

Technical College Teachers' Communication and Its Impact on Student Motivation

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Abstract

Minimal research exists related to what technical college students perceive as effective teacher communication and how their perception influences motivation. The purpose of this study was to examine the relationship between teacher communication and student motivation to complete specific technical college courses. A cross-sectional survey design was employed to collect data about teachers' communication and the degree of association with student motivation. The Teacher Communication Behavioral Questionnaire (TCBQ) and the Student Opinion Survey (SOS) were administered to 86 participants. Six null hypotheses were tested to determine teacher communication impact on student motivation. A Spearman rho correlation was computed along with a logical regression model with five teacher communication scales from the TCBQ as predictors. Results revealed that student motivation was correlated with challenging, encouragement and praise, non-verbal support, understanding and friendly teacher communication. There was no correlation between controlling teacher communication and student motivation. When communication dimensions were combined as predictors of motivation and tested using logistic regression, motivation could not be predicted. Results reveal a significant positive correlation between challenging, encouragement and praise, nonverbal support, understanding and friendly teacher communication and student motivation to complete courses.

Keywords: Technical College, Teacher Communication, Student Motivation, Georgia

1. Technical College Teacher' Communication and Its Impact on Student Motivation

College teachers consider students' lack of motivation to be a major barrier to educational success (Brewer & Marmon, 2000). Research informs that teachers are not only instructors but also motivators (Matterson, Swarthout & Zientek, 2011; Murphy & Rodriguez-Manzanares, 2009; Hidi & Harackiewicz, 2000; Hegarty, 2011; Shore, 2001) and those who communicate a genuine concern for student success motivate learners to work harder while acquiring a sense of pride for their accomplishments (Smith, Carmack & Titsworth, 2006). Although, there is a considerable body of research about the influence of teacher communication on primary and secondary school students' motivation, similar research about adult and technical college students is limited. In this era of standards and accountability, federal mandates, such as Complete College America (CCA), and state initiatives like Complete College Georgia (CCG), technical colleges in Georgia must demonstrate completion and graduation rates of 75% of students enrolled in programs supported by the Technical College System of Georgia (TCSG) in order to provide 54,000 additional graduates by 2020 (Technical College System of Georgia, 2012). Therefore, knowledge of practices that can assist to increase completion and graduation is important.

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Research shows that there is a significant effect on the learner's pro-social development when teachers form positive communications with students (McCrosky, Richmond & Bennett, 2006). According to McCrosky et al. (2006), referent power is the ability of teachers to influence students based on the admiration they have for the instructor, which motivates them to perform more effectively in the classroom. Students performing and responding at high levels for particular teachers has prompted research into assessing classroom environments. When a college student is not motivated in a particular class, a common result is cognitive disengagement, followed by absences and plummeting grades. Research reveals that student motivation is one of the key predictors of course completion (Williams & Williams, 2011), but the extent to which teacher communication is related to student motivation in technical colleges is unknown.

One skill that technical teachers must demonstrate is the ability to motivate students to finish courses required for program completion (Burns, 2005). Teven (2001) concluded that it is necessary for teachers to construct a superior relationship with students because it determines their interest and accomplishment level. Furthermore, Legg and Wilson (2009) asserted that a more efficient, effective, and gratifying teaching and learning experience is developed from the student-teacher relationship. In addition, research relates that a caring culture, teachers' warmth and supportiveness, emphasis on pro-social values, and encouragement of cooperation are positively associated with sense of community that will provide additional incentive to motivate students to complete programs (Coats, 2010; Freeman, Anderman & Jensen, 2007; Mbuva, 2011; Myers, 2009; Rowe, 2000).

When a college student is not motivated in a particular class, intellectual disconnect and lack of desire to attend class occurs. Knowing how teacher communication influences student motivation could be incentive for faculty members to utilize professionally developed strategies to assist them to complete programs (McCrosky, 2003). In short, effective communication by technical college teachers could influence student motivation thereby enhancing academic performance in order to complete courses.

2. Literature Review

For centuries, motivation has been considered important for learning; however, practitioners still seem deficient in the knowledge and preparation to be real motivators (Brewer & Burgess, 2005). Ironically, teachers may not be skilled to inspire students and, consequently, possess opposing purposes of their own, which diminish their ability to motivate students (Brewer & Burgess, 2005).

2.1 Theoretical Framework

Several theories of motivation undergird this research and are discussed because the content is relevant to student motivation. Self-efficacy and Goal Theories are prominent models that are studied today. Emerging theories such as Kroth's (2007) heuristic motivation model, utilizes actions that practitioners can employ to inspire students. Those actions include caring for the success of learners; designing intrinsically and extrinsically motivating assignments; setting motivating goals; supporting goal pursuit and managing follower expectancies.

