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Lander University's

# White Board

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*Become An Effective Teacher & Save Your Valuable Teaching Time and Energy*

Center for Effective Undergraduate Teaching (864) 388-8426

## Finding Signs of Progress When Learning is Slow

SLOW LEARNING—not to be confused with slow learners—is learning that happens gradually, where understanding deepens slowly and skills advance but without immediate noticeable change. Some learning occurs all at once; suddenly, there's a performance breakthrough. Typically, fast learning feels easy, even if it was proceeded by a frustrating period of confusion. What is finally understood is so clear, so obvious—what is finally mastered no longer seems hard.

But mastery of the intellectual skills we aspire to teach—critical thinking, problem solving, writing, the ability to work productively with others—happens slowly. Progress is hard to see, especially if it's looked for every day, or even once a week. It's a bit like losing weight (or putting it on). You don't see it coming off (or going on), but then you put on a pair of jeans and they button without a struggle (or with much difficulty).

Being able to see progress is important. It's what motivates continued effort. I recently started lifting weights. Yesterday, as I heaved the mattress to tuck in the sheets and blankets while making my bed, I happened to glance at my arm, and the muscle there was positively bulging. I was way more thrilled than the muscle size merited, but it was such an obvious sign of progress.

Even though progress may be slow, it is often visible across a course, but students still struggle to see their own progress. More than once I've sat with a student looking at the first and last pieces of writing done in a course. "Do you see how your writing has improved?" I ask. "Well, not really, but I'm getting better grades," the student replies. Even when pressed, most of my students cannot point to anything specific in their writing that has improved.

Recognizing progress might be a bit easier with problem-solving content. I was in a math class once where the teacher introduced a new type of problem. Students were confused and tried to ask questions but couldn't figure out what they needed to know. "We can't do this!" one student announced in frustration. "Yes, you can," the instructor replied. He put a different problem on the board. "Do this one," he said. Pencils moved and calculators lit up. Hands popped up with the answer. "Does anybody remember the day we started working on this problem? How many of you couldn't do it when you first tried?"

Seeing progress also matters because slow learning depends on persistence. It requires continued, repeated effort, generally accompanied with failure or less-than-effective execution. Yes, I regularly write about the learning that can result from failure and mistakes, but as someone recently reminded me, learning from mistakes doesn't happen automatically. In fact, if a mistake is repeated, if one failure happens after another and you don't figure out what you're doing wrong or somebody doesn't help you understand the error, the repeated failures shake your confidence. Before very long, you're convinced you can't do it, and now you not only can't do it, but you've got an attitude that stands in the way.

I have this problem with motors that have pull cords. I can never get them started and have a list of failures a mile long. Most of the time, I don't even bother trying. Why wear out my arm? Last week, though, I needed to get the log splitter going, and the person who usually pulls the cord was not around. I decided to try. I primed the carburetor, adjusted the choke, gave the cord a mighty pull, and it started! I fell back in complete amazement. My first thought was that this was blind luck, but then I got it started several times that day. Does this mean I now believe I can start motors with pull cords? Nope. But then again, it might be that bigger muscle.

What are the signs of progress when you're learning how to think critically or solve problems? Do we point them out to students? Do we help students discover that they're making progress, even if they can't see it happening? It would behoove us to talk about slow learning with students, about how progress probably won't be fast, how persistence pays off, and how essential it is to believe—not that the learning will be easy but that students have got the intellectual muscle they need to succeed. If they keep at it, someday they'll be surprised by their new intellectual strength.

*Maryellen Weimer, PhD; Finding Signs of Progress When Learning is Slow; Faculty Focus; October 26th 2016; [ http://www.facultyfocus.com/articles/teaching-professor-blog/finding-signs-progress-learning-slow/ ] November 1, 2016.*

Fall Break - November 7
Election Day - November 8
Thanksgiving Break - November 23-25
Spring Registration Begins
New Students - November 28

### WHITE BOARD
2016-2017 Publication Dates
*First Monday of the Month*

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| September 6 | March 6 |
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# Teaching Critical Thinking: Some Practical Points

WE ALL ENDORSE it and we all want our students to do it. We also claim to teach it. "It" is critical thinking, and very few of us actually teach it or even understand what it is (Paul & Elder, 2013). Research tells us that our students learn critical thinking only after we receive training in how to teach it and design our courses explicitly and intentionally to foster critical thinking skills (Abrami, Bernard, Borokhovski, Wade, Surkes, Tamim, & Zhang, 2008). We have to start by formulating assessable critical thinking learning outcomes and building our courses around them.

