

# **Effect of an Encouraging Email on Students' Motivation to Learn**

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# Introduction

- ❑ **Communication between faculty and students is essential for building rapport** (Chickering & Gamson, 1987; Granitz, Koernig, & Harich, 2009)
- ❑ **Three-component model for establishing rapport:**
  - 1) **Attentiveness**
  - 2) **Positivity**
  - 3) **Coordination**(Tickle-Degnan & Rosenthal, 1990)
- ❑ **Faculty can built rapport with students by:**

(Faranda & Clarke, 2004; Granitz et al., 2009)

  - ❑ **Demonstrating empathy for needs**
  - ❑ **Being approachable and accessible**
  - ❑ **Treating students with dignity and respect**



# Need for Study

- ❑ Student/faculty rapport is positively associated with students' expectancy for success in college of agriculture courses (Estepp & Roberts, 2013)
- ❑ Both verbal and non-verbal encouragement can motivate students
  - ❑ However, the effect may differ depending on the gender of the faculty member and student (Wilson, Stadler, Schwartz, & Goff, 2009)
- ❑ Modes of rapport building need to be investigated to determine effects, if any, on students' motivation

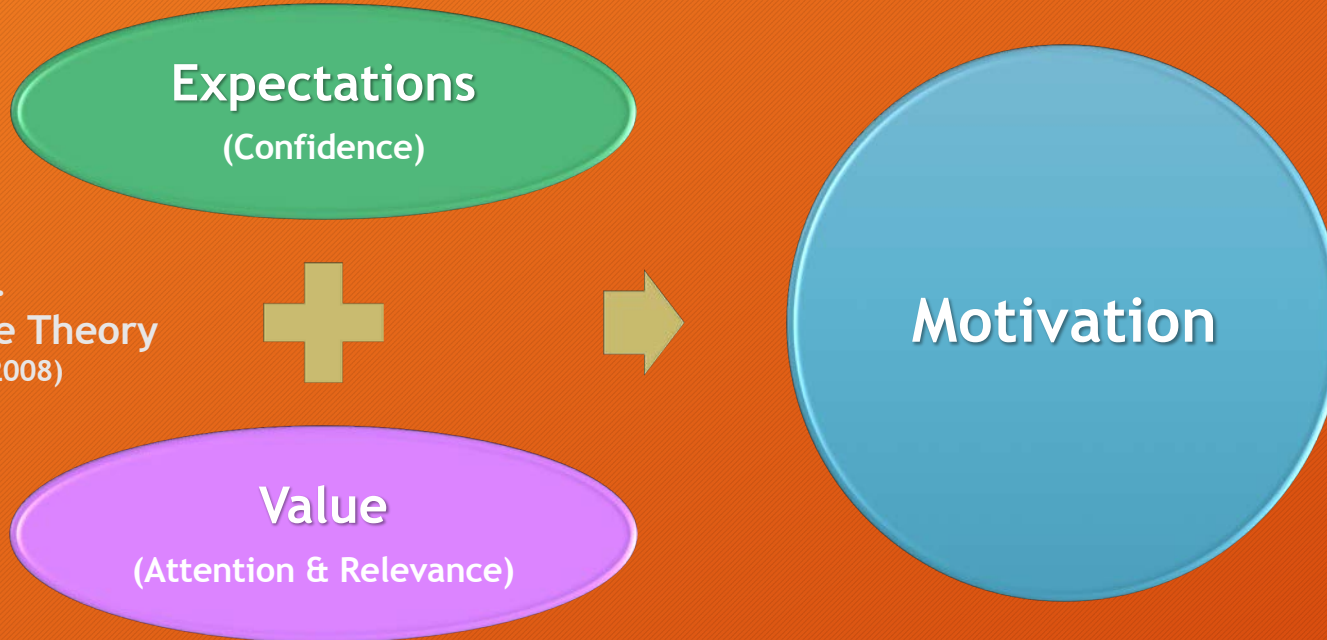


# Purpose

- ❑ To determine the effects of an encouraging pre-course email on undergraduate students' motivation to learn in 3 plant and soil science courses and two written and oral communication courses during the 1<sup>st</sup>, 8<sup>th</sup>, and 16<sup>th</sup> weeks of the semester.



