

# Confessions of a converted lecturer



USP/Fullbright  
São Paulo, Brazil, 5 August 2015





# Confessions of a converted lecturer



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USP/Fullbright  
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1 education

2 PI

3 test






**better pay  
attention!**

**1** education

**2** PI

**3** test





**What happens  
in a lecture?**

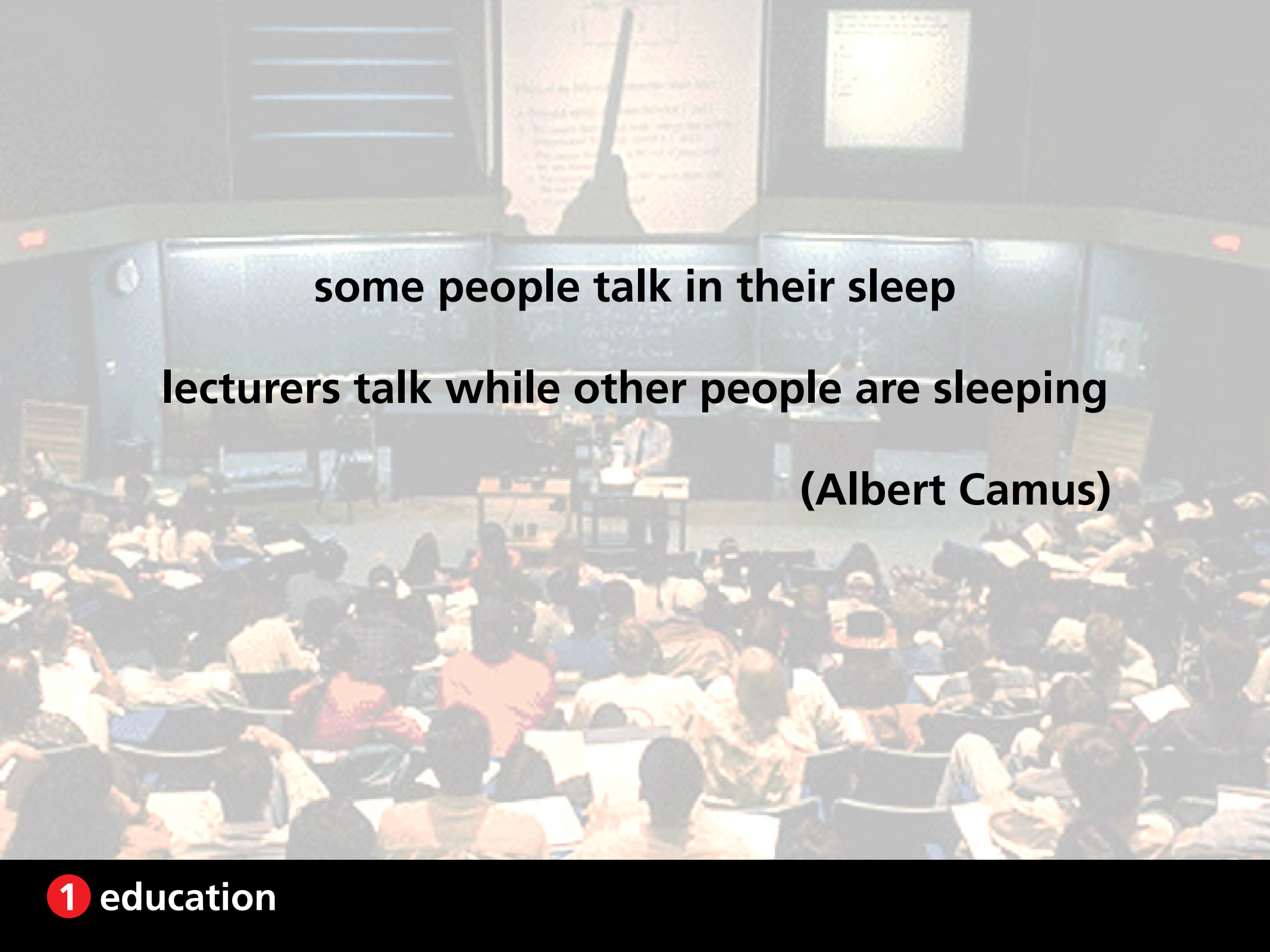




A wide-angle photograph of a large lecture hall. In the foreground, the backs of many students' heads are visible as they sit in rows of chairs, facing the front of the room. Some students have papers or laptops open. At the front of the hall, a lecturer stands behind a podium, addressing the class. Behind the lecturer is a large, curved chalkboard with some faint writing on it. Above the chalkboard, there are several large posters or screens displaying text and diagrams. The room is well-lit, and the overall atmosphere is that of a formal academic setting.