It is little wonder we don't understand what critical thinking is. The literature around it is abstract and fragmented among several different scholars or scholarly teams who work in their own silos and don't build on or even cite each other. Still, we can find some common ground among them. While each has a different definition of critical thinking, they all agree that it involves the cognitive operations of interpretation and/or analysis, often followed by evaluation. They also concur that students have to critically think about something, which means students have to learn how to do it in a discipline-based course. Another point of agreement is how difficult it is to do; it goes against our natural tendency to want to perceive selectively and confirm what we already "know" to be true. Therefore, critical thinking involves character as well as cognition. Students must be inclined to pursue "truth" over their own biases, persist through challenges, assess their own thinking fairly, and abandon mistaken reasoning for new and more valid ways of thinking. These intellectual "virtues" don't come easily or naturally.

Critical thinking scholars also agree that questions are central to students acquiring critical thinking skills. We must ask students challenging, open-ended questions that demand genuine inquiry, analysis, or assessment—questions like these:

What is your interpretation/analysis of this passage/data/argument?

What are your reasons for favoring that interpretation/analysis? What is your evidence?

How well does your interpretation/analysis handle the complexities of the passage/data/argument?

What is another interpretation/analysis of the passage/data/argument? Any others?

What are the implications of each interpretation/analysis?

Let's look at all the interpretations/analyses and evaluate them. How strong is the evidence for each one?

How honestly and impartially are you representing the other interpretations/analyses? Do you have a vested interest in one interpretation/analysis over another?

What additional information would help us to narrow down our interpretations/analyses?

These are just a few examples of the kinds of questions that require your students to engage in critical thinking. After giving an answer, students must also 1) describe how they arrived at their answer to develop their metacognitive awareness of their reasoning and 2) get feedback on their responses—from you, a teaching assistant, another expert, or their peers—so they can correct or refine their thinking accordingly.

Some teaching methods naturally promote inquiry, analysis, and assessment, and all of them are student-active (Abrami et al., 2008). Class discussion may be the strongest, and it includes the debriefings of complex cases, simulations, and role plays. However, debates, structured controversy, targeted journaling, inquiry-guided labs, and POGIL-type worksheets are also effective. All of these learning experiences can arouse students' curiosity, stimulate their questions, and induce them to explain and justify their arguments.

Finally, we need to remember that instructors are role models. Students need to see us showing the courage to question our own opinions and values, the fair-mindedness to represent multiple perspectives accurately, and the open-mindedness to entertain viewpoints opposed to our own. When we do this, we should let students know that we are practicing critical thinking.

Two faculty members, Mel Seesholtz and Brian Polk, illustrate these qualities during their regularly scheduled debates in their course, Religion in American Life. The latter is a noted critic of dogma-based organized religion and the former, a college chaplain. While sincerely trying to forward their viewpoint, they consciously model critical thinking, civil discourse, and the complementary dispositions for their class (Seesholtz & Polk, 2009). They demonstrate that the stormy wars of words so common in today's political mass media do not represent the only way to disagree. If students don't see the thoughtful, respectful alternative, how will they be able to peacefully co-exist with one another in this diverse world?

**References**

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Seesholtz, M., & Polk, B. (2009, October 10). Two professors, one valuable lesson: How to respectfully disagree. *Chronicle of Higher Education.* Available at http://chronicle.com/article/Two-Professors-One-Valuable/48901/

Dr. Linda B. Nilson recently retired from Clemson University, where she was the founding director of the Office of Teaching Effectiveness and Innovation. Her books include Creating Self-Regulated Learners: Strategies to Strengthen Students' Self-Awareness and Learning Skills (Stylus, 2013) and Teaching at Its Best: A Research-Based Resource for College Instructors (Jossey-Bass, 2010).

*Linda B. Nilson, PhD; Teaching Critical Thinking: Some Practical Points; Faculty Focus; October 24, 2016; [ http://www.facultyfocus.com/articles/effective-teaching-strategies/teaching-critical-thinking-practical-points/ ] November 1, 2016.*