# Theoretical Framework



*Figure 1.*  
Expectancy-Value Theory  
(Schunk et al., 2008)



# Theoretical Framework

*Figure 2.*  
ARCS Model of  
Motivational Design  
(Keller, 1984)



# Methods

- ❑ **Quasi-experimental** (Privitera, 2017)
  - ❑ One-half of the students in each course (AGCM 3103, AGCM 3203, PLNT 1213, SOIL 1113, and SOIL 2124;  $N = 630$ ) were randomly selected to receive an email from their instructor three days before the first class session ( $n = 316$ )
- ❑ **Both verbal and non-verbal encouragement can motivate students**
  - ❑ However, the effect may differ depending on the gender of the faculty member and student (Wilson, Stadler, Scwartz, & Goff, 2009)
- ❑ **Modes of rapport building need to be investigated to determined effects, if any, on students' motivation**
- ❑ ***Course Interest Survey (CIS)* administered during the last 10 minutes of class during Weeks 1, 8, and 16 of Fall 2018**



# Instrumentation

- ❑ *Course Interest Survey* (Keller, 2006)
  - ❑ Measures 4 constructs of ARCS model
  - ❑ 34 Likert-type questions on a 1 to 5 scale (1 = Not true; 5 = Very true)
    - ❑ Cronbach's alpha = .95 (subscales between .81 and .88)
  - ❑ Items related to Satisfaction construct removed (Questions 7, 12, 14, 16, 18, 19, 31, 32, 33, and 34)
    - ❑ 18 total items measuring Attention, Relevance, and Confidence constructs
    - ❑ Wording slightly edited to fit study context





# Data Collection & Analysis

Received Email	Fall 2018			
	Week 1	Week 8	Week 16	Total
Yes	316	230	208	754
No	314	258	216	788
Total	630	488	424	1542



# Data Collection & Analysis

Fall 2018

Course	Week 1	Week 8	Week 16	Total
AGCM 3103	57	47	46	150
AGCM 3203	82	67	72	221
PLNT 1213	324	234	158	716
SOIL 1113	82	71	73	226
SOIL 2124	85	69	75	229
Total	630	488	424	1542



# Limitations

## ❑ Participant attrition

	Wk 1	Wk 16	Attrition	%
AGCM 3103	57	46	11	19.3
AGCM 3203	82	72	10	12.2
PLNT 1213	324	158	166	51.2
SOIL 1113	82	73	9	11.0
SOIL 2124	85	75	10	11.8

## ❑ Maturation and history effects

## ❑ Limited courses during Fall 2018 term



# Results

## *Effects on Students' Motivation*

Source	SS	df	F	$\eta_p^2$	p
Corrected Model	22.63	29	3.903	.073	.000
Intercept	196960.01	1	98504.33	.986	.000
Email	.708	1	3.54	.002	.060
Course	6.79	4	8.50	.023	.000
Week	4.50	2	11.26	.015	.000
Email*Course	.64	4	.79	.002	.528
Email*Week	.37	2	.93	.001	.396
Course*Week	11.80	8	7.38	.039	.000
Email*Course*Week	.978	8	.61	.003	.769
Error	288.04	1441			
Total	26874.61	1471			
Corrected Total	310.67	1470			



# Results

## *Effect of Email\*Course on Students' Motivation*

Source	SS	df	F	$\eta_p^2$	p
Corrected Model	22.63	29	3.903	.073	.000
Intercept	196960.01	1	98504.33	.986	.000
Email	.708	1	3.54	.002	.060
Course	6.79	4	8.50	.023	.000
Week	4.50	2	11.26	.015	.000
<b>Email*Course</b>	<b>.64</b>	<b>4</b>	<b>.79</b>	<b>.002</b>	<b>.528</b>
Email*Week	.37	2	.93	.001	.396
Course*Week	11.80	8	7.38	.039	.000
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# Results

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Course*Week	11.80	8	7.38	.039	.000
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Course*Week	11.80	8	7.38	.039	.000
<b>Email*Course*Week</b>	<b>.978</b>	<b>8</b>	<b>.61</b>	<b>.003</b>	<b>.769</b>
Error	288.04	1441			
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# Results

## *Estimated Marginal Means: Course*

Course	Mean	Std. Error	95% CI	
			Lower	Upper
AGCM 3103	4.158	.038	4.084	4.232
AGCM 3203	4.320	.031	4.259	4.381
PLNT 1213	4.276	.018	4.241	4.311
SOIL 1113	4.114	.031	4.054	4.173
SOIL 2124	4.280	.030	4.221	4.339

*Note.* Dependent Variable: Motivation.



