

Teacher Immediacy and Professor/Student Rapport as Predictors of Motivation and Engagement¹

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Abstract

Recommendations for reforming teaching and learning in colleges of agriculture have suggested that instructors implement more student-centered instructional strategies. This would require more self-regulation on the part of the learner; however, critics have proposed that undergraduate students have become increasingly unmotivated and disengaged with the teaching and learning process. Therefore, an investigation into improving the motivation and engagement of undergraduates is warranted. One possible way of increasing student motivation and engagement is through teacher immediacy and professor/student rapport. Thus, the purpose of this study was to examine the relationships of teacher immediacy and professor/student rapport, collectively, with student motivation and engagement. The sample ($n = 306$) for this study consisted of students from large (50 to 100 students) college of agriculture courses at the University of Florida in the fall of 2011. Data were analyzed using descriptive statistics and canonical correlation analyses. Participants perceived that their instructors used verbal and nonverbal immediacy behaviors often and they generally agreed they have good rapport with their instructors. Additionally, students reported having high levels of expectancy for success and values/goals, while they reported intermediate levels of self-regulated learning strategy use. The combined variables of teacher immediacy and professor/student rapport were better predictors of motivation than engagement and professor/student rapport appears to be the greatest contributor to these relationships.

Introduction

The Morrill Act of 1862 and the subsequent Hatch and Smith-Lever Acts provided the catalyst for an explosion of technological innovations in agriculture that allowed the agricultural industry to expand throughout the twentieth century. Nonetheless, the National Research Council (NRC, 2009) suggested that the dawn of the twenty-first century has brought more unexpected changes and presented greater challenges for agriculturalists unseen by previous generations. Among these challenges are growing world populations and the need to feed these populations, increasing global integration and competitiveness, the need for greater scientific knowledge, public health concerns, climate change and increased concerns of consumers (Association of Public and Land-grant Universities, APLU, 2009; NRC 1992; NRC, 2009). As a result, the NRC (2009) issued a challenge to colleges of agriculture, "to establish a place at the forefront of academe where students and scholars are prepared to learn about the complexities of agriculture and grapple with its evolution and change and in so doing, find their opportunity to contribute as leaders and participants in the agricultural enterprise" (p.3).

The vision of the NRC (2009) through this challenge and subsequent recommendations was to produce agricultural graduates capable of tackling tough societal issues.

The NRC (2009) posited that, if agricultural graduates are to be effective addressing these issues they must possess certain skills such as critical thinking, problem solving, teamwork and communication. However, many critics have suggested that graduates

¹The University of Florida Institutional Review Board approved the study protocol and all participants provided written informed consent prior to participation in the study.

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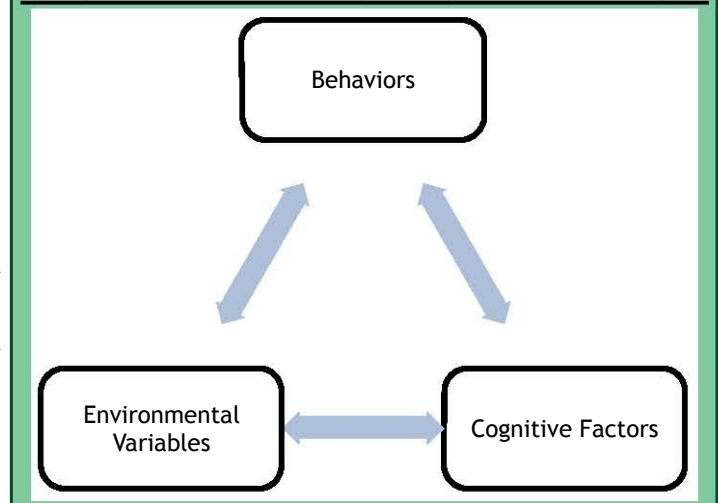
leave postsecondary education lacking these skills. In an assessment of land-grant institutions, Campbell (1998) opined, “*Too often we have failed to assure an appropriately educated citizenry—graduates with sufficient skills to be effective workers and informed citizens*” (p.33). Additionally, the National Conference of State Legislatures (NCSL, 2006) remarked, “the American higher education system is not preparing students for the 21st century global society” (p.1). What is more, Kenny (1998) added, “*Many students graduate having accumulated whatever number of courses is required, but still lacking a coherent body of knowledge. . . .all too often they graduate without knowing how to think logically, write clearly or speak coherently*” (p.6).

