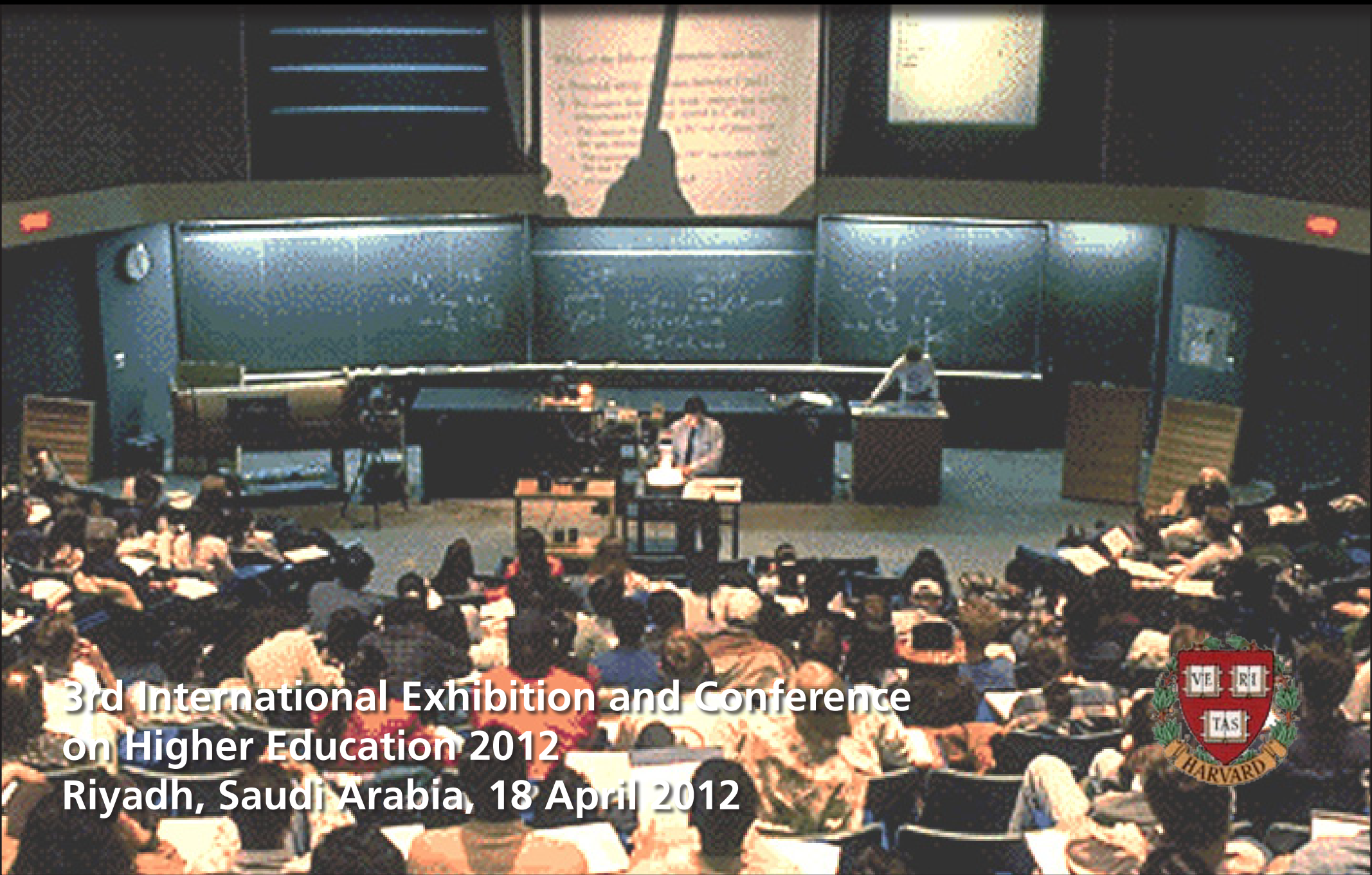


# Memorization or understanding: are we teaching the right thing?



3rd International Exhibition and Conference  
on Higher Education 2012  
Riyadh, Saudi Arabia, 18 April 2012