**some people talk in their sleep**

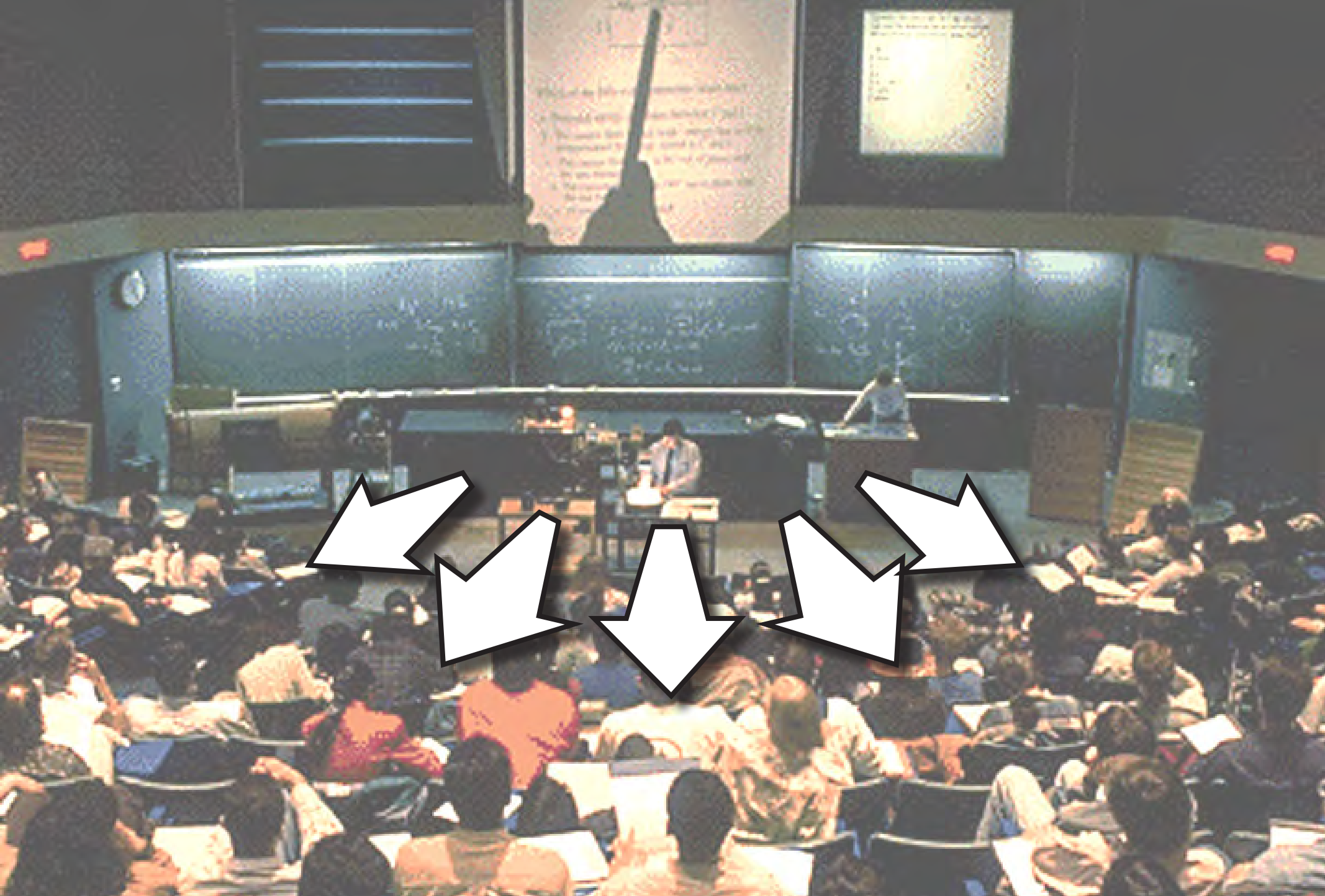


A large lecture hall filled with students. Many students are sleeping, with their heads resting on their desks or hands. The room has a curved wall with several large screens or posters. A lecturer is visible at the front of the hall, standing near a podium.

**some people talk in their sleep**  
**lecturers talk while other people are sleeping**  
**(Albert Camus)**







The result?