Accordingly, many have recommended that teaching and learning in higher education needs to be overhauled, endorsing a paradigm shift from passive, teacher-centered instruction to active, student-centered instruction (e.g. Arum and Roksa, 2011; Bok, 1996; Edgerton, 2001; Smith, Sheppard, Johnson and Johnson, 2005). More specific to agricultural education, Estep and Roberts (2011) suggested that instructors in colleges of agriculture should utilize a variety research-based teaching methods to improve students’ acquisition of the aforementioned skills. However, Amundsen, Winer and Gandell (2004) opined that shifting the focus to active student learning will require new expectations of students as learning-centered instruction involving active and interactive methods of instruction requires a great deal of effort on the part of learners and many critics of higher education have attributed the decline in the quality of graduates to undergraduate students’ lack of motivation and academic engagement (Arum and Roksa, 2011; Hassel and Lourey, 2005; Trout, 1997). Thus, an investigation into improving student motivation and engagement is warranted.

not imply equal interaction, but interaction between the three variables may be of varying strength and may not happen concurrently.

The conceptual model used in this study was adapted from work by Pintrich and Zusho (2007) (See Figure 2). Pintrich and Zusho (2007) posited that factors in the classroom context affect students’ motivational processes and their use of self-regulatory processes. For the purpose of this study, classroom context factors were operationalized as teacher characteristics, which consisted of teacher immediacy behavior use and professor/student rapport. Pintrich and Zusho’s motivational processes were operationalized in this study as motivation and consisted of the constructs of student expectancy for success, values/goals and affect. Student expectancy for success is characterized by students’ beliefs in their ability to perform tasks and the control they have over their performance (Ormrod, 2008), while values/goals refers to the specific value that students place on tasks and how these tasks relate to their future

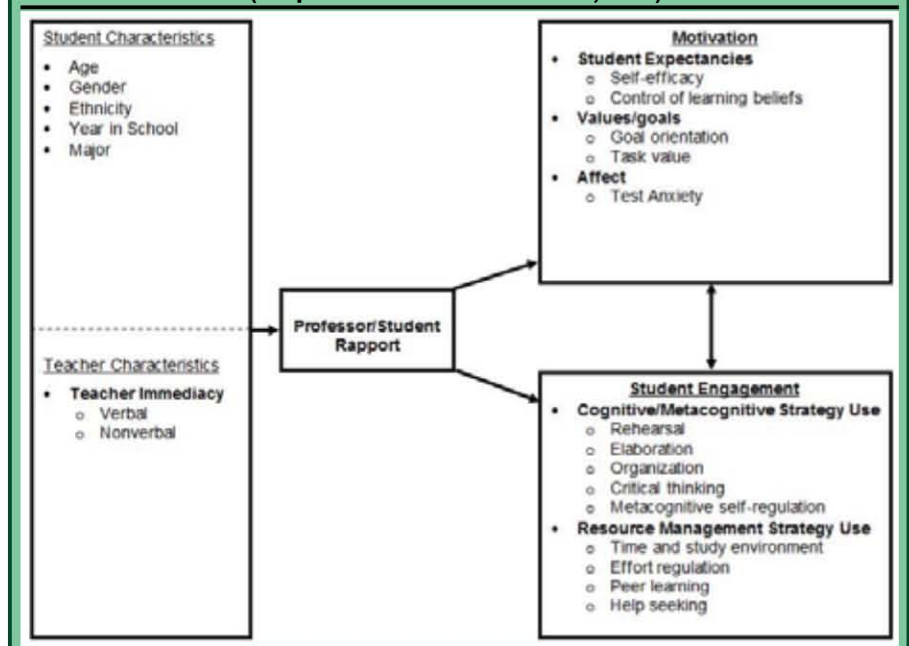
Figure 1. Triadic Reciprocity Model (Bandura, 1986, p. 24)



