Undergraduate student motivation and valuing of active learning in large agricultural leadership and communication lecture courses

Amanda Bowling
amandabowling@mail.missouri.edu
John D. Tummons
tummonsj@missouri.edu
Anna L. Ball
ballan@missouri.edu

122 Gentry Hall
University of Missouri
Columbia, MO 65211
573-882-9599

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Introduction/Need for Research

Undergraduate agriculture teachers face daily challenges in motivating students to unplug from the outside world and engage in the course material. Active learning is one strategy often recommended to increase student engagement. 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 when compared to traditional large lecture courses (Lake, 2001). Michel, Carter III, and Valera (2009) found active learning strategies had no effect on student achievement related to broad cognitive outcomes. Variation in context and instructor skill may mediate positive learning outcomes. One key component of successful active learning implementation is student motivation to participate in active learning activities. Learner outcomes increase if students voluntarily participate in active learning opportunities (Carvalho & West, 2011). However, the literature is unclear how student motivation influences the valuing of active learning and subsequent participation in these strategies. The purpose of this study is to help fill the current literature gap and better understand the relationship between student motivation within large lecture courses and the valuing of active learning.

Conceptual Framework

This study was informed by Self-Determination Theory (Deci & Ryan, 2002) and concept of Match Perspective (Sagiv & Schwartz, 2000). This study aligns with the AAAE National Research Agenda, Priority 4, "examine the role of motivation, self-regulation, metacognition, and/or reflection in developing meaningful, engaged learning experiences across all agricultural education contexts" (Doerfert, 2011).

Methodology

The purpose of this quantitative study was to explain how differences in student motivations could explain variation in the perceived value of active learning. The objectives which drove this study were to 1) describe student motivation to participate within large lecture agriculture courses, 2) describe the perceived value of active learning within large lecture agriculture courses, and 3) examine how differences in student motivation could explain variation in the perceived value of active learning. At a large Midwestern land grant institution, a convenience sample was conducted within two large agricultural leadership courses and one agricultural communications course, with a response rate of 46.5% (n = 181). The findings of this study are limited to the respondents due to the non-probabilistic sampling technique. Researchers collected data via a questionnaire consisting of the student motivation constructs: Intrinsic Goal Orientation, Extrinsic Goal Orientation, Task Value, and Expectations for Success (Pintrich, Smith, Garcia, & McKeachie, 1991) and the perceived active learning valuing construct (Ryan, 1982). All constructs were utilized from pre-developed instruments. Researchers conducted post-hoc reliability estimates; all constructs had a Cronbach's Alpha above .60. Additionally, participants were asked to self report their current GPA, percentage of class attendance, and percentage of time off task due to technology. Researchers conducted a hierarchal multivariate regression, with GPA, percent class attendance, and percent off task technology behaviors identified as potential covariates. These variables were placed in a

simultaneous first block. The second block included the motivational constructs of Intrinsic Goal Orientation, Extrinsic Value, Task Value, and Expectations for success each entered simultaneously.

Findings

Objective one sought to describe student motivation to participate within large lecture agriculture courses and objective two sought to describe the perceived value of active learning within large lecture agriculture courses. For objective three, it was found that for the perceived value of active learning strategies, the covariate model was not significant (see Table 1), $F =$ 0.57 (3,160, $p > .05$). The full regression model, including motivational constructs, was significant, $F = 13.45$ (7,156, $p < .05$) and explained 35% (adjusted $R^2 = .35$) of the variance in perceived value of active learning. Among tested motivational factors, both extrinsic goal orientation (d =0.36) and task value (d =1.12) explained significant ($p < .05$) proportions of variation in perceived value of active learning strategies.

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		
	B	*SE B*	*d*	*B*	*SE B*	*d*
(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
Adjusted R^2		-0.08			0.34*	
R^2 change		0.01			0.37*	
F		0.57(3,160)			13.45* (7,156)	

Note. * = p <0.05

Conclusions

Researchers conclude extrinsic goal orientation and task value have statistical and practical significance in predicting student valuing of active learning. This aligns with the Match Perspective (Sagiv & Schwartz, 2000), which states: when individual is embedded in a context with high levels of external influences (i.e. grades, peers, and instructors), extrinsically goal oriented individuals will value activities within their environment. Researchers conclude GPA, attendance, and time off task have limited power to predict valuing of active learning strategies.

Implications/Recommendations

Researchers recommend instructors facilitate motivation for active learning participation by underscoring the extrinsic and task values of participation. Instructors should highlight the usefulness of content beyond the classroom to increase intrinsic motivation and align course outcomes for intrinsically goal oriented students. Instructors should also consider the importance of external factors, including grades and peer participation, in active learning attitudes.

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