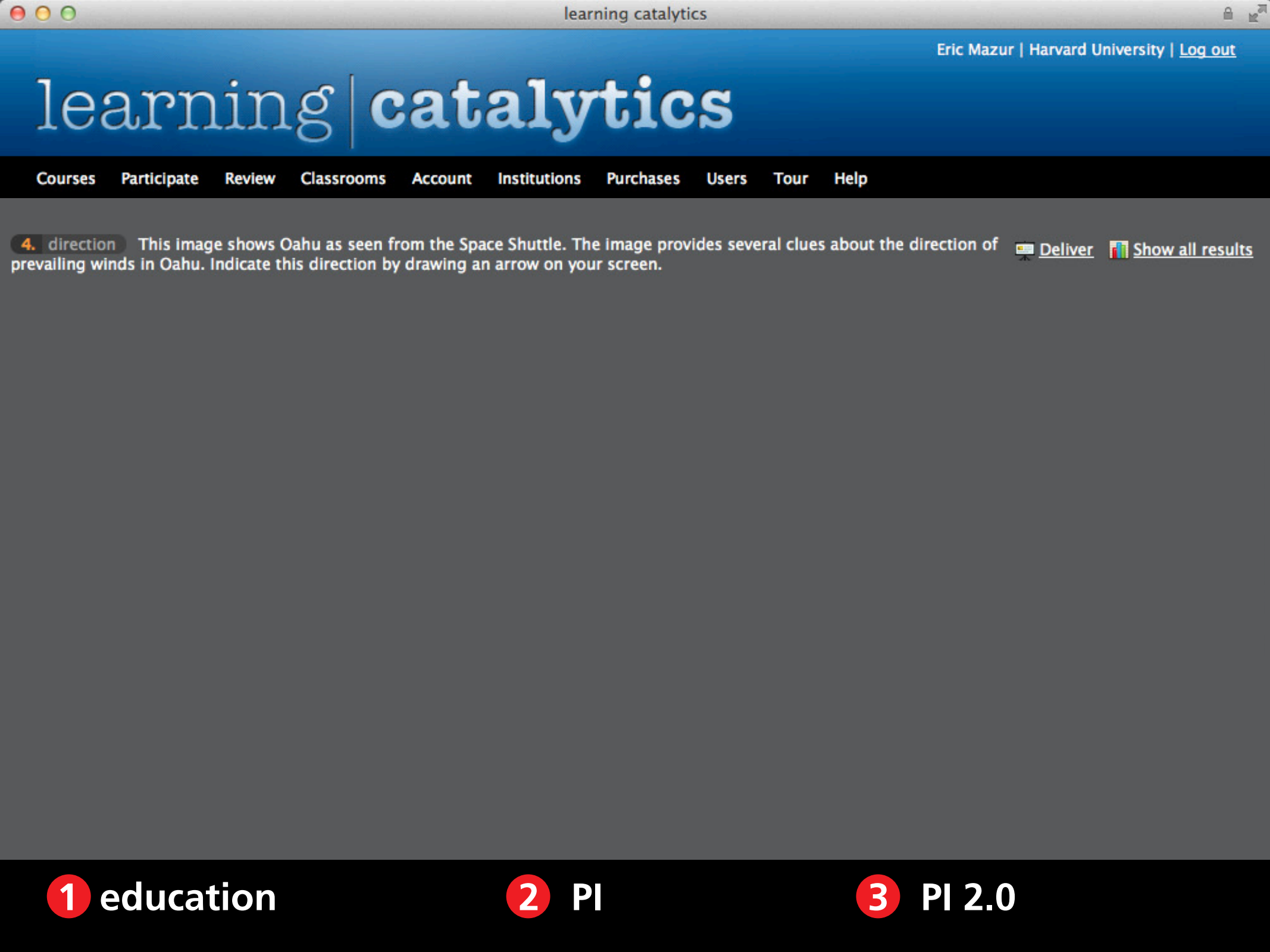
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Eric Mazur | Harvard University | Log out
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4. direction This image shows Oahu as seen from the Space Shuttle. The image provides several clues about the direction of prevailing winds in Oahu. Indicate 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… prevailing …tle. The image provides several clues about the direction of …n your screen.

Deliver Show all results

1 educa…

3 PI 2.0

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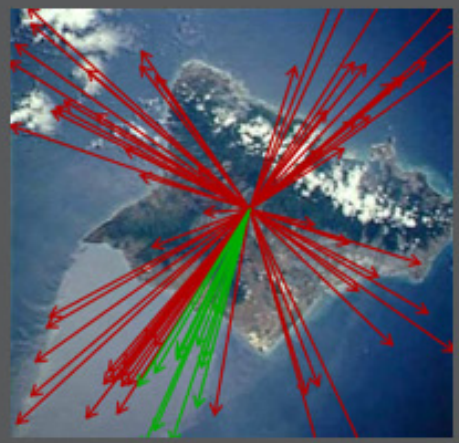
4. directi… prevailing …tle. The image provides several clues about the direction of …n your screen.