Literature Review

The theoretical framework that guided this study was social cognitive theory (Bandura, 1986). Bandura suggested that human learning occurs as a result of internal processes in conjunction with external influences. His theory is summarized by three main assumptions: the first assumption is triadic reciprocity; second, learning is enactive and vicarious; and third, learning and performance are distinctly different processes. This study is part of a larger study and focuses on the assumption of triadic reciprocity (See Figure 1). Bandura’s assumption of triadic reciprocity proposes that learning is a product of bidirectional interactions between environmental variables, personal (cognitive) factors and behaviors. Bandura stated that the idea of reciprocal interaction does

Figure 2. Conceptual Model of Motivation and Engagement (Adapted from Pintrich and Zusho, 2007).



goals (Eccles and Wigfield, 2002). In the context of this study, affect referred to test anxiety and is posited to be inversely related to motivation (Pintrich, 2004). Additionally, Pintrich and Zusho's (2007) self-regulatory processes were operationalized in this study as student engagement and consisted of the constructs of cognitive/metacognitive strategy use and resource management strategy use. Pintrich and Zusho (2007) proposed that engaged students are able to regulate their thinking processes along with their time and academic resources. The constructs in this study are congruent with triadic reciprocity in that teacher characteristics represent environmental variables, while motivation characterizes a cognitive factor and student engagement denotes behavior.

Ormrod (2008) defined motivation as "*an internal state that arouses us to action, pushes us in particular directions and keeps us engaged in certain activities*" (p.452), while Pintrich and Zusho (2007) further hypothesized that motivation is a gateway to students' academic engagement. A study by Pintrich and Schrauben (1992) reported that students with high levels of expectancy for success were more likely to exhibit increased levels of effort, monitor and regulate their learning, persist through difficult tasks and manage their study time and environment. Likewise, Walker, Greene and Mansell (2006) found that students' expectancy for success and intrinsic motivation were positive predictors of meaningful cognitive engagement. Furthermore, Fredricks, Blumenfeld and Paris (2004) and McLaughlin et al. (2005) purported that academic engagement is the key to student learning and that no learning can occur without engagement on the part of the student.

According to Pintrich (2004), motivation encompasses students' expectancy for success, values, goals, affect and emotions. Because motivation includes affective components, student motivation and subsequent engagement should be more likely in a learning environment where students feel more comfortable (Pintrich and Linnenbrink, 2004). What is more, Rodriguez, Plax and Kearney (1996) indicated that increases in the affective component of learning could help students expand their motivation, thus increasing their will to learn.

One indicator of a positive learning environment relating to affect is professor/student rapport built through teacher-student interactions (Wilson et al., 2010). Velez (2008) and Campbell (1998) suggested that student learning not only requires commitment on the part of the student, but that strong teacher-student interactions play a role. Chickering and Gamson (1987) submitted that a principal factor contributing to student motivation and engagement is teacher-student interactions. Rodriguez et al. (1996) offered that, if these interactions are positive, then students should feel more at ease in the classroom and enjoy the learning environment. Murray (1997) synthesized the literature on effective teaching and found that teacher-student interaction has shown "the strongest and most consistent relationships with instructional outcome measures" (p.195),

while Cox, McIntosh, Terenzini, Reason and Lutovsky Quaye (2010) reported that teacher-student interactions have had positive effects on students' attitudes, cognition, classroom behaviors and relationships.

According to Wilson et al. (2010), one way instructors can build professor/student rapport is through the use of teacher immediacy behaviors. Teacher immediacy is characterized by the nonverbal and verbal behaviors used by instructors that create a psychological closeness between instructors and students (Christophel, 1990). Examples of nonverbal immediacy behaviors include, eye contact, smiling, nodding, gesturing and vocal variety, while verbal immediacy behaviors include, praising students' effort, use of humor, engaging in conversations with students, calling students by name and use of personal stories and examples in teaching. Previous research has shown that the use of immediacy behaviors by instructors has been positively related to student motivation (Chesebro and McCroskey, 2001; Christophel, 1990), student affect toward learning (Chesebro and McCroskey, 2001), student behaviors (Christensen and Menzel, 1998), cognitive learning outcomes (Chesebro and McCroskey, 2001) and student achievement (Wilson and Locker Jr., 2008).