# Results

## Tukey HSD: Course Multiple Comparisons

Course	Course	Mean Difference	Std. Error	p	95% CI	
					Lower	Upper
AGCM 3101	AGCM 3203	-.1635*	.0485	.007	-.2959	-.0311
	PLNT 1213	-.1158*	.0412	.040	-.2282	-.0034
	SOIL 1113	.0311	.0482	.967	-.1004	.1627
	SOIL 2124	-.1387*	.0479	.031	-.2694	-.0080
AGCM 3203	PLNT 1213	.0477	.0353	.660	-.0488	.1441
	SOIL 1113	.1946*	.0433	.000	.0764	.3129
	SOIL 2124	.0248	.0429	.978	-.0925	.1421
PLNT 1213	SOIL 1113	.1470*	.0349	.000	.0517	.2422
	SOIL 2124	-.0229	.0345	.964	-.1170	.0713
SOIL 1113	SOIL 2124	-.1698*	.0426	.001	-.2861	-.0535

Note. Dependent Variable: Motivation. \* $p < .05$ .



# Results

## Tukey HSD: Course Multiple Comparisons

Course	Course	Mean Difference	Std. Error	p	95% CI	
					Lower	Upper
AGCM 3101	AGCM 3203	-.1635*	.0485	.007	-.2959	-.0311
	PLNT 1213	-.1158*	.0412	.040	-.2282	-.0034
	SOIL 1113	.0311	.0482	.967	-.1004	.1627
	SOIL 2124	-.1387*	.0479	.031	-.2694	-.0080
AGCM 3203	PLNT 1213	.0477	.0353	.660	-.0488	.1441
	SOIL 1113	.1946*	.0433	.000	.0764	.3129
	SOIL 2124	.0248	.0429	.978	-.0925	.1421
PLNT 1213	SOIL 1113	.1470*	.0349	.000	.0517	.2422
	SOIL 2124	-.0229	.0345	.964	-.1170	.0713
SOIL 1113	SOIL 2124	-.1698*	.0426	.001	-.2861	-.0535

Note. Dependent Variable: Motivation. \* $p < .05$ .



# Results

## *Estimated Marginal Means: Week*

Week	Mean	Std. Error	95% CI	
			Lower	Upper
Week 1	4.306	.022	4.263	4.349
Week 2	4.152	.024	4.105	4.199
Week 3	4.231	.024	4.183	4.278

*Note.* Dependent Variable: Motivation.



# Results

## Tukey HSD: Week Multiple Comparisons

Week	Week	Mean Difference	Std. Error	p	95% CI	
					Lower	Upper
Week 1	Week 8	.0842*	.0276	.007	.0194	.1490
	Week 16	.0472	.0287	.228	-.0202	.1146
Week 8	Week 1	-.0842*	.0276	.007	-.1490	-.0194
	Week 16	-.0370	.0305	.445	-.1086	.0345

Note. Dependent Variable: Motivation. \* $p < .05$ .



# Results

## Tukey HSD: Week Multiple Comparisons

Week	Week	Mean Difference	Std. Error	p	95% CI	
					Lower	Upper
Week 1	Week 8	.0842*	.0276	.007	.0194	.1490
	Week 16	.0472	.0287	.228	-.0202	.1146
Week 8	Week 1	-.0842*	.0276	.007	-.1490	-.0194
	Week 16	-.0370	.0305	.445	-.1086	.0345

Note. Dependent Variable: Motivation. \* $p < .05$ .



# Conclusions & Implications

- ❑ An email from the instructor prior to the beginning of class did not have an effect on students' motivation for the course
- ❑ Numerous instructors in the College of Agricultural Sciences and Natural Resources (CASNR) at Oklahoma State University advise students, have an open-door policy, and participate in hosting students on campus via recruitment events, which may have skewed results
- ❑ Email communication from faculty may not encourage student success and motivation to learn most effectively



# Future Research

- ❑ How can emails be used to encourage and motivate student success throughout the semester?
- ❑ What are the best encouraging communications that can be utilized to build rapport?
- ❑ Can the changes in student motivation throughout the semester be understood to help identify key periods when encouragement would be most beneficial to student success?





**Thank you!**

**QUESTIONS?**

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