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 lecture 2 PI 3 PI 2.0

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current session: 766079 | 69 students

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6 7 8 9 10 11 12 13 14 15

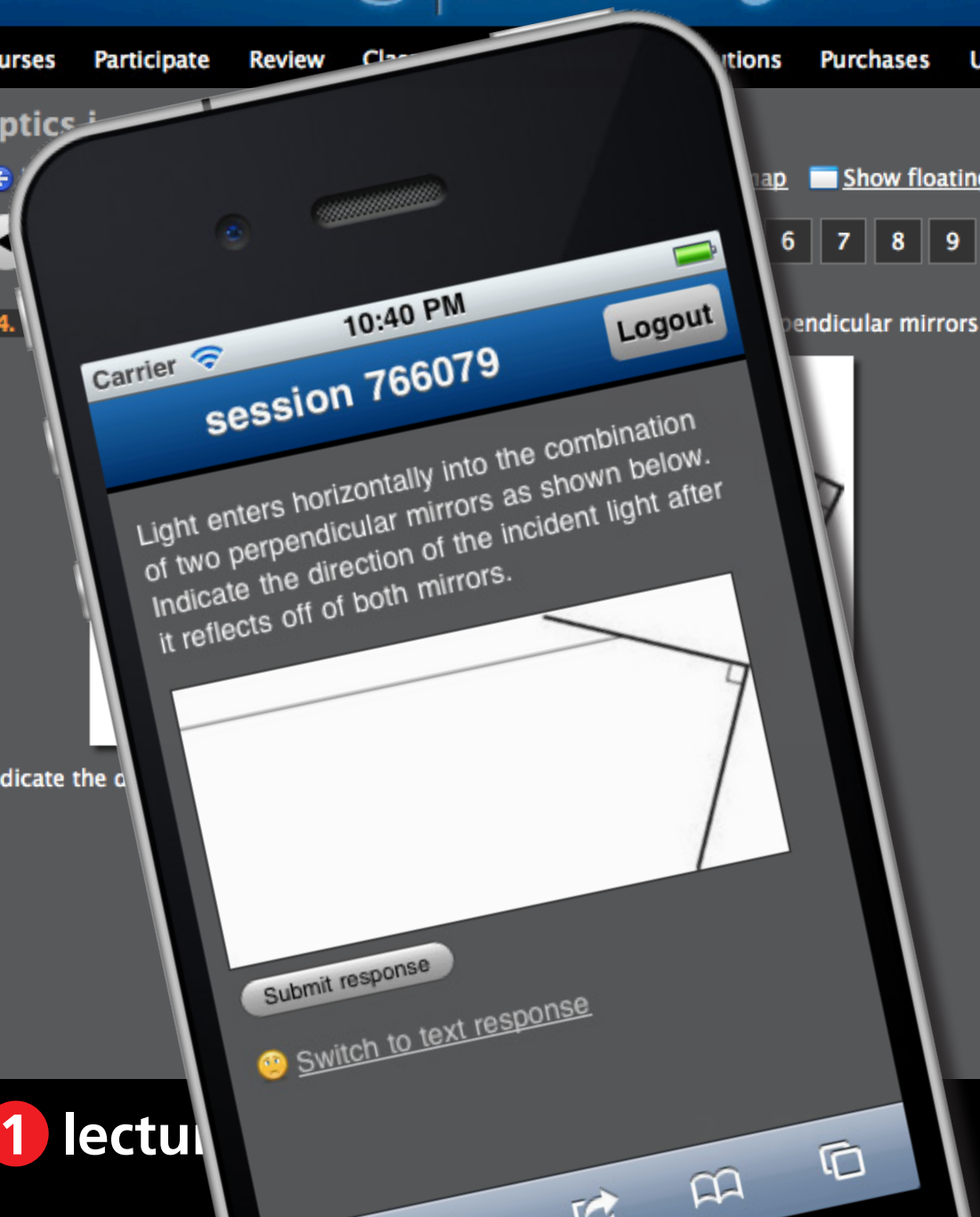
4.

endicular mirrors as shown below.

Deliver Show all results

Indicate the d

feedback & support



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3 PI 2.0

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6 7 8 9 10 11 12 13 14 15

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Indicate the d

feedback & support

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3 PI 2.0

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optics i

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6 7 8 9 10 11 12 13 14 15

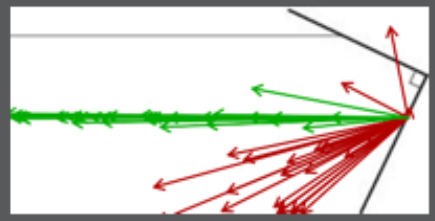
4.

endicular mirrors as shown below.

Deliver Show all results

Round 1

57 responses, 58% correct



Indicate the d

feedback & support

1 lectu

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 lectu

3 PI 2.0

Sample question types:

- direction
- **mathematical expression**
- long answer, short answer, word cloud
- numerical, data collection
- ranking, priority
- region (select point on image)
- sketch, composite sketch
- highlight passage