Several studies relating to teacher immediacy in the agricultural sciences have also been conducted. Velez and associates (Velez, 2008; Velez and Cano, 2008) reported that the use of immediacy behaviors is positively associated with varying aspects of student motivation. Additionally, Estep and colleagues (Estep and Roberts, 2013; Estep et al., 2013; Roberts et al., 2013) found that effective agricultural instructors tend to use a variety of immediacy behaviors and that immediacy is a significant predictor of students' beginning and ending motivation in agricultural courses.

Purpose

Because teacher immediacy and rapport have been shown to each aid in increasing student motivation, the purpose of this study was to examine the relationships of teacher immediacy and professor/student rapport, collectively, with student motivation and engagement. The specific research objectives that guided this study were:

- Assess undergraduate students' self-reported perceptions of teacher immediacy behaviors and professor/student rapport
- Assess undergraduate students' self-reported measures of expectancy, values/goals, affect, cognitive/metacognitive strategy use and resource management strategy use
- Determine the collective, predictive value of teacher immediacy and professor/student rapport on students' self-reported values of motivation and engagement.

Methods

The population for this descriptive correlational study was undergraduate students enrolled in large College of Agricultural and Life Sciences (CALs) courses with

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between 50 and 100 students at the University of Florida during the fall 2011 semester. Heppner (2007) suggested that instructors in large college courses have trouble interacting one-on-one with students, therefore the assumption was made that building professor/student rapport might be more difficult in these classrooms. While no standardized definitions of course size exist, Friedel (2006) reported that prior research has deemed classes with more than 50 students to be large.

The sample ($n = 306$) consisted of students from ten separate courses taught by eight instructors. After approval by the University of Florida Institutional Review Board, invitations to participate in the study were sent via email to 28 instructors in CALS whose courses fit the criteria of the study. One instructor declined, one course was dropped from the study because it was taught exclusively online and 18 instructors did not respond. Eight of the instructors, however, agreed to allow their classes to participate in the study. Because the instructors were self-selected, this study was considered a convenience sample. In an attempt to determine the variability of the independent variable teacher immediacy, the participating instructors' past student evaluation scores were examined and the instructors were categorized into high, intermediate and low categories of immediacy. Moore et al. (1996) reported that a positive relationship exists between instructors' student evaluation scores and their teacher immediacy. One instructor was in the low immediacy group, two in the intermediate and five in the high immediacy group.

McMillan and Schumacher (2010) stated that convenience samples may not be generalized beyond the sample unless the individuals in the sample possess similar characteristics to the population. Therefore, a comparison was made between the sample and the population on several variables. An independent samples t-test was run to compare the sample to the population on the variable of age. The mean age of the population was 21.79 ($SD = 2.57$) and the mean age of the sample was 21.17 ($SD = 2.87$). Results of the t-test showed these means to be significantly different ($p < 0.001$); however, McMillan and Schumacher (2010) suggested that statistical tests with large numbers of respondents have an increased likelihood of statistical significance. The numbers of respondents in this test were $n = 306$ for the sample and $N = 2033$ for the population. As a result, effect sizes were calculated according to recommendations by Kotrlik et al. (2011). The Cohen's d value was 0.23, which according to Kotrlik et al. reveals a small effect size. Chi-square tests were utilized to compare the proportions of the sample and the population on gender and CALS versus non-CALS students. Results showed no significant difference between the two on the variable of gender ($\chi^2 = 3.58$, $p = 0.062$) and no significant difference existed on the variable of CALS versus non-CALS ($\chi^2 = 2.06$, $p = 0.163$). Thus, the sample was deemed to be representative of the population.