Wlodkowki (2005) suggested that motivation defines processes that stimulate a desire to investigate behavior, gives objective and purpose to performance, continues to allow conduct to persist or leads to selecting or preferring a particular action. According to Zimmerman (2000), self-efficacy has evolved as a highly effective predictor of students' motivation and learning. The closest concept to self-efficacy is self-concept (Marsh & Shavelson, 1985). Historically, Rogers (1951), a phenomenologist, defined self-concept as a worldwide perception of identity and sense of worth applied to one's personal view. Hattie (1992); however, found self-concept to be unrelated to academic performance. Subsequently, Harter (1978) related White's concept of Effectance Theory. That is, humans possess an inherited need to negotiate the environment in an effective manner using a series of behaviors rather than a goal, and measures self-esteem reactions by asking self-evaluative questions. White's effectance motivation theory, sometimes referred to as mastery motivation, speculated that people have innate motivation to feel capable and succeed with tasks (Busby, Ingram, Bowron, Oliver & Lyons, 2012). When individuals do not feel competent, they are less likely to try to succeed (Busby, et al., 2012). Characteristics of self-efficacy have been associated with and are predictive of two measures of student effort: rate of performance and expenditure of energy (Zimmerman, 2000).

The goal-efficacy model developed by Latham and Locke (1991) utilizes a conjectural framework for comprehending various elements that effect student motivation, which leads to academic success. Four factors are taken into consideration as shaping student academic performance: aptitude, assigned goals, self-efficacy, and self-set goals. Klomegah (2007) stated that direct and indirect student abilities influenced academic execution.

The student's ability directly influences his or her of activities, degree of endeavor, and level of determination when times are challenging (Carroll & Garavalia, 2004). The indirect influence of ability on execution is apparent in the level of self-efficacy and personal goals.

Albert Mehrabian, in the early sixties, defined immediacy as communication that increases intimacy and nonverbal interaction with each other. Immediacy, historically, has been divided into two categories: verbal and nonverbal communication (Christophel, 1990; Edwards & Edwards, 2001; Gorham, 1988). Mehrabian (1981) suggested that implicit messages, which transport the emotions and feelings, are not ordered by grammar, but rather expressions of feelings and attitudes that are above the content of the spoken message. Explicit messages, according to Butland and Beebe (1992), seem to transport the content. Therefore, explicit messages are spoken, indicating implicit communication to be nonverbal.

2.2 Motivational Models

According to Hegarty (2011), motivation is a crucial component for success of college students completing programs of study. The theoretical goal-efficacy model proposed by Latham and Locke (1991) are conceptual in nature and not directly intended for practitioner application (Kroth, 2007). The Heuristic Model creates a highly motivated environment, viewing the institution as a network where leaders of organizations, as well as instructors of classrooms can impact motivation but not control it.

Emotional Intelligence (EI) is defined as the ability to perceive and regulate, assimilate, understand and reason with emotions (Mayer, Solovey & Caruso, 2000). Goleman (1995) argued that human competencies such as self-awareness, self-discipline, persistence, and empathy are as important, if not more so, than IQ. In daily life, EI's role in superlative employees' performance is of greater importance than intellect or technical skills and both employers and organizations will benefit from cultivating these capabilities. Meyer and Turner (2006) affirmed that engaging adult students in learning requires unfailingly, positive emotional practices, which contribute to a classroom climate that forms the foundation for teacher-student relationship and interactions necessary for motivation to learn.

Eccles and Wigfield (2002) postulated that student willingness to invest time and effort in a task is explained by success expectancy and task-value beliefs (motivation). Success expectancy beliefs are intertwined with students' perspectives about their capabilities to complete certain academic tasks (Timmers, Braber-van den Broek, van den Berg, 2013). Goodman, Jaffer, Keresztesi, Mamdani, and Mokgatle (2011) alleged that intrinsic motivation is from within the person and does not appear to be affected by environmental factors.