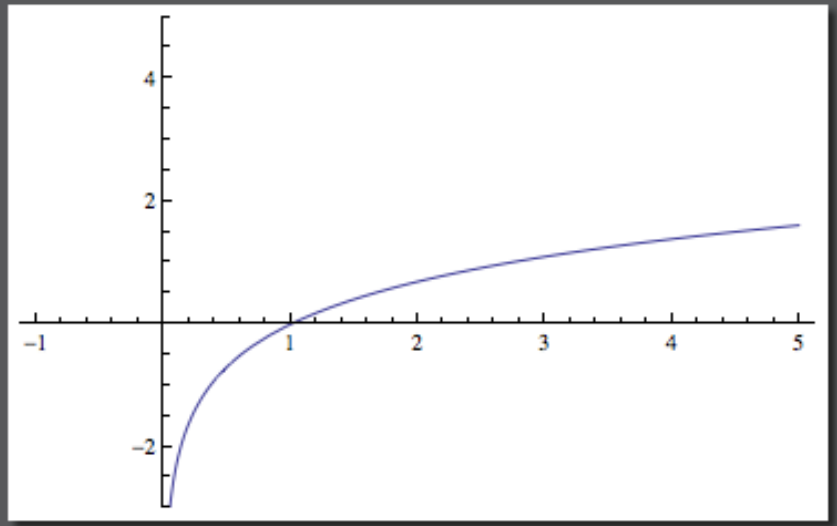
If $2x - y = 4$, then $x =$

1 lecture 2 PI 3 PI 2.0

Sample question types:

- direction
- mathematical expression
- long answer, short answer, word cloud
- numerical, data collection
- ranking, priority
- region (select point on image)
- sketch, composite 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 $f(x)$ =

1 lecture

3 PI 2.0


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Help
This is a graph of $f(x)$ =
Round 1
15 responses
6 get it now
0 still don't get it
Carrier
10:30 PM
Logout
session 333281
Refresh
This is a graph of $f(x) = \ln x$. Sketch a graph of the derivative $f'(x)$.
1 lecture
3 PI 2.0

Sample question types:

- direction
- mathematical expression
- long answer, short answer, word cloud
- numerical data collection
- ranking, priority
- region (select point on image)
- sketch, composite sketch
- highlight passage

data analytics

1 lecture 2 PI 3 PI 2.0

human interaction

1 lecture 2 PI 3 PI 2.0

Carrier 9:31 PM learning catalytics 100%

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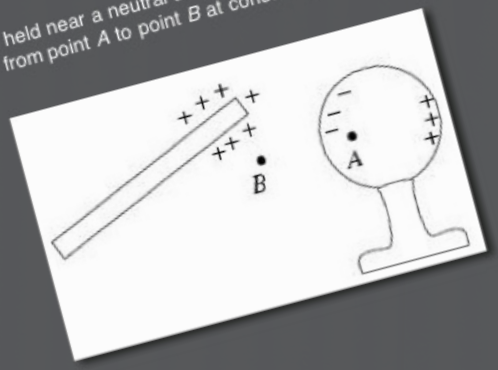
A positively charged rod is held near a neutral conducting sphere as illustrated below. A positively charged particle is moved from point *A* to point *B* at constant speed. The potential difference from *A* to *B* is



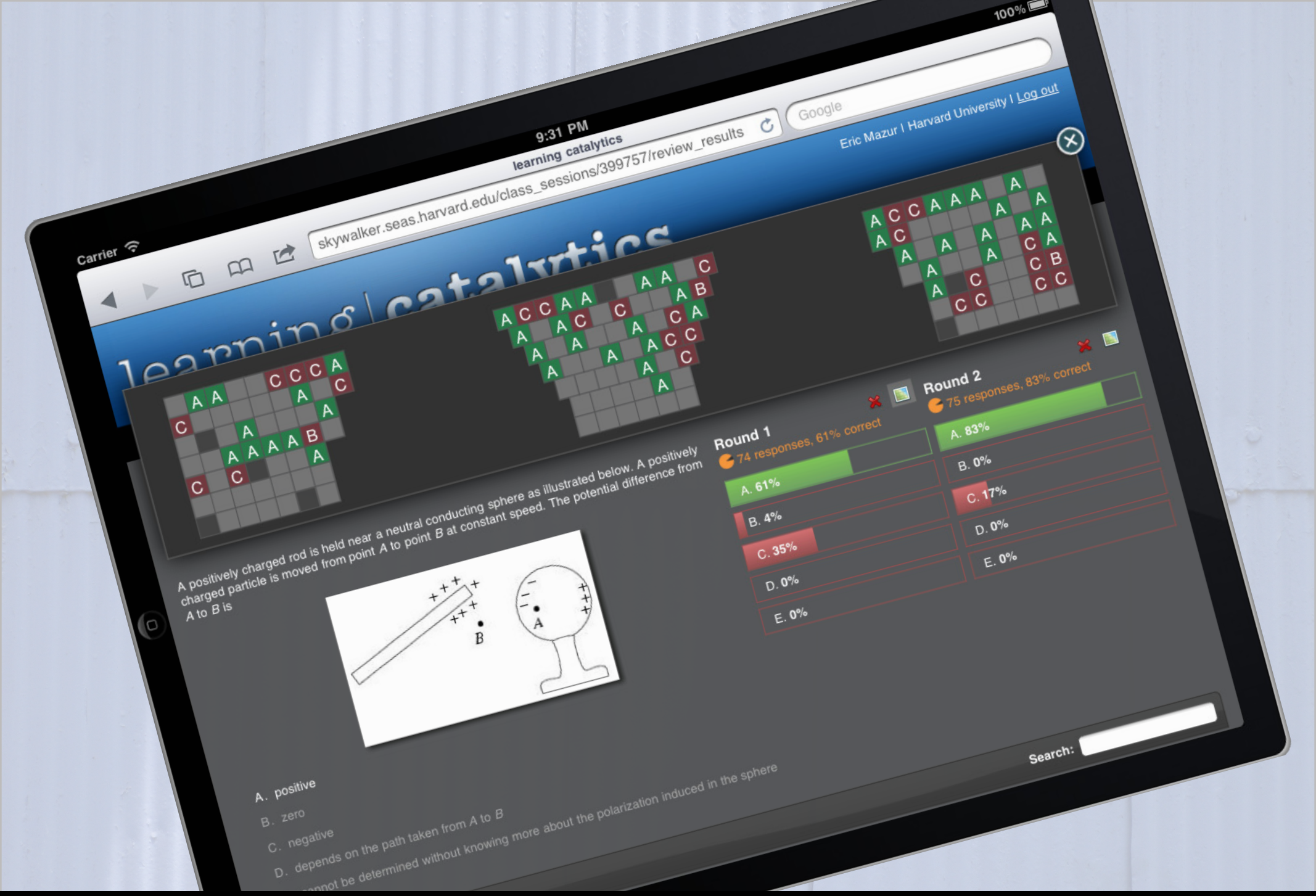
A. positive
B. zero
C. negative
D. depends on the path taken from *A* to *B*
cannot be determined without knowing more about the polarization induced in the sphere