Three instruments were used to collect the data for this study. Teacher immediacy was collected using

the immediacy behavior scale (Christophel, 1990). The immediacy behavior scale measured students' perceptions of the frequency of nonverbal and verbal immediacy behaviors used by their instructors. The scale consisted of 20 Likert-type verbal immediacy items and 14 Likert-type nonverbal immediacy items; both were measured from 1 (Never) to 5 (Very Often). Professor/student rapport was measured using the professor/student rapport scale developed by Wilson et al. (2010). The rapport scale consisted of 34 Likert-type questions ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Lastly, motivation and engagement were both measured using the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1991). The MSLQ instrument contained 81 Likert-type items ranging from 1 (Not at all true of me) to 7 (Very true of me). Motivation was measured using the values/goals, student expectancy and affect constructs, while engagement was measured by the cognitive/metacognitive strategies use and resource management strategies use constructs. Post-hoc reliabilities were calculated for each of the instruments. For the immediacy behavior scale, the reliability coefficients (α) were 0.83 for verbal immediacy and 0.73 for nonverbal immediacy, while the reliability for the professor/student rapport scale was $\alpha = 0.96$. Additionally, reliabilities for the MSLQ were: student expectancies ($\alpha = 0.91$), values/goals ($\alpha = 0.86$), affect ($\alpha = 0.75$), cognitive/metacognitive strategy use ($\alpha = 0.90$) and resource management strategy use ($\alpha = 0.80$).

Data were collected by group administration of the instruments during three separate class sessions. The immediacy scale was administered first, followed by the professor/student rapport scale the next week and the MSLQ was administered a week later. All data were collected toward the end of the semester to allow students to have determined a perception of their instructor's immediacy and rapport.

Data were analyzed using the Statistical Package for Social Sciences (SPSS v. 19.0). Summated means were calculated for each of the constructs. An alpha level of 0.05 was set *a priori* for all analyses. For objectives one and two, measures of central tendency were used to report perceptions of immediacy, professor/student rapport, values/goals, expectancy for success, affect, cognitive/metacognitive strategy use and resource management strategy use. Objective three utilized canonical correlation analyses to determine the combined predictive value of the independent variable set (immediacy and rapport) on motivation and engagement. Two sets of canonical correlation analyses were run for this objective. The first analysis included the combined independent variable set paired with the dependent variable set of expectancy for success, values/goals and affect. The second analysis paired the independent variable set with cognitive/metacognitive strategy use and resource management strategy use. The dependent variables were grouped into two separate sets for analysis based on the division of the measured constructs into motivation and engagement. Hair et

al. (1998) stated that canonical correlations were the appropriate method for this type of research question.

Results

The sample (n = 306) was 63.7% female and had a mean age of 21.17 (SD = 2.86). Additionally, the majority of the sample was classified as Juniors or Seniors, 40.1% and 45.3%, respectively, followed by Sophomores (7.5%) and Freshmen (6.8%). The ethnic/racial breakdown of the sample was 63.2% White/Caucasian, 15.0% African-American, 12.4% Hispanic/Latino, 4.9% "Other" and 4.2% Asian. About 40% of the sample identified their major as "Other," which consisted of majors outside of CALS. Additionally, for this study CALS majors with a frequency of less than 10 were added to the "other" category. Other majors reported were: Family, Youth and Consumer Sciences (26.4%), Food Science and Human Nutrition (12.1%), Animal Sciences (5.5%), Biology (3.9%) and Agricultural Education and Communication (3.3%).

Objective one was to assess undergraduate students' self-reported perceptions of teacher immediacy behavior use and professor/student rapport (See Table 1). The summated mean for verbal immediacy was 3.57 (SD = 0.54) and the mean for nonverbal immediacy was 4.09 (SD = 0.43). The summated mean for professor/student rapport was 4.36 (SD = 0.53).