EDUCACION



**Lack of learning**

**EDUCACION**



**Lack of learning**

**Lack of retention**



**not transfer but assimilation of information is key**









## 1. transfer of information



**1. transfer of information**

**2. assimilation of that information**





**1. transfer of information (in class)**

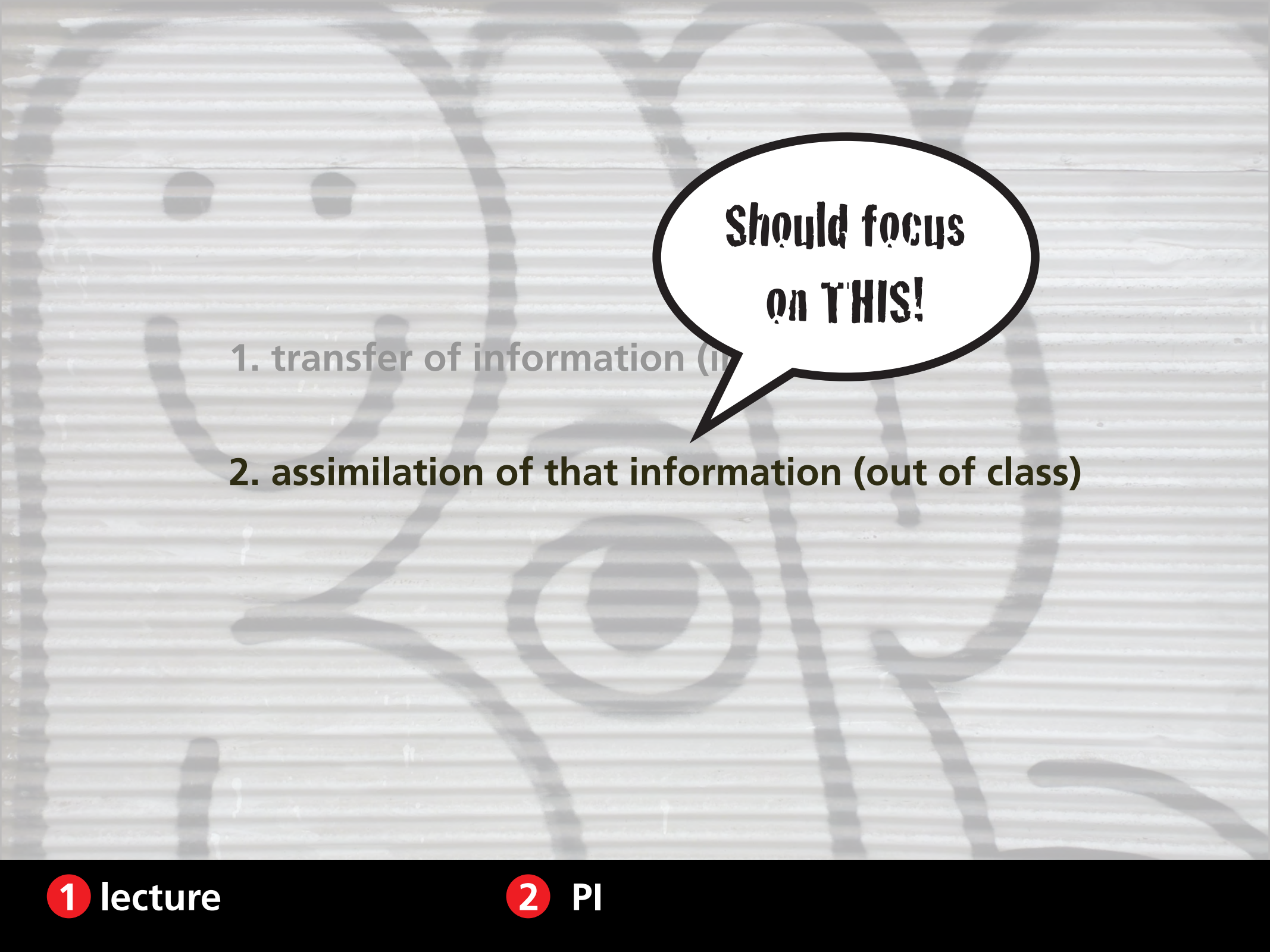
**2. assimilation of that information**



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)



# Peer

1. transfer of information (out of class)

2. assimilation of that information (in class)