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

3 PI 2.0

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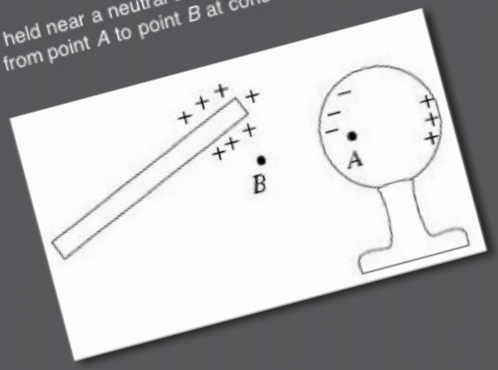

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C. 17%
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E. 0%

Search:

1 lecture 2 PI 3 PI 2.0

Carrier 9:31 PM 100%

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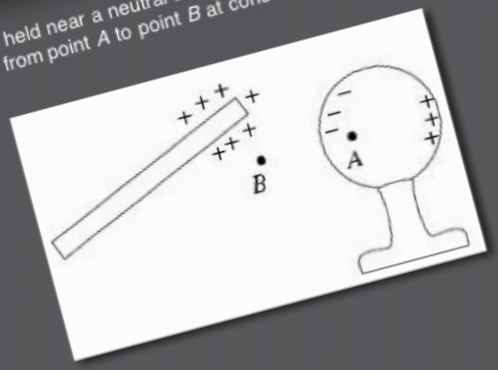