The individual maintains his or her drive toward some goal without any apparent reward from the environment. Extrinsic motivation, on the other hand, depends on reinforcement or rewards from the environment to keep students working toward a goal. Two reasons to focus on teacher interpersonal behavior include the fact that it is a major component of classroom management (Doyle, 1986) and research has shown that interpersonal behavior of the teacher is strongly related to student achievement and motivation in all subject areas (Brekelmans, Wubbels & Brok, 2002; Szejnmborg, Brok, & Hurek, 2004). Also, healthy teacher-student interpersonal relationships are a prerequisite for engaging students in learning activities (Brekelmans, Slegers & Fraser, 2000). According to Fraser (1998), Shuell (1996), and Shulman (1986), it can be assumed that students' learning and motivation are determined by their perceptions, and not by teachers' intentions and emotions (Mayer, Solovey & Caruso, 2000). Spencer and Schmelkin (2002) found that the instructor's personal characteristics were perceived by students as preferred effective teaching attributes. These preferred personal characteristics included (a) demonstrating concern for students, (b) valuing learners' opinions, (c) clarity in communication, and (d) openness toward varied opinions. Catt, Miller and Schallenkamp (2007) suggested that instructional methods for delivering content materials must involve effective teacher communication skills. Keeping students involved in the learning environment is an excellent approach to obtain the desired outcomes (Catt, Miller & Schallenkamp, 2007).

It has been maintained that nonverbal behaviors are relevant in the educational environment because they are relied upon for accurate feelings or emotions that are concealed when a verbal-only message is provided. Caliskan and Yesil (2005) implied that teachers use oral or written language as well as body language to transfer information during lectures. Caliskan and Yesil concluded that teachers should be able to use this language effectively and to value students' body language.

Kong (2009) affirmed that body language affects more than the student's interest, but also their imagination and feelings. Nonverbal behavior can have specific purposes and meanings such as demonstrating attitudes about student achievement, teacher friendliness, caring and credibility (Steele, 2010). Verbal immediacy, on the other hand, is most often expressed through encouragement and praise for student endeavors. Verbal immediacy uses humor, self-revelation, and entails the ability to engage students in conversations to meet and intermingle (Edwards & Edwards, 2001). Instructors must value and recognize their capacity to either positively or negatively affect student motivation (Brophy, 2004). Parsons (2004) defined teacher encouragement as behavior used to express supportiveness and stated that it is a necessary requirement for student academic success. Research results indicate that students' views of encouraging teachers gave them a sense of belonging, which leads to increased academic effort (Mansfield, 2001).

Research by Good and Brophy (1974), and Walberg (1984) found questioning and teachers' reactions to students' responses are key factors in the interaction that occur between teachers and students. Furthermore, Carlsen (1991) and Anderson (1992) reported that questions have been shown to be an integral part of learning and therefore, inquiries created by the teachers may be used as indicators of the quality of teaching. Still, another dimension of communication observed by many students is that of controlling communication. Given that students benefit when teachers support learner's autonomy but suffer when instructors control their behavior, one might expect that teachers would commonly enact autonomy-supportive instructional behavior and rarely enact controlling ones (Reeve, 2009). The conclusion seems to be that teachers often adopt a controlling motivating style during instruction. Reeve maintained that this is a problem because controlling communication is associated with negative student functioning whereas the less commonly enacted autonomy-supporting communication is associated with positive performance.

3. Purpose

This research sought to determine the extent to which teacher communication is related to students' motivation to complete courses designated as historically difficult (i.e., ALHS 1011- Anatomy and Physiology, ELCR 1010-Direct Current Circuits and COMP 1000- Introduction to Computers).

4. Method

Survey research was employed to collect data in the effort to examine the relationship between teacher communication and student motivation. Six hypotheses were tested. Hypotheses one through five relate to the association between teacher communication and student motivation, while the sixth relates to the five communication dimensions and student motivation. The hypotheses were:

Ho₁: There is no relationship between teachers' challenging communication and student motivation.

Ho₂: There is no relationship between teachers' encouragement and praise and student motivation.

Ho₃: There is no relationship between teachers' non-verbal support and student motivation.

Ho₄: There is no relationship between teachers' understanding and friendly communication and student motivation.

Ho₅: There is no relationship between teachers' controlling communication and student motivation.

4.1 Sampling and Sampling Procedures

The population of interest included 1,250 students enrolled in computer information systems, electronics, and health technology courses at New Vision Technical College. Purposeful sampling was utilized and participants were drawn from 302 students enrolled in COMP 1000, Introduction to Computers; ELCR 1010, Direct Currents; and ALHS 1011, Anatomy and Physiology. Thirty-seven were from Introduction to Computers, 17, Direct Currents, and 32 from Anatomy and Physiology. All participants were enrolled in at least one of the three classes in the Summer 2013 semester. A statistical power analysis was performed using the G*Power (Version 3.1) computer program to determine the required sample size. For the power analysis, two-tailed tests, an alpha level of .05, desired power of .80, and medium effect sizes were specified.