question

1 education

2 PI

**question**



**think**



**question**



**think**



**poll**

**question**



**think**



**poll**



**discuss**



**question**



**think**



**poll**



**discuss**



**repoll**

**question**



**think**



**poll**



**discuss**



**repoll**



**explain**









1 education

2 PI



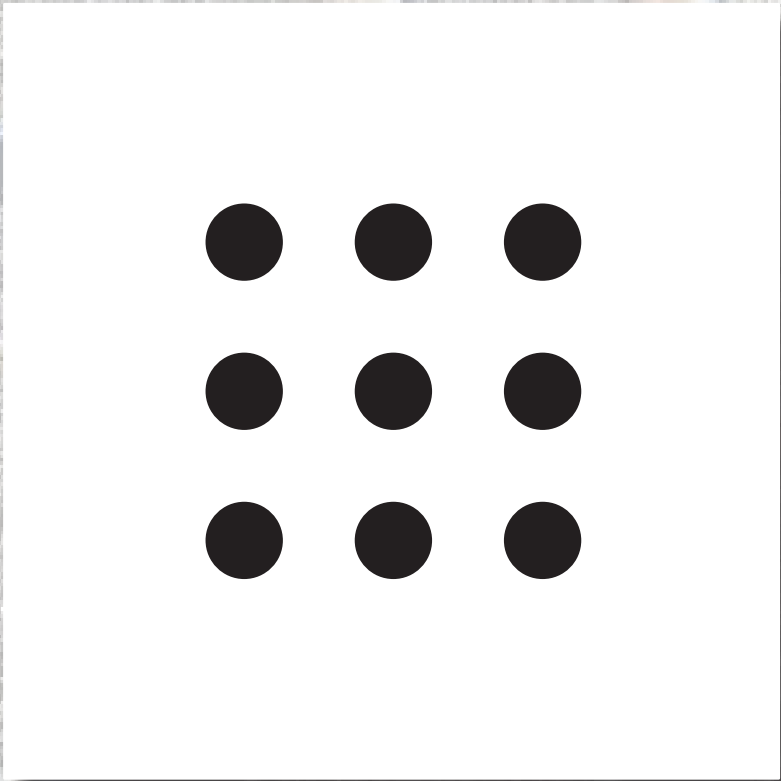