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C. 35%

D. 0%

E. 0%

Round 2

75 responses, 83% correct

A. 83%

B. 0%

C. 17%

D. 0%

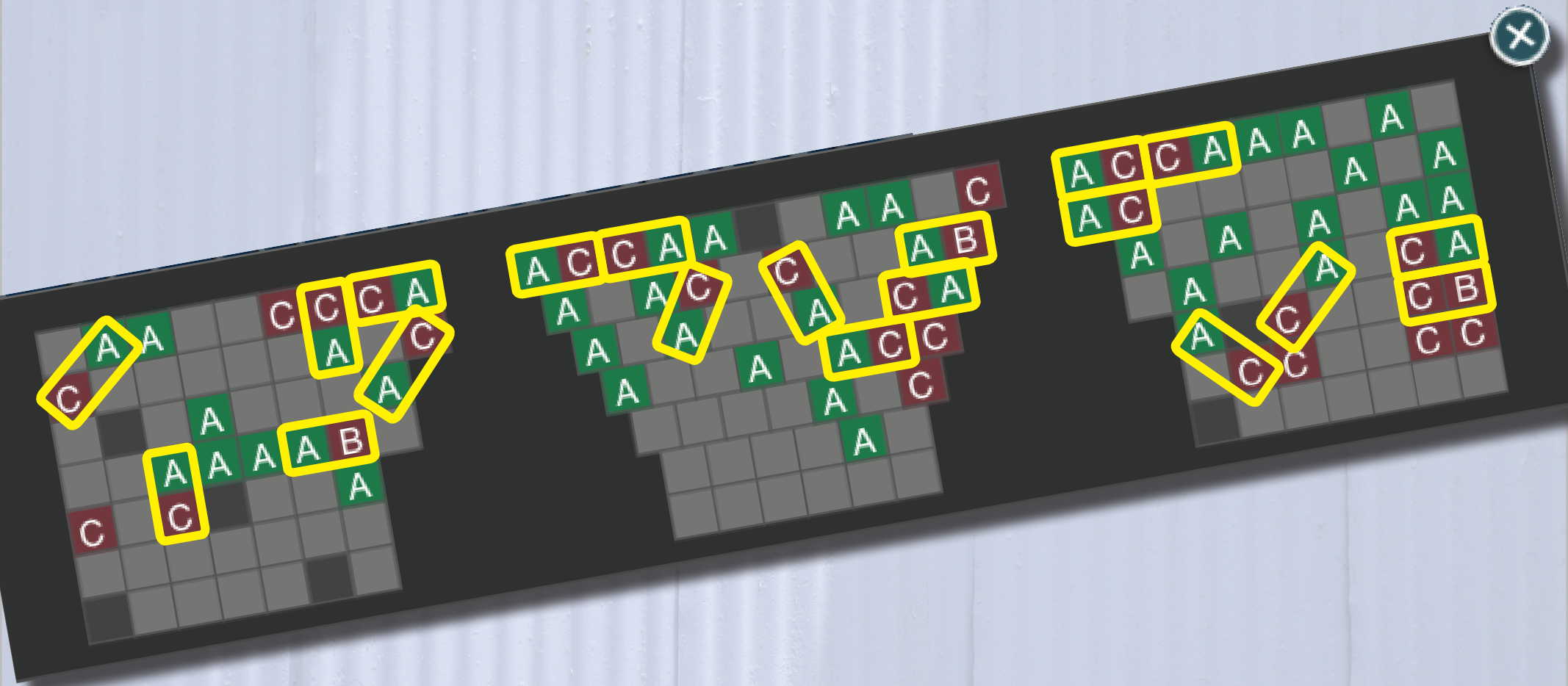
E. 0%

Search:

