

Learning-Centered

- “Learning results from what the student does and thinks and **only from what the student does and thinks**. The teacher can advance learning only by influencing what the student does to learn.”

- Herbert Simon

-Quoted in Ambrose et. al., *How Learning Works: Seven Research-Based Principles for Smart Teaching* (p. 1). Wiley.





From Learner-Centered Teaching to Course Redesign

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Outline

- I. Share something significant about your own learning while in college
- II. Defining “learner-centered” teaching
- III. Does it improve results?
- IV. Moving toward it incrementally
- V. Moving toward it by rethinking a course
- VI. Something significant about my own learning during college



When You Were in College...

- Jot some notes about something important you learned (to do) or an important way in which you changed, while you were in college.
 - How did that happen?
 - Did the same thing happen for many other students? Or perhaps just for you?
- (2 minutes)



At Your Table

1. Tell one another about your important learning (what and how; 30 seconds each?) (stop after 5 minutes)
2. Do any of the stories sound similar? How would you summarize that in a phrase or a sentence?
 - Once you have that summary phrase for a common pattern, one of you write it on the PollEv.com site.





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While We're At It

- A couple questions about you as a learner, and as a teacher





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What is “Teaching?”



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From Checking for Understanding, King Features Syndicate.

What is “Teaching?”

- Doing whatever it takes so that students can learn, and learn well enough that they can use what they’ve learned later on.



“Learning/Learner/Student-Centered”

- Working assumption: All kinds of students have the potential to do well
- We can teach all of them better if we pay attention to what and how they learn (our own students, studies in the literature, etc.):
 - Students’ preconceptions (e.g. Mazur video)
 - Students’ motivation (e.g., Dorbolo’s philosophy course)
 - (etc.)



Your Own Use of Evidence?

- Pause for a moment. Can you think of a time when:
 1. You observed something about some student(s) in a course
 2. Used that insight or information to figure out something to try, and
 3. Student learning probably improved as a result



Does This Approach Really Work?

- Bob Gross discovering the value of animation to teach biochemistry at Dartmouth
- Patty Derbyshire discovering what was wrong in the composition course
- “We found increased student attendance, higher engagement, and more than twice the learning in the section taught using research-based instruction.” (Deslauriers, Schelew, and Wieman, 2011)



Two Interwoven Paths

- 1. Incremental**, cumulative use of learning-centered strategies within a course
- 2. Rethinking** courses (and clusters of courses such as majors, general education, grad degrees)



Your Example of Incremental?

- What's something you do as a teacher that
 1. Helps you teach effectively
 2. Saves a little time/effort
 3. Can be described to your colleagues in a minute or less
 4. Might be useful for some faculty in departments, too
- My example: What you've been doing at your tables – think/pair/share



Incremental Changes

- Share at your table (4 minutes)
- Show of hands: how many of you have learned something useful?
 - The best incremental changes can spread virally, if you share them forward



“Redesign” = Backward Design

1. Describe most important, lasting ways students should change
2. Making the change visible (assignments/assessments)
3. Create learning activities to practice and develop those capabilities
4. Plan the course(content, formative evaluation, etc.) to make it all work
5. In the process, make best use of people’s time, budgets, space, etc.



More Elements of Course Redesign in USM, ...

- Require **collaborative learning** by students in classrooms or online
- **Questions requiring thought, followed by polling**
- Assign work **outside the classroom**
- Attempt to engage **students with a variety of needs, degrees of preparation, abilities**
- Assign **challenging** creative, research or other open-ended work



...Aided by These Elements

- Use of prepared **undergrad learning assistants** to help with coaching, facilitation, management
- Move some “transmission” out of the classroom
 - **Less faculty lecturing in classroom**
 - **Video instructional material** (e.g., lectures, tutorials)
 - **Interactive online instructional material**



Summary

- Learning-centered teaching means:
 - Assuming that (almost) all students are capable of learning, especially with appropriate teaching
 - Guiding teaching with evidence about learning
- You can move toward learner-centered teaching by
 - Incremental, cumulative steps, and perhaps also
 - Backward design of courses (of study)



Teaching Tactics Used Today

1. Help everyone learn, with the assumption that everyone has brought something useful to the party.
2. Ask questions of learners that are of interest them and to you
3. Use small group work and polling to pull the most from people
4. Companion web site for optional further exploration



A Brief Resource Page

- Useful readings and resources
- <http://bit.ly/CAI-Bowie>
- Includes my own answer to “what happened in college” -- How I learned that an equation can be beautiful...
 - Involved conversations with people I cared about
 - Happened outside classrooms