# How do we learn?

**Think of something you are good at — something that you know you do well.**

# How do we learn?

**Think of something you are good at — something that you know you do well.**

***How did you become good at this?***

# How we teach...





# Learning spaces





# Learning spaces



Fought



# Learning spaces



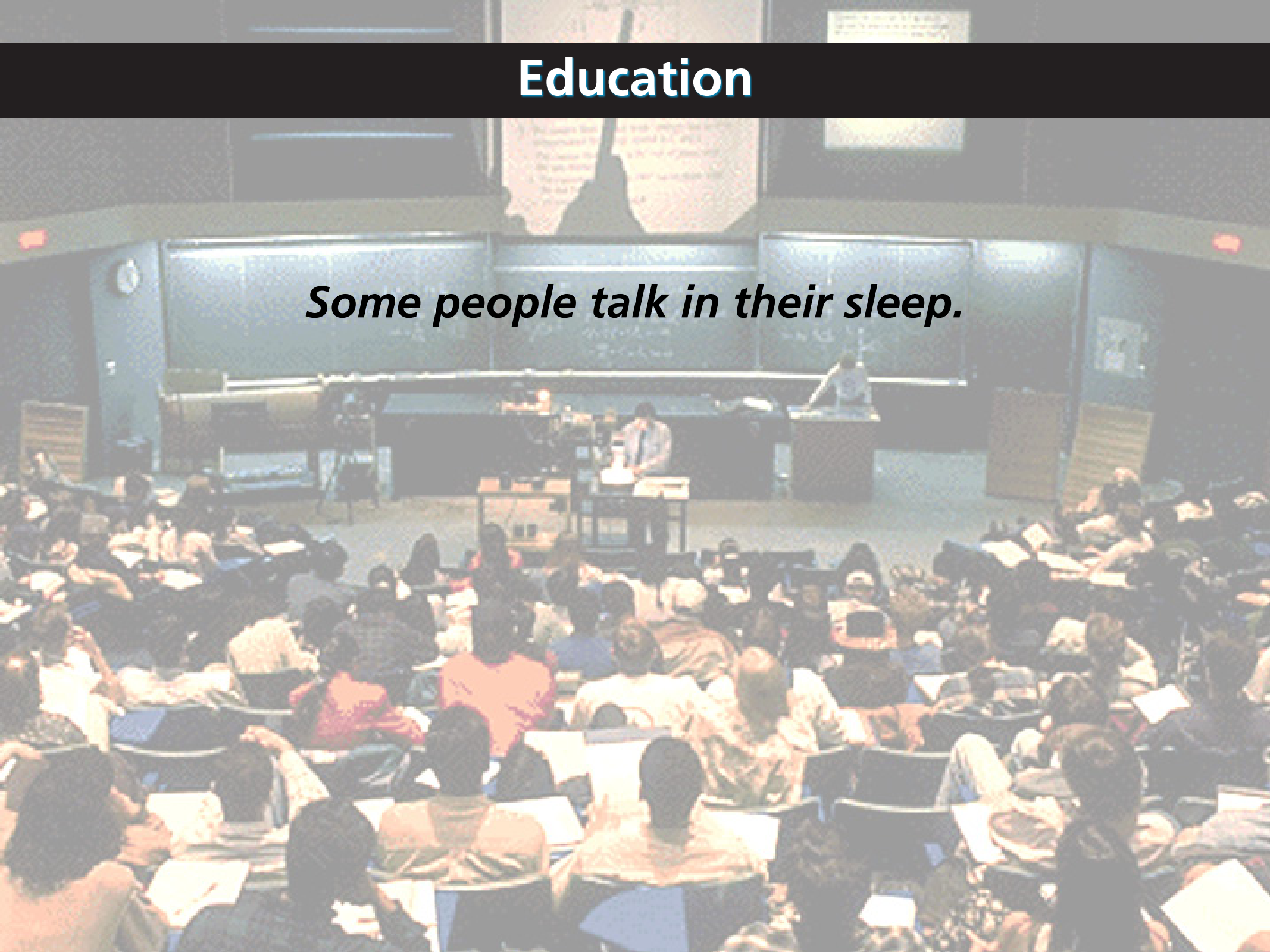
# Education





# Education

*Some people talk in their sleep.*



# Education

A large lecture hall with a lecturer at the front and many students in the audience. The room is filled with people, and the lecturer is standing at a podium, addressing the class. The students are seated in rows, and many are looking towards the front. The room has a high ceiling and large windows.

*Some people talk in their sleep.*

*Lecturers talk while other people are sleeping.*

**Albert Camus**

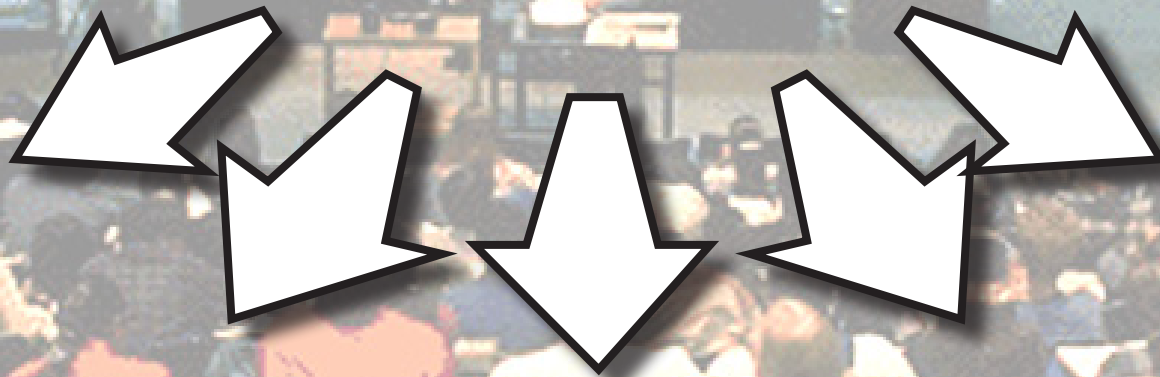


# Education



# Education

lectures focus on information transfer...