1 lecture **2 PI** **3 PI 2.0**

let system manage pairing

1 lecture 2 PI 3 PI 2.0



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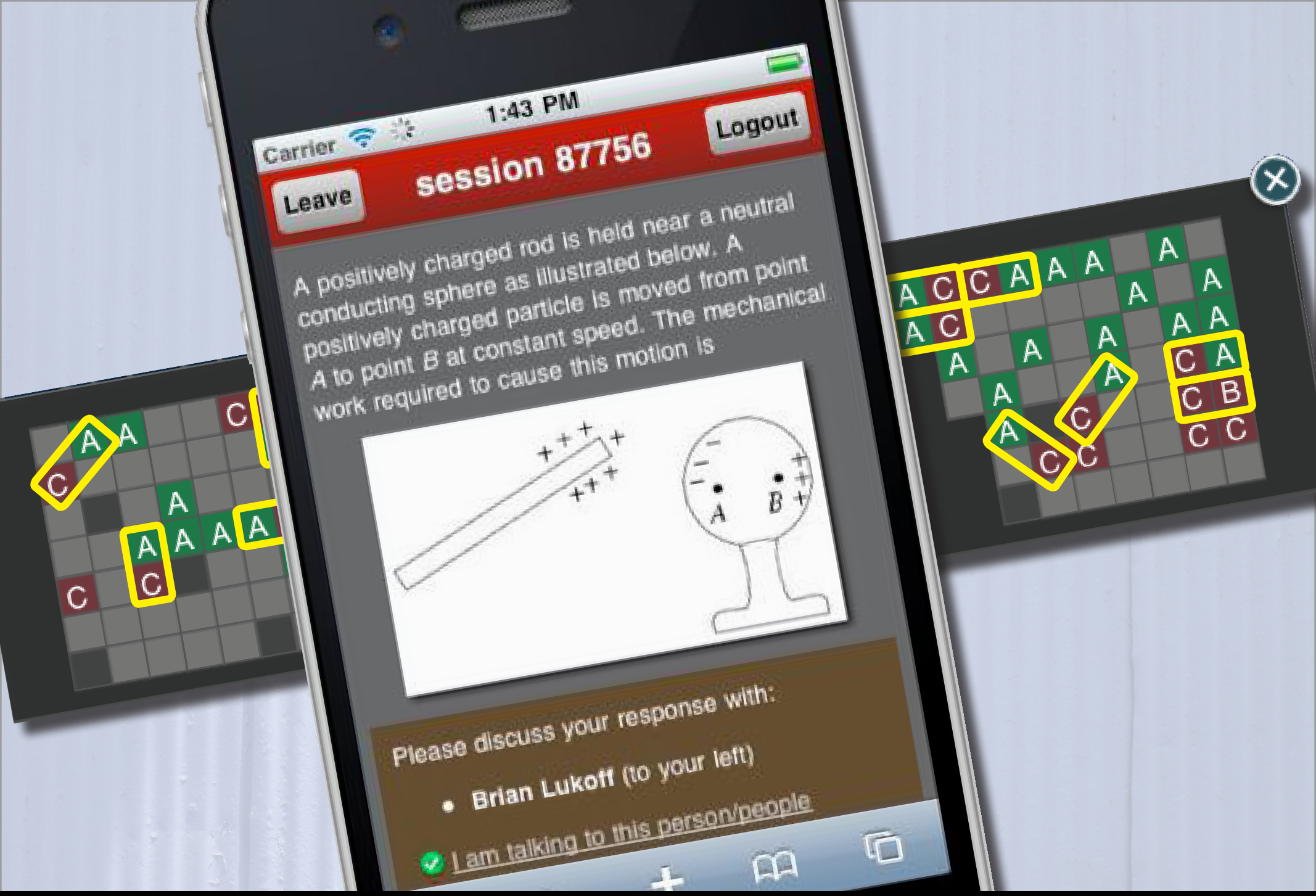
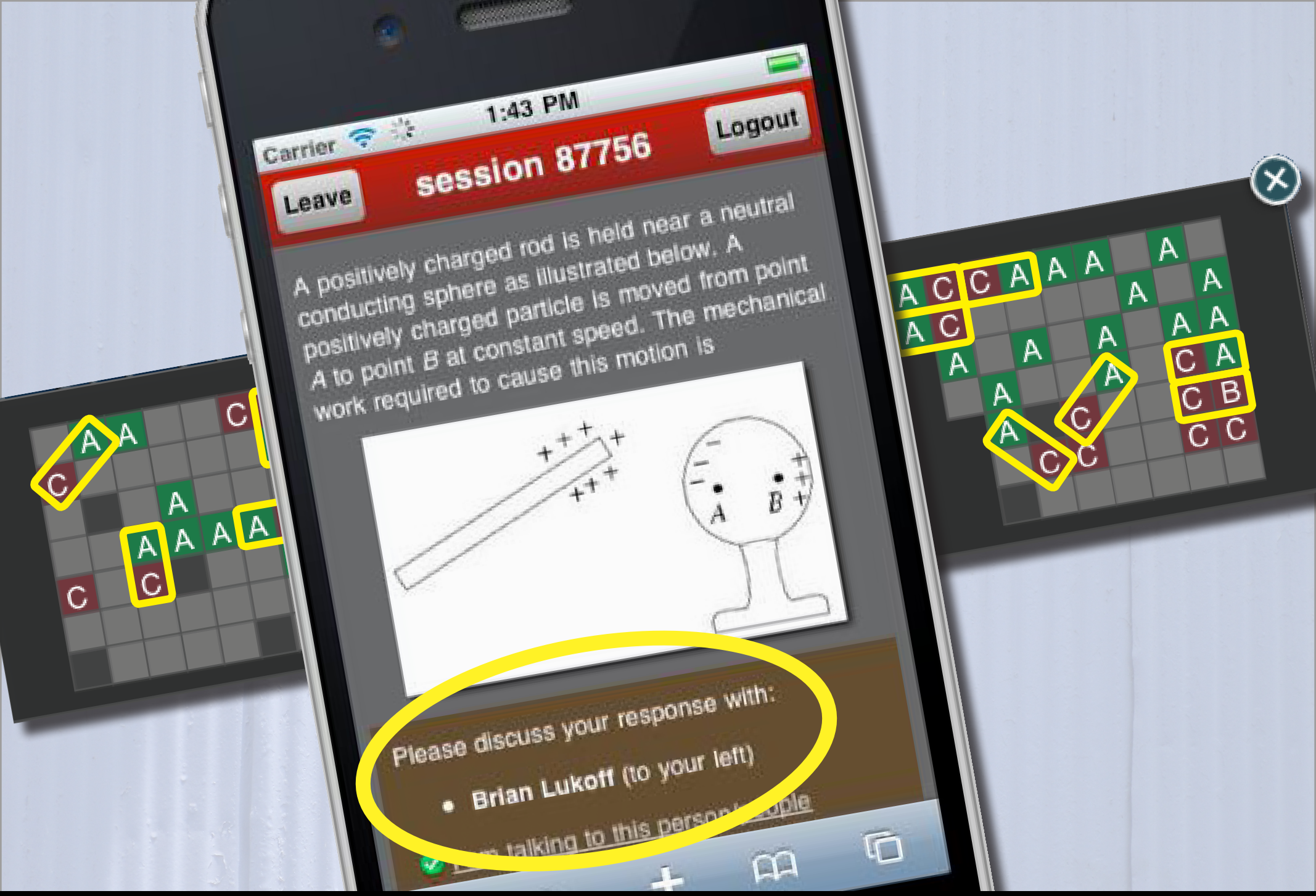
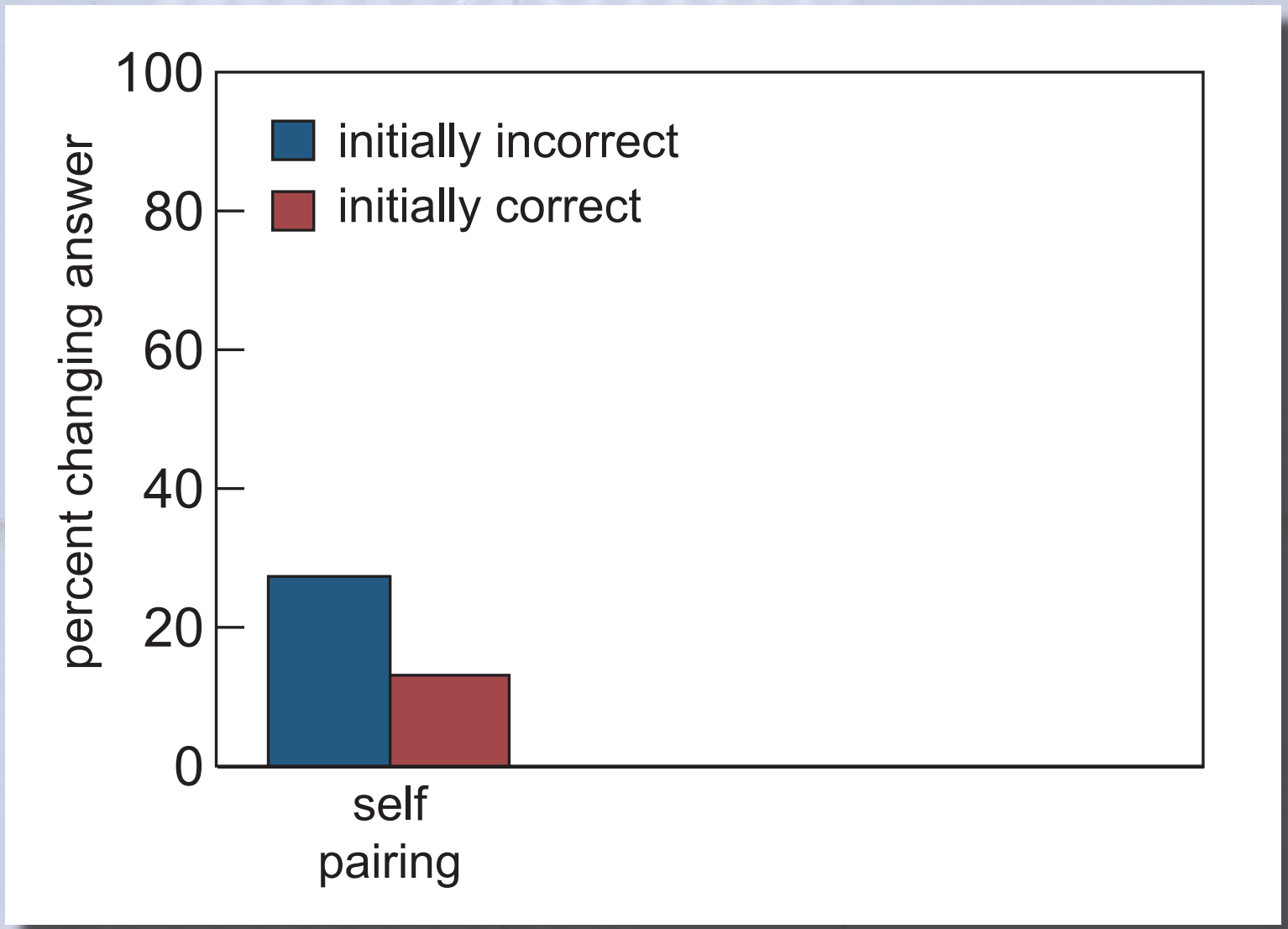
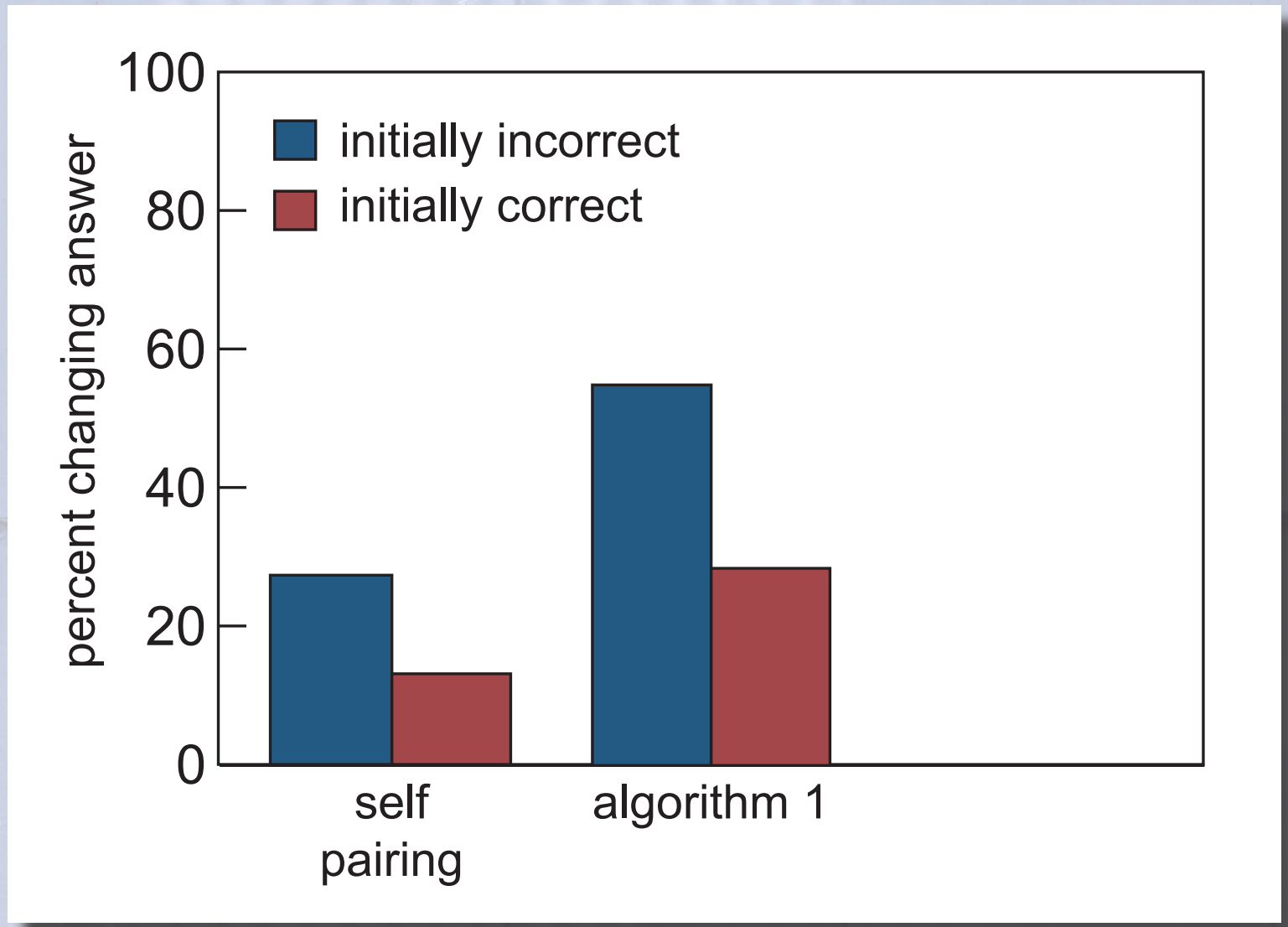


