

“I will not lecture you.”

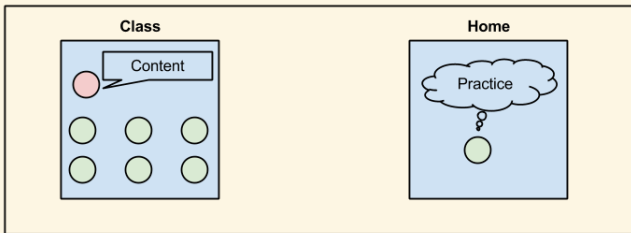
Vince

@drvinceknight

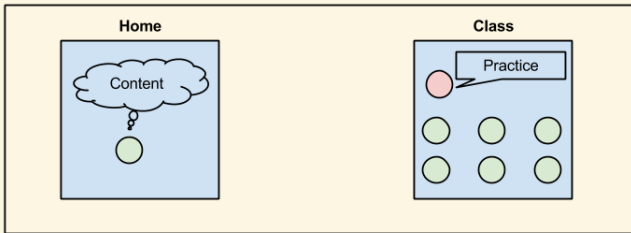
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Active learning increases student performance in science, engineering, and mathematics Freeman et al. 2014 (PNAS)

**Classic
Classroom**



**Flipped
Classroom**



Video

**IN FLIPPED CLASSROOMS,
LECTURES ARE ASSIGNED
AS VIDEOS FOR HOMEWO..**

**YOU DON'T NEED EITHER
LECTURES OR VIDEO**



Initial contact.

FLIPPED LEARNING

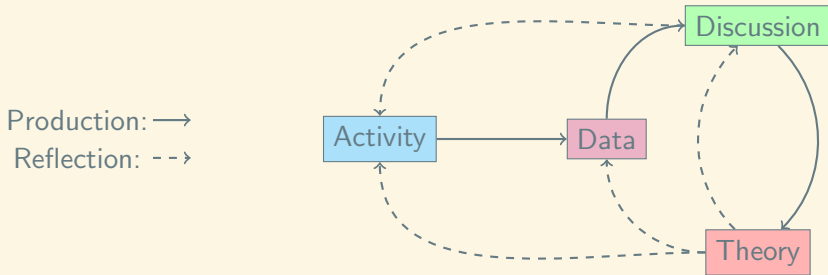


A Guide for Higher Education Faculty

ROBERT TALBERT

Foreword by JON BERGMANN

Example 1: Final year game theory class



**Playing Games: A Case Study in Active Learning Applied to
Game Theory** Knight. 2015 (MSOR Connections)

| | | | | | |
|-------|---|---|---|---|---|
| Squad | 1 | 2 | 3 | 8 | 9 |
| Cake | 1 | 2 | 3 | 3 | 4 |

| | | | | | |
|-------|---|---|----|----|----|
| Crew | 5 | 5 | 10 | 11 | 12 |
| Gauss | 0 | 5 | 5 | 6 | 7 |

| | | | | | |
|-------|---|---|---|---|---|
| Squad | 3 | 3 | 3 | 3 | 4 |
| Crew | 3 | 3 | 3 | 8 | 9 |

| | | | | | |
|-------|---|---|---|----|----|
| Cake | 3 | 6 | 9 | 12 | 12 |
| Gauss | 3 | 6 | 9 | 12 | 17 |

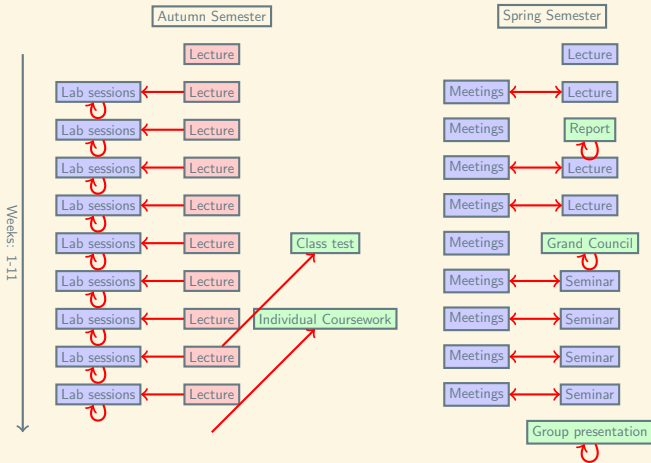
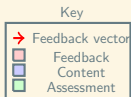
| | | | | | |
|-------|---|---|---|----|----|
| Squad | 3 | 6 | 9 | 14 | 15 |
| Gauss | 3 | 6 | 9 | 9 | 10 |

| | | | | | |
|-------|---|---|---|---|---|
| Cake | 1 | 2 | 3 | 8 | 8 |
| Gauss | 1 | 2 | 3 | 3 | 8 |

| | |
|-----|-----|
| 3,3 | 0,5 |
| 5,0 | 1,1 |

| | | | |
|-------|----|----|----|
| Squad | 9 | 13 | 28 |
| Cake | 4 | 16 | 24 |
| Crew | 12 | 21 | 31 |
| Gauss | 7 | 24 | 34 |

Example 2: First year programming class



FAQ: Yes, great but [subject] is different.

FAQ: If I record my class will students no longer attend?

FAQ: If students don't [do some activity] before class what should I do?

FAQ: I have seen [a good talk] on flipped learning,
isn't that ironic?

FAQ: I tried the flipped classroom and students don't like it.

FAQ: How much more work is it?

Reaction.



(Dr Stephen Rutherford. BIOSCI.)

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