Similarly, objective two was to assess undergraduate students' self-reported measures of expectancy, values/goals, affect, cognitive/metacognitive strategy use and resource management strategy use (See Table 1). Results for this objective were: expectancy for success (M = 5.92, SD = 0.86), values/goals (M = 5.26, SD = 0.93), affect (M = 3.53, SD = 1.35), cognitive/metacognitive strategy use (M = 4.57, SD = 0.90) and resource management strategy use (M = 4.45, SD = 0.84).

Objective three was to determine the collective predictive value of teacher immediacy and professor/student rapport on students' self-reported values of motivation and engagement. Two separate canonical correlation analyses were run for this objective. The first compared the independent variable set (verbal immediacy, nonverbal immediacy and professor/student rapport) with the motivation variable set, while the second analysis compared the independent variable set with the engagement variable set.

Results of the first canonical correlation analysis revealed that the full model, which consisted of a linear combination of the independent variable set and a linear combination of the dependent variable set (expectancy for success, values/goals and affect) was statistically significant ($\lambda = 0.611$, $F(9, 730.27) = 18.22$, $p < 0.001$). Sherry and Henson (2005) stated that since λ represents the variance unexplained by the model, the squared canonical correlation for the model (R^2_c) can be expressed by $1 - \lambda$, which explains the variance shared between the variable sets across all canonical roots. Thus, for this model, $R^2_c = 0.389$, indicating that 38.9% of the variance was shared by the immediacy/rapport variable set and the motivation variable set. The model yielded three canonical roots, two of which were significant. However only canonical root one was further explored as it accounted for 34.3% of the variance, while canonical root two only accounted for 6.9% of the remaining variance (see Sherry and Henson, 2005).

Table 2 shows the canonical correlation analysis between the immediacy/rapport variable set and the motivation variable set for root one. The table includes the standardized canonical function coefficients (b), the structure coefficients (r_s) and the squared structure coefficients (r_s^2). Conventions put forth by Sherry and Henson (2005) stated that structure coefficients above 0.45 ($r_s^2 > 0.2025$) indicate that a variable is a relevant contributor to the variable set. They reported that the squared structure coefficient is a measure of the variance an observed variable can contribute to its synthetic variable set. Additionally, Warmbrod (2003) suggested that standardized canonical function coefficients greater than 0.30 are important.

The dependent variable that contributed most to canonical root one was values/goals ($b = 0.804$, $r_s = 0.967$) where expectancy for success was the next most relevant ($b = 0.308$, $r_s = 0.722$). Values/goals and expectancy for success were both positively related to the dependent variable set. For the independent variable set, professor/student rapport contributed the most to the model ($b = 0.724$, $r_s = 0.966$). Additionally, professor/student rapport was positively related to the independent variable set and was a positively related to values/goals and expectancy for success. While verbal and nonverbal immediacy appear relevant contributors according to their high r_s values, their standardized weights are relatively low, which can occur as a result

Table 1. Descriptive Statistics for Immediacy, Rapport, Motivation, and Engagement

Construct	Range		M	SD
	Min	Max		
Verbal Immediacy ^a	2.25	4.75	3.57	0.54
Nonverbal Immediacy ^a	2.48	4.86	4.09	0.43
Professor/student Rapport ^b	1.65	5.00	4.36	0.53
Student Expectancies ^c	1.42	7.00	5.92	0.86
Values/Goals ^c	1.00	7.00	5.26	0.93
Affect ^c	1.00	7.00	3.53	1.35
Cognitive/metacognitive Strategy Use ^c	1.19	6.81	4.57	0.90
Resource Management Strategy Use ^c	2.26	6.89	4.45	0.84

^aLikert-type scale (1 = Never to 5 = Very Often);

^bLikert-type scale (1 = Strongly Disagree to 5 = Strongly Agree);

^cLikert-type scale (1 = Strongly Disagree to 7 = Strongly Agree).

Table 2. Canonical Correlation Analysis of Motivation Variable Set

Variable	Canonical Root 1		
	b	r_s	r_s^2 (%)
Student Expectancies	0.308	0.722	52.13
Values/goals	0.804	0.967	93.51
Affect	0.026	0.009	00.01
Verbal Immediacy	0.288	0.826	68.23
Nonverbal Immediacy	0.094	0.666	44.36
Professor/student Rapport	0.724	0.966	93.32

Note. b = standardized canonical function coefficient (weight); r_s = structure coefficient; r_s^2 = squared structure coefficient.

