

How Learning Works Part II



Workshop goals for participants:

- To develop an awareness of ***how skills are mastered*** through ***practice and feedback***
- To brainstorm and share teaching techniques applicable to one's own courses.

Skill Mastery



Instructions for Activity

- Take 5 minutes to review the syllabus you brought today and identify the following:
 - What skills do you hope your students will develop through participating in your class?
 - What types of activities are you planning that will help your students master these skills?
 - What skills will students need to have already mastered in order to complete your course successfully?

Instructions for Activity (cont.)

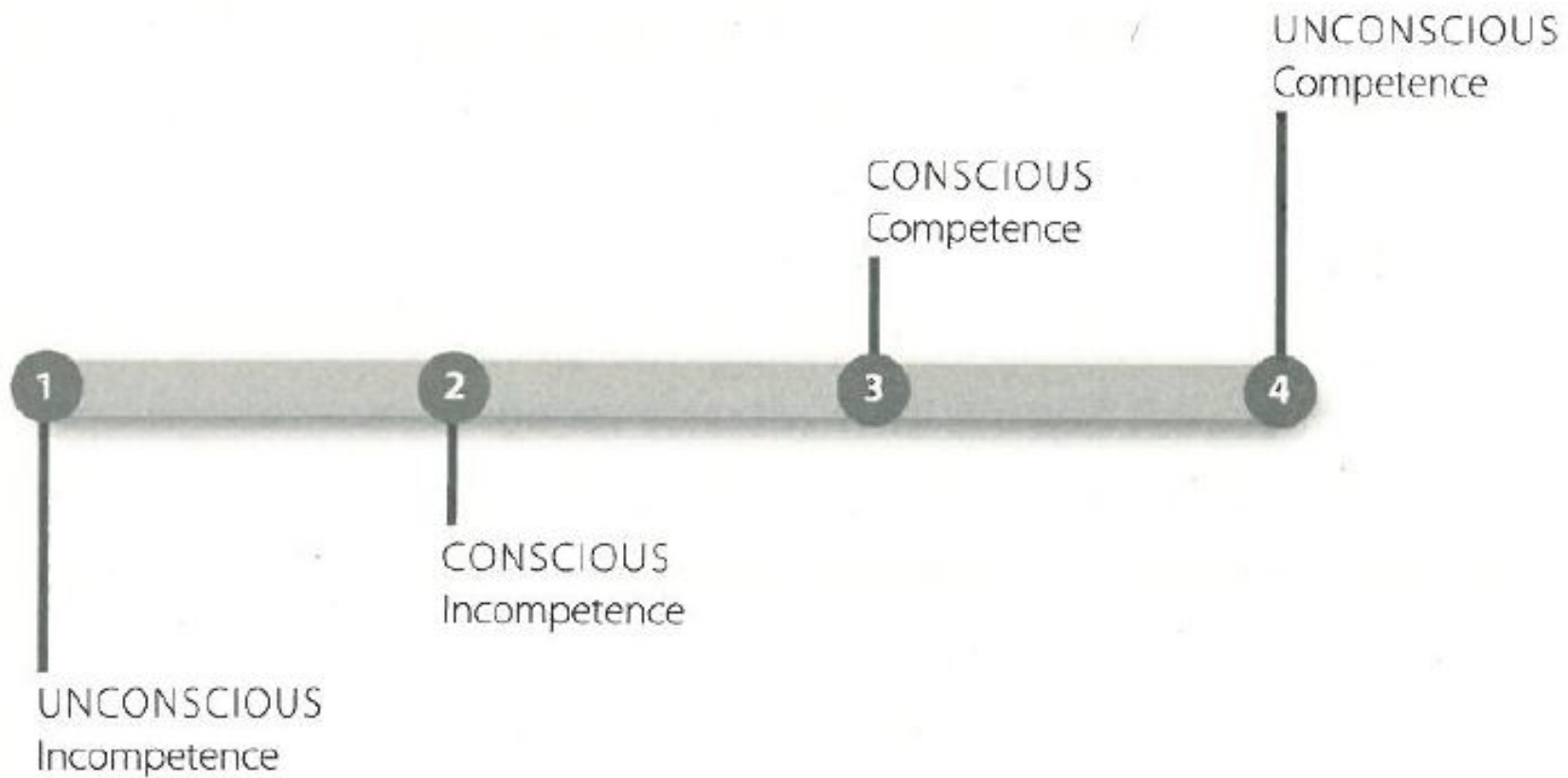
- 10 minutes for pair discussion.
- Turn to a partner and share your responses to the previous questions.
- Discuss briefly the following:
 - What challenges have you faced in helping students develop mastery of new skills?
 - How do you assess whether or not students have mastered a skill?

Debrief: Developing Mastery of Skills

- Share a few examples of skills that you are trying to help students master in your course?
- How does developing mastery of skills differ from developing knowledge of content?

Debrief

- Why is developing mastery of skills challenging within higher education classrooms?
- Can our own expertise get in the way of helping our students develop mastery?



Strategies that Can Help

Importance of:

- Knowing audience
- Articulating goals and what “mastery” means
- Breaking skills into component parts
- Practice specific sub-tasks, beware of cognitive load
- Anticipate difficulties with transfer

What does it mean to “transfer” knowledge?

What is “transfer?”

“The application of skills (or knowledge, strategies, approaches or habits) learned in one context to a novel context.”

Examples?

Why Doesn't Transfer Occur?

- “Near” versus “Far” transfer
- Students’ knowledge may be overly context dependent
- Students may not have a deep understanding of underlying principles and structures—they may understand the “what” but not the “why”

How Do We Help Students Transfer Knowledge and Skills?

- Intentionally “teach for transfer”
- Make no assumptions! Explicitly explain or discuss with students where or when to apply a skill or set of skills.
- Give students opportunities to apply skills or knowledge in **diverse** contexts.

Helping students transfer knowledge

- Help students see “the big picture.” Ask students to generalize to larger principles
- Use comparisons to help students identify “deep features”

Practice and Feedback



Professor Dancealot

<http://www.youtube.com/watch?v=1k8aeDUC9XQ>

What kind of practice and feedback is important for learning?

Practice that is:

- Focused on a specific goal or criterion
- Targeted towards an appropriate level of challenge relative to student's current performance
- Of sufficient quantity and frequency to meet criteria

Coupled with feedback that is:

- Targeted, specific
- Timely
- Linked to further practice

Write down how you could best integrate *goal-based* practice and *targeted* feedback to help students achieve your skill-based learning objectives.

What we can do...

- Actively hunt down our expert blindspots
- Emphasize both individual skill & integration of skills
- Explicitly teach for transfer
- Provide multiple opportunities for authentic practice
 - Oriented toward clear goals
 - Coupled with targeted feedback