Critical Transitions in Faculty Learning: Helping Faculty Become Learning-Centered Teachers

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## Teaching-Learning Beliefs Inventory

**Directions** Circle the appropriate number to indicate the degree to which you agree or disagree with each of the following statements:

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided or Neutral</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Teaching students the component skills of complex tasks, prepares them to perform these complex tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tr>
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<td>2. When students recite or recall information during class discussions and on tests, they are demonstrating their ability to use this knowledge in multiple contexts.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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</tr>
<tr>
<td>3. When you introduce a new concept, it is not important to access students’ prior knowledge if you plan to cover the concept in depth.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. When you discover that students have a misconception about a concept, the best way to correct it is to provide them with the correct information.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Novice and experts tend to organize content knowledge in a similar and logical manner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. If you teach concepts sequentially and effectively, there is no need to explicitly make connections between them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Mastery of content within a domain is an asset when it comes to helping novice learners develop mastery.</td>
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Welcome, Bienvenido, Bienvenu

Critical Transitions in Faculty Learning:
Helping Faculty Become Learning-Centered Teachers

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Agenda

Teaching-Learning Beliefs
- Teaching-Learning Paradigms
- Teaching Environments
- Faculty Developers Know

What Does Your Center Do?

The Teaching Academy: Helping Faculty Change Paradigms
- “Growing” Participation
- Learning-Centered Curriculum
- How Was Data Collected?
- Changes in Beliefs AND Practices

Can You Do This on Your Campus?
## Teaching Paradigms

<table>
<thead>
<tr>
<th>Teaching Centered</th>
<th>Learning Centered</th>
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<tbody>
<tr>
<td>1. Deliver instruction</td>
<td>Produce learning</td>
</tr>
<tr>
<td>2. Transfer knowledge from teacher to student</td>
<td>Discovery &amp; construction of knowledge</td>
</tr>
<tr>
<td>3. One teaching style</td>
<td>Multiple teaching styles</td>
</tr>
<tr>
<td>4. Time held constant; learning varies</td>
<td>Learning held constant; time varies</td>
</tr>
<tr>
<td>5. Promote recall</td>
<td>Promote understanding</td>
</tr>
<tr>
<td>6. Faculty are lecturers</td>
<td>Faculty are designers of learning environments</td>
</tr>
<tr>
<td>7. Learning is competitive &amp; individualistic</td>
<td>Learning is cooperative &amp; collaborative</td>
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# Teaching-Learning Beliefs

## With which statements did you agree?

**Teaching-Learning Beliefs Inventory**

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Our beliefs define what we think effective teaching & learning look like.
Teaching Environments

What does teaching look like on your campus?
Teaching Environments

In which classrooms are students learning the most?
Teaching-Learning Beliefs

Inaccurate/Maladaptive Beliefs Lead to . . .

- “Privatization of teaching” *Parker Palmer*
- Over reliance on lecturing

Students Waning Attention

![Graph showing students' attention level over time since the beginning of the lecture.](image-url)

**Time since beginning of lecture (min)**

**Attention Level**
Faculty Developers Know

Conundrum

- Instruction can be challenging & ineffective for untrained and/or inexperienced instructors.
- Difficult to get faculty to attend workshops.

Learning/Professional Development Principals

- Extended professional development with connected components is more likely to influence faculty beliefs and behaviors.¹
- Linkage between instruction and the “real world.”²
- Use of experiential learning methods is necessary for changes in beliefs and practices.²

Faculty Development Model

Is this how you learned to teach? How effective was/is this model?

Sink or Swim Model
What Does Your Center Do?

Turn to a neighbor and explain . . .

- How instructors learn about effective pedagogical practices on your campus.
- What training is available to new instructors before they teach?
- Do you offer workshop series—multiple sessions with a common theme or focus?
- Are faculty paid to attend?
- How do you evaluate training effectiveness?