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of multicollinearity among variables in a set (Sherry and Henson, 2005).

Results of the second canonical correlation analysis revealed that the full model, which consisted of the linear combination of the independent variable set (verbal immediacy, nonverbal immediacy and professor/student rapport) and the linear combination of the dependent variable set (cognitive/metacognitive strategy use (CMSU) and resource management strategy use (RMSU)) was statistically significant ($\lambda = 0.846$, $F(6, 604) = 8.78$, $p < 0.001$). Additionally, $R^2_c = 0.154$, indicating that 15.4% of the variance was shared between the independent variable set and the engagement variable set. Two canonical roots were significant for this model, however, only canonical root one was further explored as it accounted for 13.4% of the variance, where canonical root two only accounted for 2.3% of the remaining variance.

Table 3 shows the second canonical correlation analysis between the immediacy/rapport variable set and the engagement variable set. In root 1, CMSU ($b = 0.907$, $r_s = 0.995$) contributed the most to the dependent variable set and was positively related to the engagement variable set. RMSU had a substantial r_s value (0.736), but a low standardized weight ($b = 0.132$), which could be an indicator of multicollinearity among the variables. In the independent variable set, professor/student rapport ($b = 0.687$, $r_s = 0.951$) was the most relevant contributing variable followed by verbal immediacy ($b = 0.430$, $r_s = 0.861$). Both professor/student rapport and verbal immediacy were positively related to the independent variable set and CMSU.

Table 3. Canonical Correlation Analysis of Engagement Variable Set

Variable	Canonical Root 1		
	b	r_s	r_s^2 (%)
CMSU	0.907	0.995	99.00
RMSU	0.132	0.736	54.16
Verbal Immediacy	0.430	0.861	74.13
Nonverbal Immediacy	-0.038	0.601	36.12
Professor/student Rapport	0.687	0.951	90.44

Note. b = standardized canonical function coefficient (weight); r_s = structure coefficient; r_s^2 = squared structure coefficient.

Discussion

Several conclusions can be drawn from this study. First, participants in this study perceived that their instructors used both verbal and nonverbal immediacy behaviors often, however, they perceived nonverbal to be used more often than verbal. These results are similar to results found by Velez and Cano (2008), where nonverbal immediacy use was more prevalent than verbal immediacy behavior use among agricultural instructors. Nonverbal immediacy consists of behaviors, such as smiling at students, gesturing while talking and looking at the class while talking. The assumption can be made that these behaviors might be easier for instructors to implement than verbal immediacy behaviors, such as calling students by name, praising students work and using personal examples and humor while teaching.

Additionally, Wilson and Taylor (2001) suggested that instructors' personalities may play a role in how much they utilize verbal and nonverbal immediacy behaviors. Future studies might include a measure of instructors' personality style to determine relationships between personality and immediacy behavior use.

One further consideration concerning immediacy is culture. Velez (2008) suggested that culture may play a role in how immediacy behaviors are perceived by students. This study was conducted in the college of agriculture at a large land-grant university in the Southeastern United States. Accordingly, the culture in other colleges, universities and different parts of the country may differ. Perhaps studies conducted in other locations might reveal divergent results concerning immediacy behavior use.

In addition, participants in this study agreed they have good rapport with their professors. Meyer (2009) suggested that instructors who utilize verbal and nonverbal immediacy behaviors should be more effective at fostering rapport than instructors who do not utilize immediacy. Wilson et al. (2010) reported positive relationships between immediacy behavior use and rapport and concluded that immediacy behaviors were not as inclusive of a construct as rapport. This might explain why rapport was reported at higher levels in this study than either of the immediacy behaviors. A determination of the relationship between immediacy behaviors and rapport is suggested for future studies.