1 education

2 PI

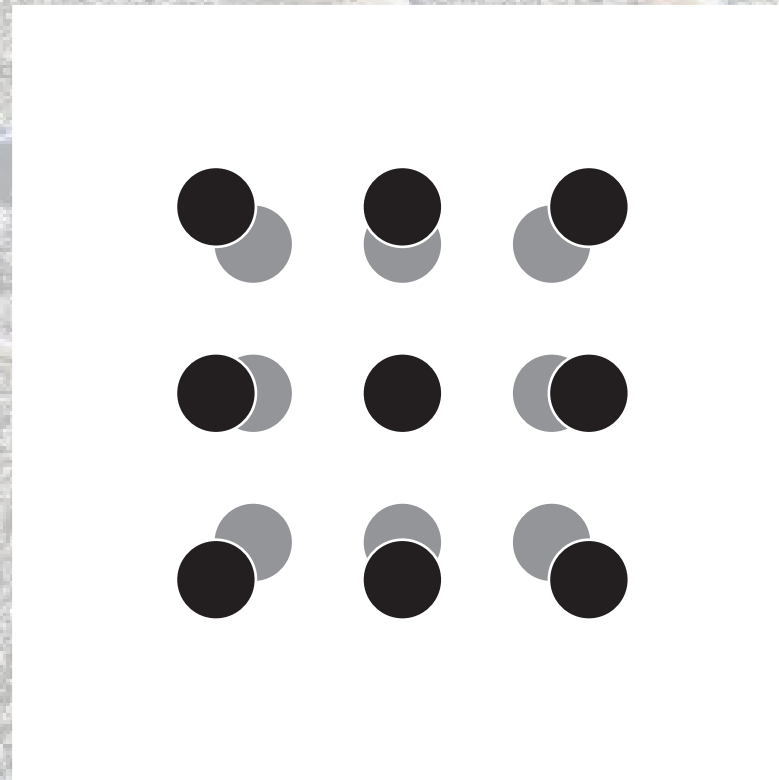




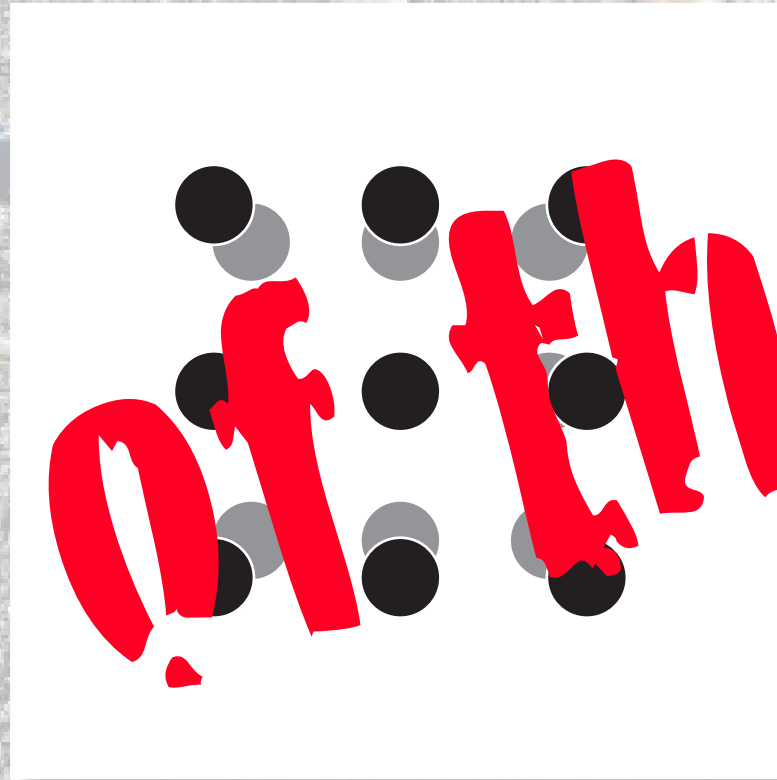
**thermal expansion**







all of them



1 education

2 PI



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



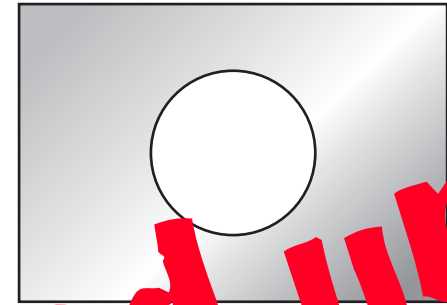
**Consider a rectangular metal plate with a circular hole in it.**