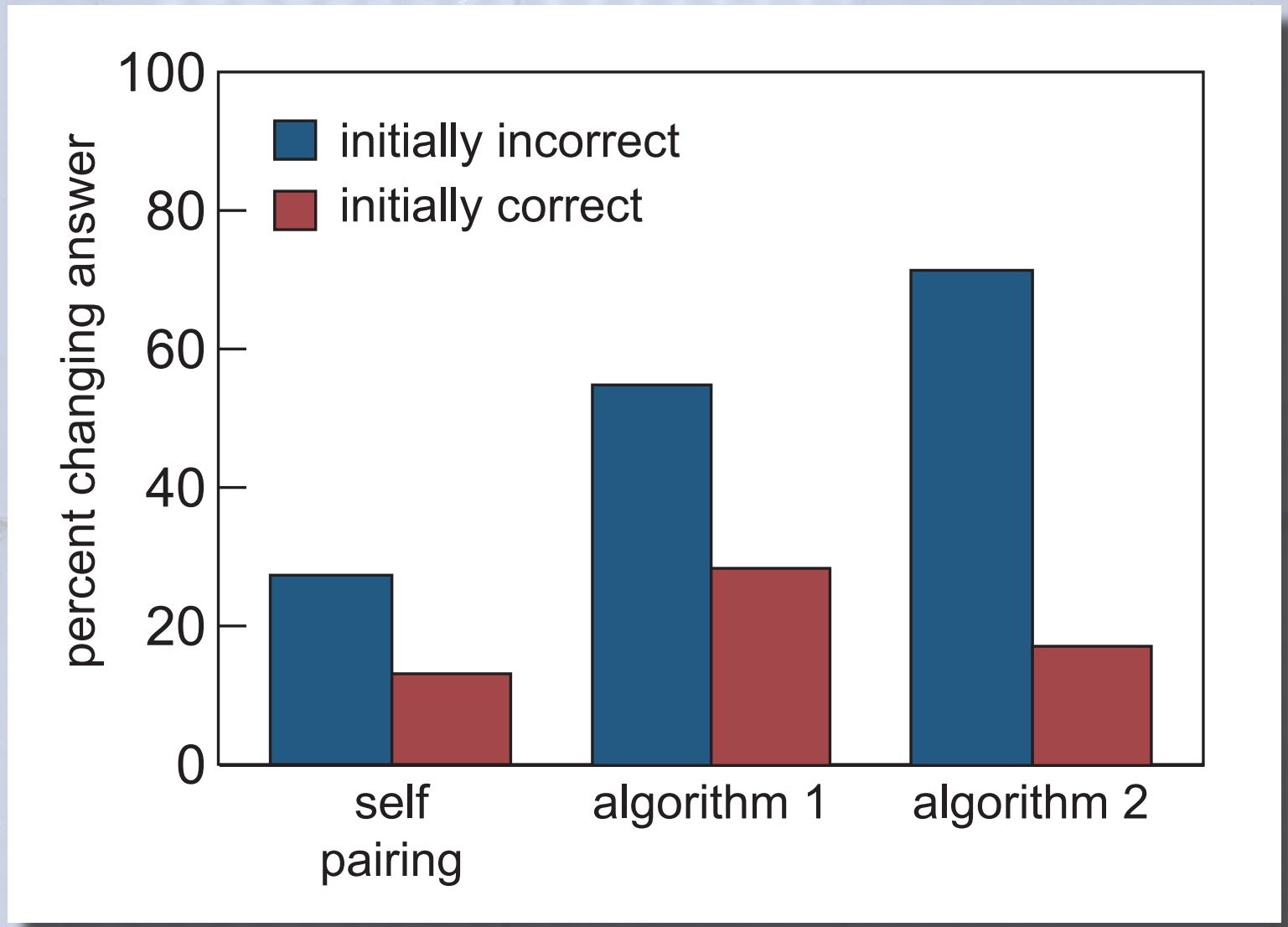
1 lecture 2 PI 3 PI 2.0



1 lecture 2 PI 3 PI 2.0


100
80
60
40
20
0
percent changing answer
initially incorrect
initially correct
self
pairing


100
80
60
40
20
0
percent changing answer
initially incorrect
initially correct
self pairing
algorithm 1


100
80
60
40
20
0
percent changing answer
initially incorrect
initially correct
self pairing
algorithm 1
algorithm 2

1 lecture

2 PI

3 PI 2.0

Learning Catalytics:

- implement proven, researched pedagogy

Learning Catalytics:

- implement proven, researched pedagogy
- use consumer devices

Learning Catalytics:

- implement proven, researched pedagogy
- use consumer devices
- avoid pitfalls of MC assessment

Learning Catalytics:

- implement proven, researched pedagogy
- use consumer devices
- avoid pitfalls of MC assessment
- create a smart classroom *anywhere*