



Student Motivation and Valuing of Active Learning Strategies in Large Lecture Agricultural Undergraduate Courses

**Amanda Bowling, Dr. John Tummons, &
Dr. Anna Ball**

University of Missouri

Introduction

- Teachers face daily challenges in motivating students in large lecture courses
 - Attendance
 - Lack of student engagement
 - Lack of motivation/valuing
 - Personal technology distractions
- Active learning activities are recommended to increase student engagement



Review of Literature

- Active learning has been found to increase student performance, promote comprehension, and combat lagging engagement (McCarthy & Anderson, 2000; Michel, Carter III, & Varela, 2009)
- However...
 - Active learning may decrease the perceived amount of information learned in large lecture courses (Lake, 2011)
 - Michel et al., (2009) found active learning strategies had no effect in broad student cognitive outcomes
- However...
 - Learner outcomes increase if students voluntarily participate in active learning opportunities (Carvalho & West, 2011)



Conceptual Framework

- Self-Determination Theory (Deci & Ryan, 2002)
 - Extrinsic and intrinsic motivational orientation
- Match Perspective (Sagiv & Schwartz, 2000)
 - If the individual's motivational orientation aligns with the orientation of the environment the individual is more likely to value and engage in the activities within the environment



Purpose and Objectives

Purpose

- Explain how differences in student motivations could explain variation in the perceived value of active learning.

Research Objectives

- 1) Describe student motivation to participate within large lecture agriculture courses
- 2) Describe the perceived value of active learning within large lecture agriculture courses
- 3) Examine how differences in student motivation could explain variation in the perceived value of active learning.



Methodology

- Quantitative design
- Convenience sample
 - Two large agricultural leadership courses and one agricultural communications course (response rate of 46.5% ($n = 181$))
- Questionnaire
 - Student motivation constructs (Pintrich, Smith, Garcia, & McKeachie, 1991):
 - Intrinsic and Extrinsic Goal Orientation, Task Value, Expectations for Success
 - Perceived active learning valuing construct (Ryan, 1982)
 - Post-hoc reliability estimates--all constructs had a Cronbach's Alpha above .60



Methodology

- Hierarchical Multivariate Regression
 - Potential covariates
 - GPA, Attendance, Percent off task technology behavior
 - 1st Block
 - Covariates entered simultaneously
 - 2nd Block
 - All motivational constructs entered simultaneously



Findings and Implications—Objective 1

Descriptive statistics for student motivation (n = 181)

Variable	<i>M</i>	<i>SD</i>	Range
Intrinsic Goal Orientation	5.45	0.80	3.33 – 7.00
Extrinsic Goal Orientation	5.87	0.85	2.75-7.00
Task Value	5.70	1.01	2.17 – 7.00
Expectations for success	5.99	0.72	2.63 – 7.00

Findings

- Students slightly agreed they held an intrinsic goal orientation
- Students agreed they held an extrinsic goal orientation, moderately valued the tasks within the course and had moderate expectations for success within the course



Findings and Implications—Objective 2

Descriptive statistics for active learning valuing (n = 181)

	<i>M</i>	<i>SD</i>	Range
Active Learning Valuing	5.45	1.09	2.00 – 7.00

Findings

- Students slightly agreed they valued the active learning activities within the course



Findings—Objective 3

Table 1

Hierarchical Regression of attitude toward active learning on GPA, class attendance, time on task, and motivations (n = 181)

Variable	Model 1			Model 2		
	<i>B</i>	<i>SE B</i>	<i>d</i>	<i>B</i>	<i>SE B</i>	<i>d</i>
(Constant)	4.76*	1.07	0.70	0.59	1.07	0.01
Attendance	1.034	0.90	0.18	0.43	0.06	0.10
Engagement	-0.11	0.31	0.06	0.26	0.26	0.16
GPA	-0.08	0.18	0.07	0.08	0.15	0.09
Goal Orientation				0.07	0.06	0.19
Extrinsic Value				0.22*	0.10	0.36
Task Value				0.55*	0.08	1.12
Expectations for success				-0.03	0.12	0.04
<i>Adjusted R²</i>		-0.08			0.34*	
<i>R² change</i>		0.01			0.37*	
<i>F</i>		0.57(3,160)			13.45* (7,156)	

Note. * = $p < 0.05$

- Covariate model was not significant $F = 0.57$ (3,160, $p > .05$)
- Full model was significant, $F = 13.45$ (7,156, $p < .05$) and explained 35% (adjusted $R^2 = .35$) of the variance
- Extrinsic goal orientation ($d = 0.36$) and task value ($d = 1.12$) explained significant ($p < .05$) proportions of variation



Implications and Conclusions

- GPA, attendance, and time off task have limited power to predict valuing of active learning strategies
- Extrinsic goal orientation and task value predicted student valuing of active learning
 - Supports Match Perspective (Sagiv & Schwartz, 2000)
 - Extrinsically motivated students valued active learning
 - But...
 - Intrinsic motivation has numerous benefits over extrinsic motivation



Recommendations

- Instructors should consider the importance of external factors within their courses
- Underscore the extrinsic nature of the courses
 - Highlight the usefulness of the content beyond the classroom
 - Align course outcomes for intrinsically goal oriented students
- Further research needs to examine the utilization and valuing of active learning strategies in more courses within colleges of agriculture
- Further research also needs to examine the benefits students can experience from intrinsically aligned courses



Questions?