# Peer Instruction

**Give students more responsibility for gathering information...**



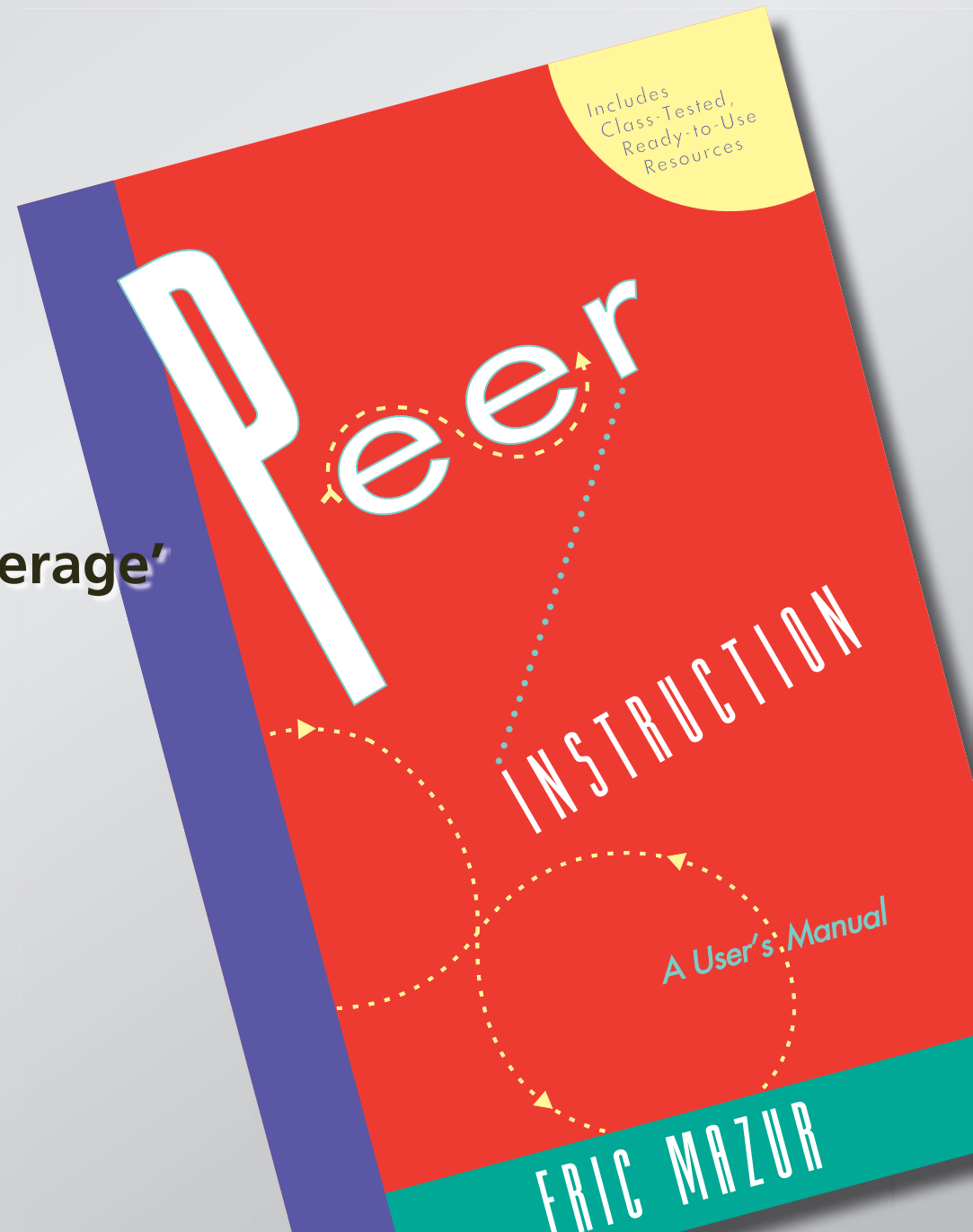
# Peer Instruction

**Give students more responsibility for gathering information...  
so we can better help them assimilate it.**

# Peer Instruction

## Main features:

- pre-class reading
- in-class: depth, not 'coverage'
- ConcepTests



# Peer Instruction

**ConcepTest:**

- 1. Question**
- 2. Thinking**
- 3. Individual answer**
- 4. Peer discussion**
- 5. Revised/Group answer**
- 6. Explanation**



# Results

**is it any good?**

# Results

**Learning gains tripled**

is it any good?

# Results

**Learning gains tripled**

is it any good?

**Better problem solving**



# Summary

**Traditional indicators of success misleading**

# Summary

**Traditional indicators of success misleading**

**Education is no longer about information**

**Funding:**

**National Science Foundation**

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