~ 2 minutes each ~
“Growing” Participation

- **Spring 2014**—8 two-hour sessions - Wednesday (14) & Thursday (18) - day/time set by poll of potential participants - not paid

- **Spring 2013**—8 two-hour sessions - Monday (11) & Thursday (14) - day/time set by poll of potential participants - not paid

- **Spring 2012 Pilot**—8 two-hour sessions - 17 faculty & TAs - 6 dropped - day/time set by Center - not paid

- **July 2010 STEM**—7 three-hour sessions - 7 new & 7 non-tenured STEM + 5 nursing faculty - new STEM faculty paid by college
Teaching Academy Goal and Learning Outcomes

**Academy Goal.** The goal of the Teaching Academy is to expand your pedagogical knowledge in order to increase your ability to design and teach learning-centered courses so that ALL students can learn course content, concepts, skills and dispositions.

**Academy Learning Outcomes.** Upon completion of the Teaching Academy, you will be able to:

1. Establish learning-centered objectives and communicate them to students in your syllabus.
2. Determine whether students are meeting those objectives using a variety of assessment strategies.
3. Use pedagogical research findings to plan courses, assignments and assessments that actively engage all students in the learning process.
4. Modify your teaching strategies in order to improve student learning.

**Weekly Learning Outcomes**

**Week 1 Introduction to Learning-Centered Teaching**

1. Define learning-center teaching and become mindful of myths associated with it.
2. Explain how to minimize the concerns of others related to changes in teaching methodology.

**Week 2 Planning for Active Learning**

1. Recognize the role of preconceptions and misconceptions in learning.
2. Identify the differences between novice and expert knowledge organization and connections.

**Week 5 Creating Collaborative Learning Communities**

1. Predict diverse students’ reactions to the climate in a variety of classroom settings.
2. Evaluate a variety of Collaborate Learning Techniques (CoLT) and select ones appropriate in a specific discipline.
3. Define dualism, multiplicity and relativism.
4. Explain whether Chickering’s Model of Student Development or Perry’s Theory of Development is more useful in designing...
Investments & Return

Participant Investments

- Read *How Learning Works* – Reading Guides
- Work on a target course
  - Syllabus
  - Use/report on a CAT
  - Investigate disciplinary misconceptions
  - Lesson plan
- 16 hours of active “seat” time
  - Case studies & simulation (CoLTs)
  - Grade an essay question
  - Peer feedback
  - Reading Reviews – jigsaw, concept maps, pictorial summary, readiness assessment test (RAT), analyze quiz, working definitions, YouTube video connected to content
- Supply food
Spring 2012 “This is too much work. How do I know I’m getting through to folks? What is my return?”
How Was Data Collected?

- Pre- & post-survey of Teaching-Learning Beliefs
- Semi-Structured Interviews
- Structured Teaching Observations
# Changes in Beliefs

## What Beliefs Changed by the End of Eight Weeks?

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>N</th>
<th>SD</th>
<th>Std. Error Mean</th>
<th>Mean</th>
<th>N</th>
<th>SD</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions to ask</td>
<td>1.66</td>
<td>25</td>
<td>.882</td>
<td>.176</td>
<td>1.87</td>
<td>25</td>
<td>.971</td>
<td>.194</td>
</tr>
<tr>
<td>Teacher effort</td>
<td>1.79</td>
<td>25</td>
<td>.686</td>
<td>.137</td>
<td>1.48</td>
<td>25</td>
<td>.489</td>
<td>.098</td>
</tr>
<tr>
<td>Novice vs. experts</td>
<td>1.72</td>
<td>25</td>
<td>.643</td>
<td>.129</td>
<td>1.61</td>
<td>25</td>
<td>.692</td>
<td>.138</td>
</tr>
<tr>
<td>Concepts connection</td>
<td>1.48</td>
<td>25</td>
<td>.467</td>
<td>.093</td>
<td>1.52</td>
<td>25</td>
<td>.568</td>
<td>.114</td>
</tr>
<tr>
<td>Classroom dynamics</td>
<td>1.65</td>
<td>25</td>
<td>.602</td>
<td>.120</td>
<td>1.61</td>
<td>25</td>
<td>.478</td>
<td>.096</td>
</tr>
<tr>
<td>Simple tasks/problems</td>
<td>1.79</td>
<td>25</td>
<td>.574</td>
<td>.115</td>
<td>1.74</td>
<td>25</td>
<td>.518</td>
<td>.104</td>
</tr>
<tr>
<td>Planning time</td>
<td>1.76</td>
<td>25</td>
<td>.570</td>
<td>.114</td>
<td>1.83</td>
<td>25</td>
<td>1.027</td>
<td>.205</td>
</tr>
<tr>
<td>Climate &amp; achievement</td>
<td>1.34</td>
<td>25</td>
<td>.441</td>
<td>.088</td>
<td>1.48</td>
<td>25</td>
<td>.860</td>
<td>.172</td>
</tr>
<tr>
<td>Fun vs. standards</td>
<td>1.61</td>
<td>25</td>
<td>.611</td>
<td>.122</td>
<td>1.70</td>
<td>25</td>
<td>.673</td>
<td>.135</td>
</tr>
</tbody>
</table>

