



Herbert Wertheim
College of Engineering
UNIVERSITY of FLORIDA

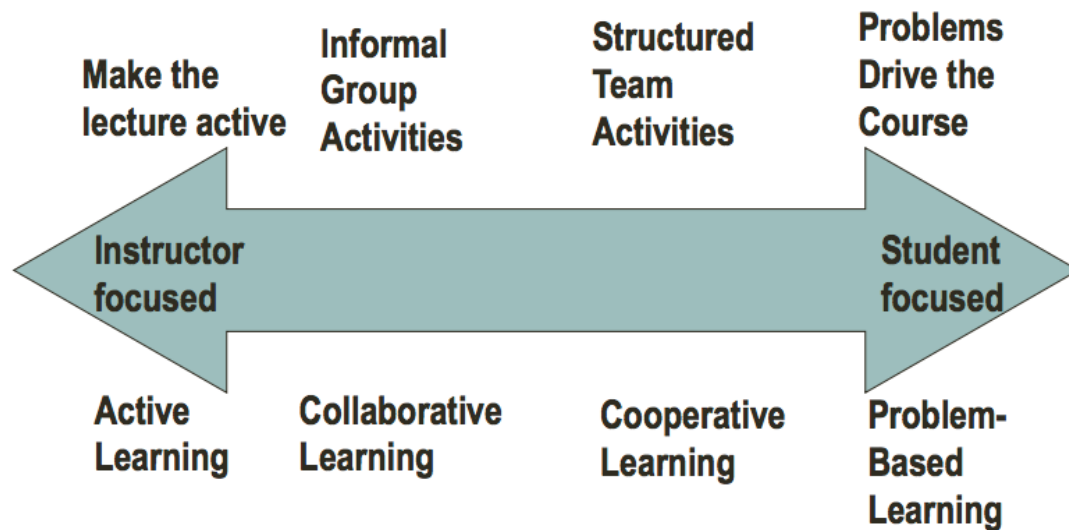
Active Learning Methods

Hans van Oostrom, Ph.D

Chair, Department of Engineering Education

POWERING THE NEW ENGINEER TO TRANSFORM THE FUTURE

The Active Learning Continuum



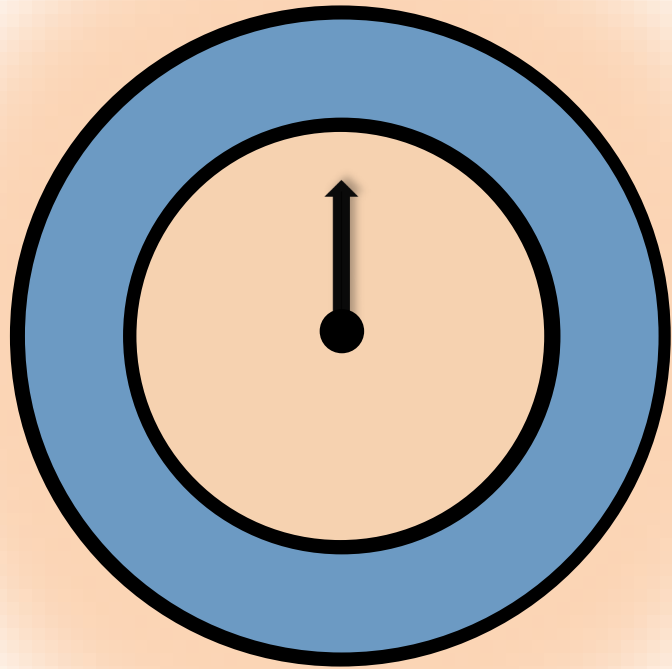
Clicker or other feedback

- Ask questions, ask feedback, use feedback

A	B
C	D
E	F

Think-Pair-Share

- Pose a question
- Tell students to think about it and turn to a neighbor to discuss
- Give them 60-90 seconds
- Call on some pairs to report out



From your college
experience, list different
teaching methods.
Discuss with a neighbor

Minute paper

- Have students write a brief paper to review/summarize material or give feedback
- Can be more than 1 minute
- No more than 10 minutes
- Share with neighbor, have neighbor report

A class game

Physiology Jeopardy

Heart	Circulation	Respiration	Respiratory Control	Diseases
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500



POGIL

- Process Oriented Guided Inquiry Learning
 - Develop a problem worksheet
 - Students work in groups of 4-5
 - Worksheet starts out easy
 - Last question open ended

POGIL roles

Manager: _____

Manages the group. Makes sure all members are fulfilling their roles.

Instructor will only respond to question from the manager.

Recorder: _____

Records all the names and roles of the group members at the beginning of the exercise. Records the important concepts that the group has learned.

Fills in the answer sheet.

Presenter: _____

Presents an oral report to the class.

Strategy analyst: _____

Observes and comments on group dynamics and behavior with respect to the learning process.

Take-Aways

- Start with a simple active learning activity
- Make sure you explain what and why you are doing it.
- Longer term, design longer exercises, such as POGIL or other collaborative work