



Active Learning 101


Mary Pat Wenderoth
University of Washington



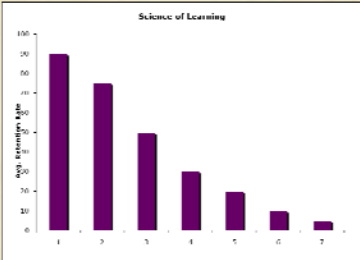
What is Active Learning?



What are barriers to implementing active learning?




Science of Learning

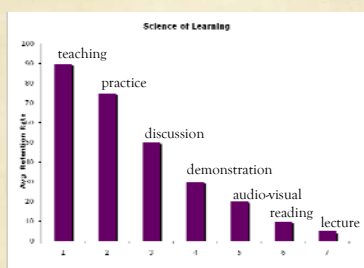


Method	Avg retention rate
1	~95
2	~85
3	~65
4	~45
5	~35
6	~25
7	~15

- Audio-visual
- Demonstration
- Discussion
- Lecture
- Practice
- Reading
- Teaching



Science of Learning



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Do the math

- 10 wk quarter - 3 classes week= 30 hr 1800 minutes
- 5% of 1800 min = 90 minutes-- 1.5 hrs
- 50% of 1800 min = 900 minutes-- 15 hrs



Some examples of active learning

- Talk to your neighbor
- Calling on students for answers
- Use of Clicker 4-5 times per class
- Weekly homework- practice old exam
- In-class exercises for practice
 - Problem based learning
 - POGIL



Key Elements

Alignment

- Learning outcomes
- Assessments
- Teaching strategies

Backward Design

Bloom's Taxonomy



Guiding Principles

“Ask, Don’t Tell”

2 Ears - 1 Mouth

The person doing the talking
is doing the learning.



Faculty Development Programs

HHMI-Summer Institute Undergraduate Biology Education

Regional Meetings

- Midwest Institute * July 10-15, 2011
- Mountain West Institute * Aug. 1-5, 2011
- Northeast Institute * Aug. 8-13, 2011
- Pacific Northwest Institute * Sept. 7-11, 2011

<http://nasummerinstitutes.org/>



Midwest Institute * July 10-15, 2011

* University of Minnesota
* Contact: Robin Wright, wrightr@umn.edu
* Target states: Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Wisconsin.

Mountain West Institute * Aug. 1-5, 2011

* University of Colorado, Boulder
* Contact: Jenny Knight, jennifer.knight@colorado.edu
* Target states: Arizona, Colorado, Nevada, New Mexico, Texas, Utah, Wyoming.

Northeast Institute * Aug. 8-13, 2011

* Yale University
* Contact: James Young, james.young@yale.edu
* Target states: Connecticut, District of Columbia, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

Pacific Northwest Institute * Sept. 7-11, 2011

* Evergreen State College (Olympia, WA)
* Contact: Charissa Dirks, dirks@evergreen.edu
* Target states: Alaska, California, Hawaii, Idaho, Montana, Oregon, Washington

Mary Pat Wenderoth
University of Washington
Seattle, WA
mpw@uw.edu