For objective two, participants reported higher than intermediate levels of expectancy for success and values/goals, while they indicated intermediate levels of test anxiety (affect). Additionally, their levels of cognitive/metacognitive strategy use and resource management strategy use were intermediate. Ormrod (2008) suggested that expectancy for success is influenced by three factors: past successes and failures, communication of messages by others and accomplishments and failures of others. The classes sampled in this study were upper-level, major-specific courses or lower-level, introductory courses in agriculture, while the majority of participants were juniors or seniors. As a result, the participants in this study should know their capabilities according to their past accomplishments and failures. Perhaps this could help explain participants' levels of expectancy for success. Additionally, the reported levels of immediacy and rapport of instructors might indicate positive communication of messages is occurring between instructors and students, which could in turn influence students' expectancy for success.

Participants in the study also reported having high levels of values/goals for their courses. Eccles and Wigfield (2002) posited that three components contribute to how much a student will value a course including, interest, importance and future value. Since many of the courses in this study were upper-level, major specific courses, it is plausible that the participants had an inherent interest in the subject, in addition to realizing the importance and future value of the courses.

What is more, Pintrich and Zusho (2007) suggested that reactions toward an instructor can affect students' interest in and value toward a course. Given that the participants in this study reported generally good rapport with their instructors, perhaps reactions toward the instructor also contributed to the level of value students had for their courses.

Additionally, students in this study reported intermediate levels of self-regulated learning behaviors (cognitive/metacognitive strategy use and resource management strategy use). Typically students who possess higher intrinsic goal orientations use more of these strategies (Pintrich and Zusho, 2007). Since respondents reported high levels of goal orientation, it was expected that self-regulated learning behavior use would be higher. However, no distinction was made during the data analysis between intrinsic and extrinsic goal orientation; goal orientation was analyzed with values as one construct. Perhaps many of the students in this study were extrinsically motivated and thus did not use self-regulated learning strategies.

Objective three was to determine the combined predictive value of verbal immediacy, nonverbal immediacy and professor/student rapport on motivation and engagement. Results revealed the immediacy/rapport variable set was a better predictor of motivation than engagement. Professor/student rapport was the major contributor toward students' values/goals and expectancy for success, but had no relationship with affect. Additionally, verbal and nonverbal immediacy played a minimal role as predictor variables in this relationship. These findings align with prior research as rapport has been positively related to various aspects of student motivation (Wilson et al., 2010). Regarding the relationship between the independent variable set and engagement, professor/student rapport and verbal immediacy both contributed to students' cognitive/metacognitive strategy use. However, no relationship existed between the independent variable set and resource management strategy use. Furthermore, nonverbal immediacy did not contribute as a predictor of student engagement.

Results showed that professor/student rapport was the greatest contributor to the relationships with motivation and engagement. This finding is congruent with the conceptual model used in this study, which illustrated that professor/student rapport perhaps mediated between immediacy and the dependent variables. However, the results indicated a much stronger relationship existed between professor/student rapport and motivation than with engagement. This corresponds with Pintrich and Zusho's (2007) idea that motivation is the gateway to academic engagement. Future studies utilizing path analyses could help determine which variables mediate within this conceptual model.

Prior research has shown that teacher immediacy and professor/student rapport are positively related to student motivation and engagement; the results of this study concur with previous research. As a result, a few

recommendations can be made. First, instructors should consider using verbal and nonverbal immediacy behaviors in their classroom, along with building rapport with students. The following practices could help instructors facilitate the rapport building process: 1) encourage more instructor-student interaction; 2) invite students to visit during office hours; 3) use personal examples in teaching; 4) call students by name; 5) get to know students and show genuine concern for students; 6) try to connect with all students, especially those who may not normally seek out a relationship with an instructor; and 7) show respect for all students. Additionally, instructors in colleges of agriculture might benefit from professional development that emphasizes the use of immediacy behaviors and rapport building. Furthermore, because student motivation leads to engagement, instructors should develop an understanding of the factors that affect student motivation, both intrinsic and extrinsic and implement practices in their classrooms that will help motivate students. Additionally, many students may not instinctively use self-regulated learning strategies, therefore students might benefit from instruction in how to regulate their learning.

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