

UNIVERSITY OF TEXAS ARLINGTON

The Challenge: How to Encourage Critical Thinking



Few students can define "critical thinking." How can they learn it if they have never knowingly experienced it?

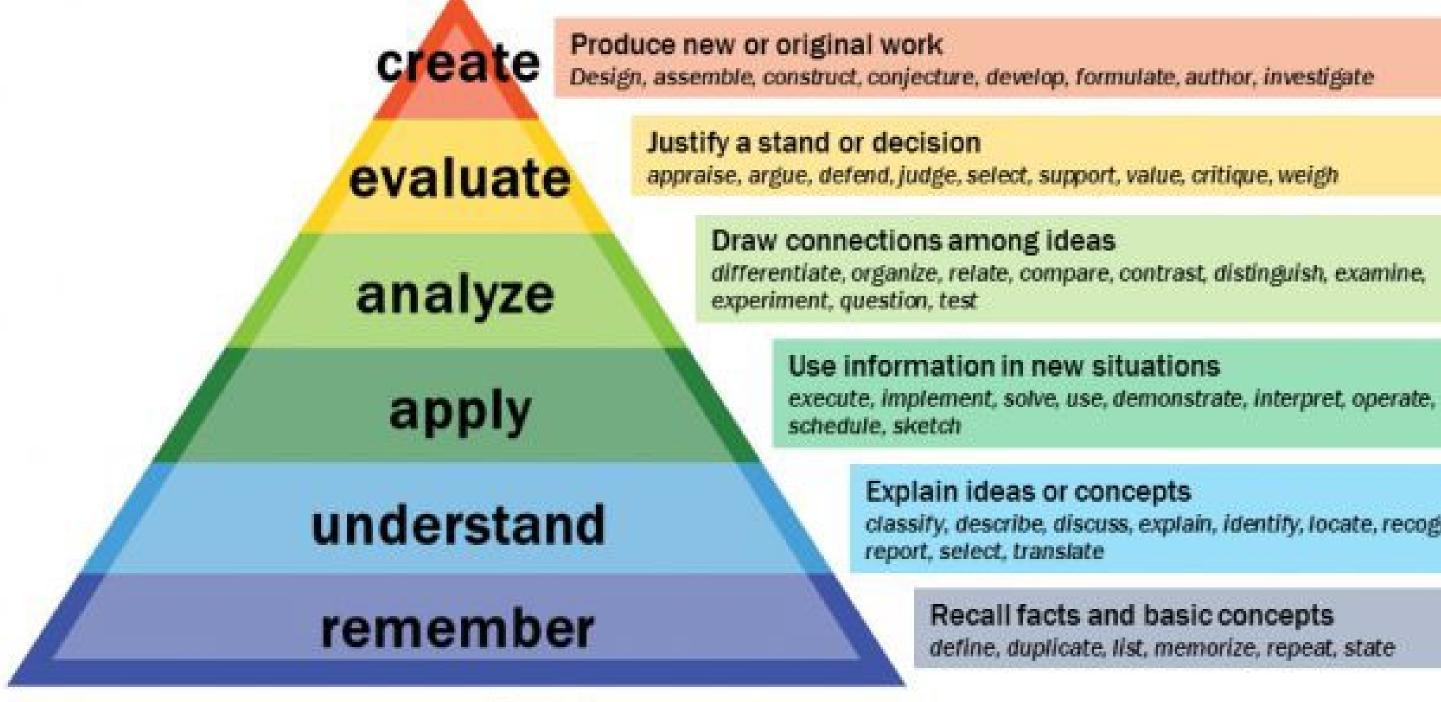
Learning is often a process of behavioral change. Bandura^{1,2} has suggested a sense of self-efficacy is essential to the cognitive learning process. The effort required for learning will not be expended unless the learners believe they have *agency* in the process.

Agency = Belief in one's ability to affect the outcome = SELF EFFICACY

Hypothesis: Efficacy Grows With Experience

Student perceptions of self-efficacy will grow through assignment-based experiences of critical thinking





O Vanderbilt University Center for Teaching

Based on Bloom's taxonomy, Application Paper assignments focused on progressively higher levels of critical thinking skills.

References

- 1. Bandura, A. (1989). Human agency in social cognitive theory. American Psychologist, 44(9), 1175 1184.
- 2. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. 84(2), 191 215.
- 3. Pintrich, P. R., & De Groot, E. (1990). Motivational and self-regulated learning components of classroom academic performance. Journal of Educational Psychology, 82(1), 33 – 40.

Addressing Student Perceptions of Self-Efficacy Effects of Mapping Bloom's Taxonomy to Application Papers

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Bloom's Taxonomy

lassify, describe, discuss, explain, identify, locate, recognize,

define, duplicate, list, memorize, repeat, state

Measures: Experiment Efficacy/Evals





Rate your level of agreement with the following statements

Compared with other students in this class, I expect to do well.