The inferential tests performed were Spearman correlations and logistic regression analysis. In order to achieve power of .80 with a medium effect size of $\rho = .30$, 82 participants were required for the Spearman correlation analysis.

4.2 Instrumentation

Communication was the predictor variable and student motivation was the criterion variable. Teacher communication data were collected using the Teacher Communication Behavior Questionnaire (TCBQ). The TCBQ has five demographic items that reveal gender, class status, major, achieved academic grade, and teacher of record.

The TCBQ is comprised of 40 items organized in five communication dimensions, Challenging, Encouragement and Praise, Non Verbal Support, Understanding and Friendly, and Controlling. The TCBQ collects data on the frequency of teacher communication behaviors over the length of a course as perceived by students. Participants rated each perceived communication behavior on a five-point Likert type scale. The response options were 1 = *almost never*, 2 = *seldom*, 3 = *sometimes*, 4 = *often*, to 5 = *almost always*. Total scores on each of the five communication dimensions were calculated as the sum of the responses to the corresponding items. As composite scores based on a combination of Likert-type scale items, the five scores from the TCBQ were treated as ordinal-level data. There are eight items on each scale and the composite scores range from 8 to 40. Low scores indicate low levels of the variable and high scores indicate high levels of the variable. Example, for the Challenging Communication scale, a score near 8 indicates minimal if any challenging communication occurring. A score near 40 indicates substantial challenging communication transpiring.

Student motivation data were collected using the Student Opinion Survey (SOS), which consists of eight items on a five-point Likert type scale and response options, 1 = *strongly disagree*, 2 = *seldom*, 3 = *sometimes*, 4 = *often* and 5 = *strongly agree*. Overall motivation scores were derived from the sum of the responses to the eight items after reverse-scoring for items three, four, seven and nine because of negative wording. The overall motivation score ranged from 8 (very low motivation) to 40 (very high motivation). The SOS is an efficient means for evaluating task motivation because its items are aligned to the theoretical dimensions of effort and importance. The SOS was developed to measure motivation as a construct and has been applied to student learning, low-stakes testing, and task completion (Waskiewicz, 2011, 2012; Thelk, Sundre, Horst & Finney, 2009).

She and Fisher (2000) reported Cronbach's alpha internal consistency reliability coefficients ranging from .86 to .93 for the five communication dimensions. Validity of the SOS was determined using confirmatory factor analysis. The SOS items were constructed to incorporate theoretical groundwork associated with value, as well as effort, which is the amount of mental fortitude a student is willing to exert in response to test items and task completion.

4.3 Data Analysis

The Statistical Package for the Social Sciences (SPSS, Version 18.0) was used for all analyses. Initially, descriptive statistics were computed for the demographic and background variables consisting of frequencies and percentages for the categorical variables and ranges, mode and median for the continuous variables. Descriptive statistics were computed for TCBQ and SOS scores, including Cronbach's alpha internal consistency reliability coefficients, ranges, means, and standard deviations. Inferential and nonparametric analyses were performed to test the null hypotheses. All inferential analyses were performed using two-tailed tests and an alpha level of .05. Spearman correlations were used to test the hypotheses. In addition to the Spearman correlations, a supplemental analysis was performed consisting of a logistic regression with the five teacher communication scales from the TCBQ as predictors of Motivation from the SOS. Multicollinearity was examined and none of the predictors correlated higher than .90, because of the assumption that would have measured the same construct and one of the two predictors would have been excluded from the logistic regression analysis.

5. Results

Descriptive statistics for the measures of communication from the TCBQ and student satisfaction from the SOS are shown in Table 1. Cronbach's alpha reliability coefficients were computed for each of the six composite variables. For the five TCBQ scales, reliability coefficients ranged from .85 for the Controlling Communication scale to .96 for the Nonverbal Support Communication scale. Scores on the Motivation scale from the SOS had a reliability coefficient of .78. Based on the analysis of reliability, it was concluded that all six composite

Table 1: Descriptive Statistics for Communication and Student Motivation Variables

Variable	Items	Range	A	
Challenging Communication	8	10.00	40.00	.92
Encouraging and Praise Communication	8	8.00	40.00	.92
Non Verbal Support Communication	8	8.00	40.00	.96
Understanding and Friendly Communication	8	19.00	40.00	.87
Controlling Communication	8	17.00	40.00	.85
Student Motivation	10	15.00	50.00	.78