**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.



**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...**

**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...**

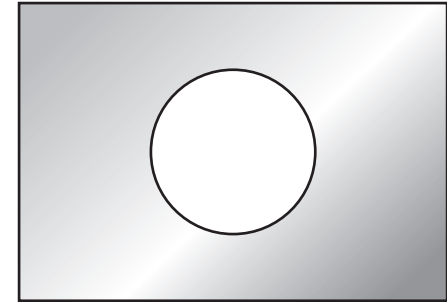
- 1. made a commitment**
- 2. externalized your answer**
- 3. moved from the answer/fact to reasoning**

**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.**

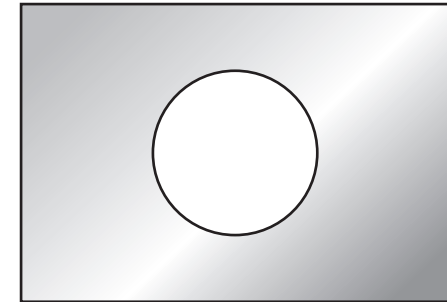


**When the plate is uniformly heated, the diameter of the hole**

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



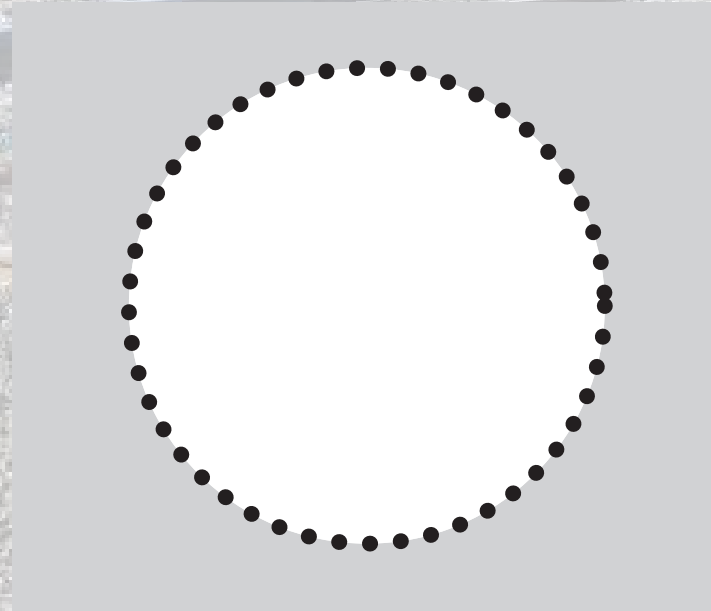
**Consider a rectangular metal plate with a circular hole in it.**