But would participants maintain these belief changes long term?
Changes in Thinking about Teaching

Eight Months Later . . .

“Before, I had the impression that the obstacles I face can’t be overcome, but [now] I have a different view. If things aren’t working, it’s not their [the students’] fault—it’s my fault. Don’t beat a dead horse; change the approach.”

“There are lots of things I can do to improve student participation and enhance their learning experience.”

“I view myself as a student of teaching. Before [teaching] was left to my feelings and intuition of what sounded good. I now have some structure for planning and implementing lessons.”

“This was really helpful [because] I don’t take anything for granted [or] assume students already know this.”

Yes, some beliefs changed, but what about practice?
## Observed Practices

<table>
<thead>
<tr>
<th>Teaching Behaviors</th>
<th>Observed</th>
<th>Observed with plus</th>
<th>Not observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Instructor clearly communicates the purpose of class session and instructional activities.</td>
<td>6</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2. Instructor uses concrete examples and illustrations that clarify the material.</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>3. Instructor uses a variety of activities to ensure all students are engaged.</td>
<td>3</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>4. Instructor challenges students to think analytically.</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>5. Instructor uses activities in class to determine whether students understand course material.</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>6. Instructor fosters student-to-student interaction.</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. Instructor links new material to previously learned concepts.</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>8. Instructor uses visuals and handouts where appropriate to accompany verbal presentation.</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9. Instructor requires students to put new concepts, or engage in</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>10. Students are comfortable asking questions.</td>
<td>0</td>
<td>0</td>
<td>(N=7)</td>
</tr>
</tbody>
</table>

Comments or questions?
Teaching Academy Curriculum

Faculty-Centered Active Learning

Curriculum Alignment for the Teaching Academy Series

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Instructional Strategies &amp; Assignments</th>
<th>Assessment Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1 Introduction to Learning-Centered Teaching</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| (1) Recognize that change is difficult. | ● Seat Reform Project  
● Big Idea—classroom facts of life  
● Teaching Dilemma Case Study | ● Seat Reform Project Debrief  
● Teaching Dilemma Debrief  
● Learning Journal |

Learning/Professional Development Principles

- Longer professional development with connected components is more likely to influence faculty beliefs and behaviors.¹
- Linkage between instruction and the “real world” using experiential learning methods is necessary for changes in beliefs and practices.²

(2) Identify the differences between novice and experts knowledge organization and connections.  
● Chapter 2 Reading Guide  
● Reading Review Activity  
● Chapter 2 Concepts Map
Can I Do This on My Campus?

Fitting the Pieces Together—Key Questions

If your campus does NOT have extended training
- Given the specifics of your campus, what would it take to launched an extended training program?
- What obstacles might you face?
- How could you address these obstacles?

If your campus HAS extended training
- Given the specifics of your campus, how might your program evolve?
- What challenges do you face?
- How are you solving them?
Final Thoughts

Faculty will . . .

- Come to multiple session series IF you first build a “fan base”— even without pay.
- Do “homework” IF it’s meaningful and related to their courses.
- Change IF you demonstrate best practices.

Faculty-centered learning is key to facilitating changes in beliefs & practices.
“Teaching without learning in just talking.” Good luck answering key-question puzzle pieces as you expand your faculty’s teaching-learning world!

Sign the list if you want copies of the PPTs OR plan to access them on WikiPODia.

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