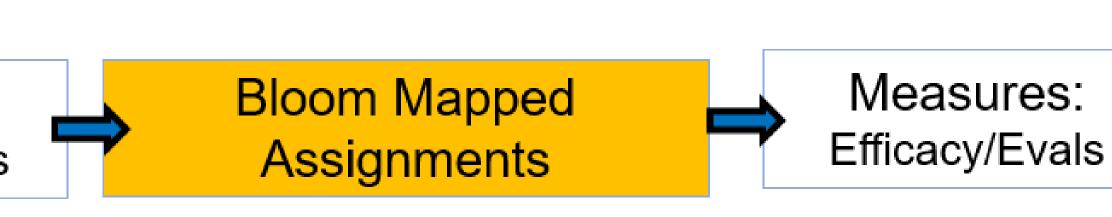
- Strongly disagree
- Disagree \bigcirc
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Agree \bigcirc
- Strongly agree

I'm certain I can understand the ideas taught in this course.

- Strongly disagree
- O Disagree



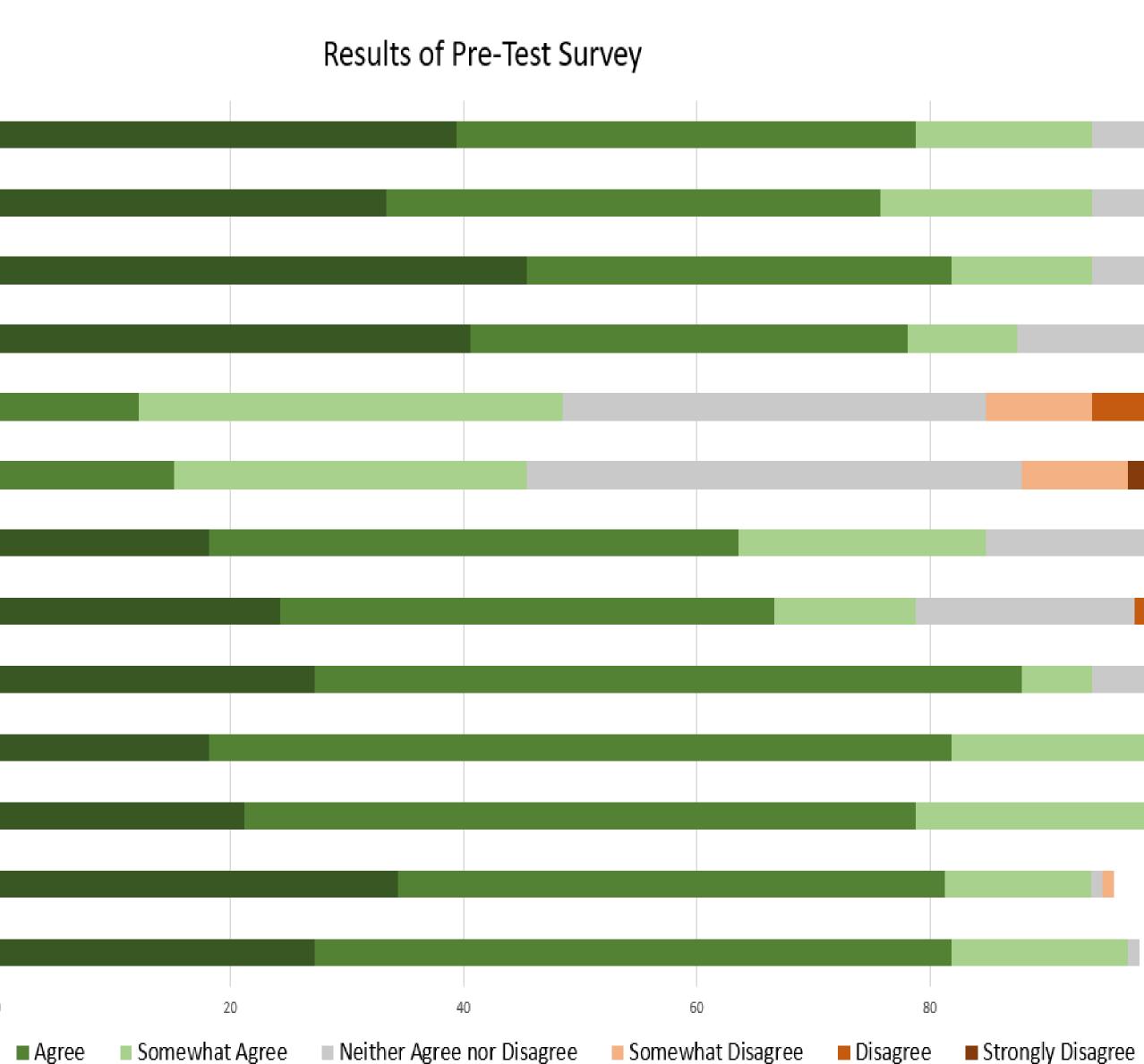
Study Design





Measures:

Problem-solving ability improved Course concepts apply in other contexts Skills useful in future Knowledge useful in future I know a great deal about the subject My study skills are excellent I'm a good studen I expect to do well I will be able to learn the material I think I will receive a good grade. I can do an excellent job on class tasks. I can understand the ideas taught in class. I expect to do well in this class.



Strongly Agree

Student perceptions were measured using an online survey. A "pre-test" survey was administered before the first Application Paper assignment was assigned. The "post-test" survey will be administered after the Application Paper assignments have been completed.