**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

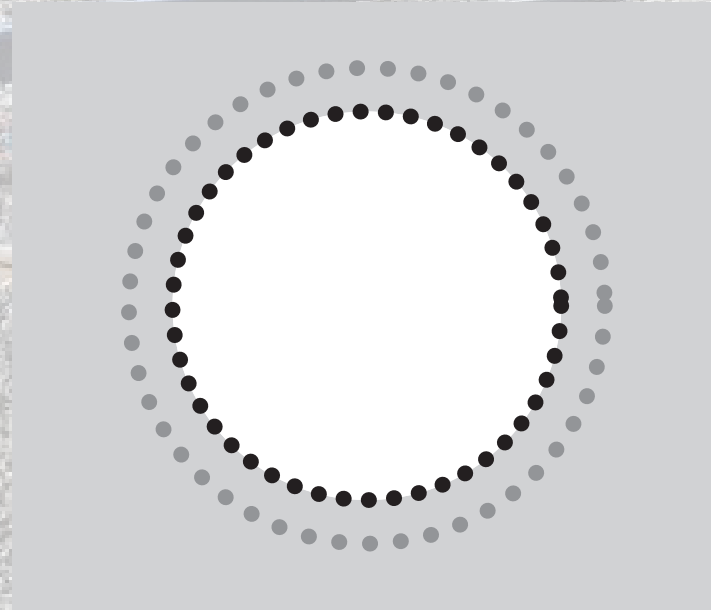


**1** education

**2** PI

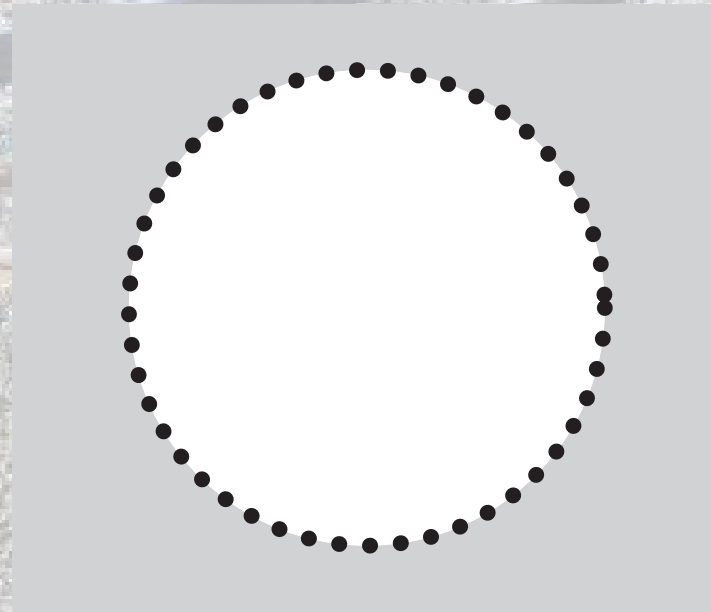
**3** test

consider atoms at rim of hole





consider atoms at rim of hole

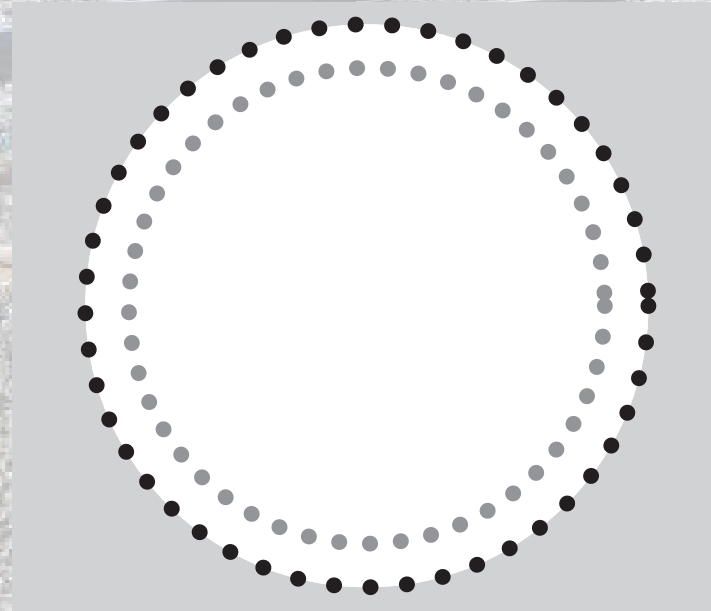


**1** education

**2** PI

**3** test

consider atoms at rim of hole



1 education

2 PI

3 test

consider atoms at rim of hole

you won't forget this

1 education

2 PI

3 test



# Peer

**back to PI**

INSTRUCTION

① education

② PI

③ test



Peer

**Greater learning gains**

INSTRUCTION

The graphic features a light red background with a large, white, stylized word 'Peer' in the upper left. A red stamp with the text 'Greater learning gains' is placed diagonally across the center. Below the stamp, a dotted line with yellow arrows curves upwards from the bottom left towards the right. In the bottom right, the word 'INSTRUCTION' is written in white, slanted capital letters.

