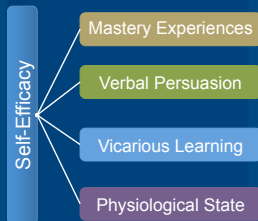


Positive Impacts of Modeling Instruction on Self-Efficacy

Vashti Sawtelle^a, Eric Brewe, Laird H. Kramer
Florida International University

Self-Efficacy: Confidence in one's own ability to perform a specific task

Self-Efficacy is derived from four experiential sources:



Methods:

We measure self-efficacy using Heidi Fencl & Karen Scheel's (2005) *Sources of Self-Efficacy in Science Courses Survey – Physics* (SOSESC-P) in Modeling Instruction (MI) and Lecture (LEC) classes

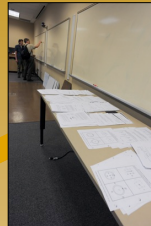
Results:

Modeling Instruction has **no significant** effect on self-efficacy for students.

Lecture format has a **significant negative** effect on self-efficacy for students.

Mastery Experience (ME):

I can remember the basic physics concepts taught in this class. (SOSESC-P Item #30)

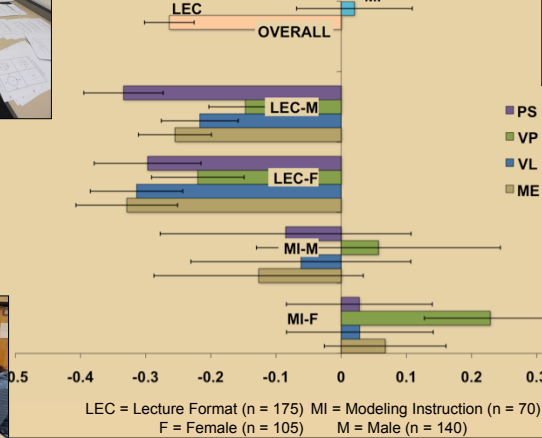


Verbal Persuasion (VP):

My instructor encouraged me that I could use physics concepts to understand real life phenomena. (SOSESC-P Item #12)



Shifts in Student Self-Efficacy in Physics



Vicarious Learning (VL):

Watching other students in class made me think that I could not succeed in physics. (Reversed, SOSESC-P Item #3)

Physiological State (PS):

In-class discussions and activities helped me to relax, understand, and enjoy my experience in the course. (SOSESC-P Item #24)



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