1 education

2 PI

3 test

The diagram features a large, light blue 'Y' shape on the left side. The word 'Peer' is written in large, white, sans-serif font, with the 'P' partially obscured by the 'Y'. Below 'Peer', the word 'INSTRUCTION' is written in a smaller, white, sans-serif font. Two red, bold, sans-serif phrases are overlaid on the diagram: 'Greater learning gains' is positioned above 'Better retention'. A dashed yellow line with arrowheads at both ends forms a loop around the word 'Peer'. A dotted blue line with arrowheads at both ends forms a loop around the word 'INSTRUCTION'.

**Greater learning gains**

**Better retention**

**1** education

**2** PI

**3** test



**1** education

**2** PI

**3** test



in a lecture, students...

**1** education

**2** PI

**3** test



in a lecture, students...

1. don't pay utmost attention

**in a lecture, students...**

**1. don't pay utmost attention**

**2. think they know it**



**in a lecture, students...**

- 1. don't pay utmost attention**
- 2. think they know it**
- 3. are not confronted with misconceptions**

in a lecture, students...

1. don't pay utmost attention

2. think they know it

3. are not confronted with misconceptions

false  
sense of security





**1** education

**2** PI

**3** test

The background is a faded, classical-style painting. It depicts a face, possibly a classical figure, with multiple eyes visible. The eyes are arranged vertically, with one eye at the top, a central eye, and another at the bottom. The face is rendered in a pale, yellowish tone, and the overall style is reminiscent of a classical portrait. The text 'an illusion...' is overlaid in a bold, red, serif font.

**an illusion. . .**

**1** education

**2** PI

**3** test





**Education is not just about:**

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



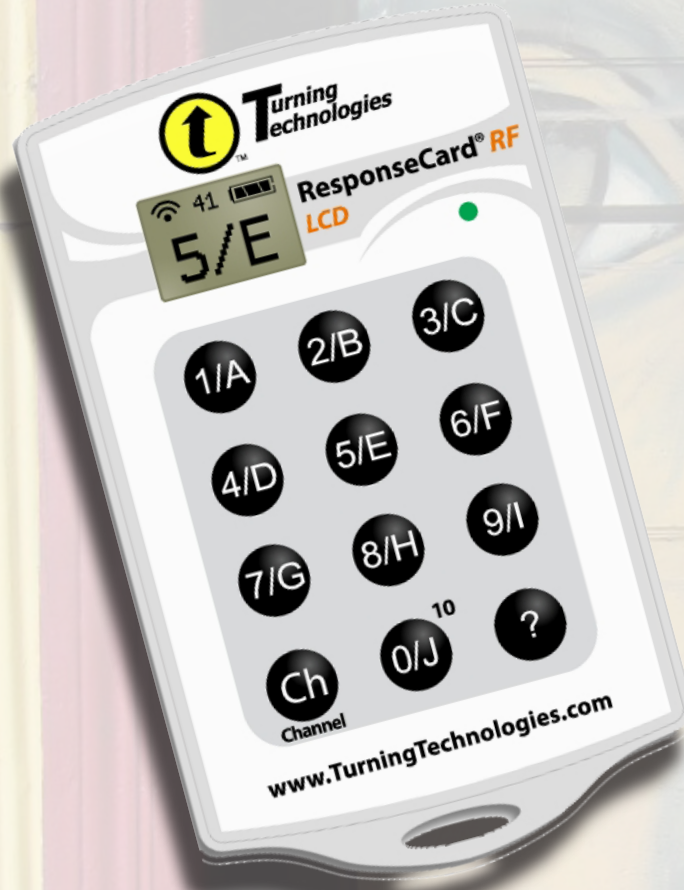


**Education is not just about:**

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

**active participation a must!**

# PLEASE RETURN CLICKER



1 education

2 PI

3 test



**Join now!**

**PeerInstruction.net**



**Funding:**

**National Science Foundation**

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