Variables used in hypotheses tests demonstrated adequate reliability. Table 2 shows that motivation scores were positively correlated with Challenging Communication scores ($r_s = .30, p = .005$), Encouragement and Praise Communication scores ($r_s = .28, p = .009$), Nonverbal Support Communication scores ($r_s = .35, p = .001$), and Understanding and Friendly Communication scores ($r_s = .24, p = .026$). Therefore, H_{01} , H_{02} , H_{03} , and H_{04} were rejected and it was concluded that there was positive relationships between motivation and Challenging, Encouragement and Praise, Nonverbal Support, and Understanding and Friendly communication. Higher motivation was associated with higher levels of Challenging, Encouragement and Praise, Nonverbal Support, Understanding and Friendly Communication as shown in Table 2. However, motivation scores were not correlated with Controlling Communication scores ($r_s = .12, p = .291$). Therefore, a decision was made to fail to reject H_{05} and it was concluded that there was no relationship between Controlling Communication scores and Motivation scores. H_{06} was tested using logistic regression with the five teacher communication scales from the TCBO as predictors of Motivation scores from the SOS. Logistic regression requires a dichotomous outcome variable, therefore scores from the Motivation scale were dichotomized via a median split with scores of 41 and below in the low motivation group 53.5% ($n = 46$), and scores of 42 or higher in the high motivation group, 46.5% ($n = 40$). Multicollinearity was examined but none of the pairs of predictors correlated higher than .90 (see Table 3) and therefore all five communication scales were used in the logistic regression analysis.

Table 3 shows the results from the logistic regression analysis. The model as a whole was not statistically significant, model $\chi^2(5) = 8.75, p = .120$; Cox & Snell $R^2 = .10$, Nagelkerke $R^2 = .13$, percentage correctly classified = 61.6%.

Table 2: Spearman Correlations between Communication Scores and Student Motivation Scores

Variable	1.	2.	3.	4.	5.	6.
1.Challenging Communication						
2. Encouraging and Praise Communication	.71*					
3. Non Verbal Support Communication	.65*	.74*				
4.Understanding and Friendly Communication	.62*	.46*	.41*			
5. Controlling Communication	.53*	.32*	.30*	.54*		
6. Student Motivation	.30*	.28*	.35*	.24*	.12	

* $p < .05$

Table 3: Results from Binary Logistic Regression Analysis

Variable	<i>B</i>	<i>SE_B</i>	Wald	<i>Df</i>	<i>P</i>	Exp(<i>B</i>)
Challenging Communication	-.09	.07	1.47	1	.225	.92
Encouraging and Praise Communication	.04	.05	.57	1	.449	1.04
Non Verbal Support Communication	.05	.04	1.69	1	.194	1.05
Understanding and Friendly Communication	.10	.08	1.90	1	.168	1.11
Controlling Communication	.01	.05	.04	1	.833	1.01
Constant	-4.12	2.19	3.54	1	.060	.02

Notes. Model $\chi^2(5) = 8.75$, $p = .120$; Cox & Snell $R^2 = .10$, Nagelkerke $R^2 = .13$, percentage correctly classified = 61.6%.

6. Conclusion

Study results showed a positive correlation between teacher communication and student motivation for four communication dimensions (challenging, non-verbal support, understanding and friendly, encouragement and praise). There was not a positive correlation between controlling communication and student motivation. Vansteenkiste, Simons, Lens, Soenens, Matos and Lacante's (2004) research revealed that a student's driving force is an important aspect of the learning process. Other researchers have concluded that instructors are the main motivators for student success. The teacher communication discussed in this research is supported in the literature as predictive of student motivation. Specifically, Corbett and Wilson (2002) described good teachers as that those who: (a) controlled classroom, (b) showed willingness to help students whenever and however the learner desired assistance, (c) explained assignments and content clearly, (d) varied the classroom routine, and (e) took the time to get to know the students and their circumstances. Corbett, et al. found that teachers employing these techniques were able to improved student learning and motivation.

Relative to the low strength of correlation with each of the communication dimensions and student motivation, it was noted that participants were enrolled in courses that have been identified as historically difficult based on data that indicates less than a 70% pass rate. Results from analyses indicated that teachers' communication is positively correlated with student motivation to complete courses when communications dimensions are correlated individually. These positive correlations confirm the importance of communication as a contributing factor in students' success. The positive correlation between teachers' communication, challenging, non-verbal support, understanding and friendly behavior, encouragement and praise, teachers and student motivation is information that can be shared with teachers at New Vision Technical College in an effort to influence course completion rates. Moreover, although the results are specific to New Vision Technical College, there is potential for transferability to other technical colleges because the outcomes inform technical college teachers about communication and its influence on student motivation.

Research about the effect of teacher communication and the impact on student motivation at the technical college level is limited. Given the priority of the Technical College System of Georgia, the need for technical colleges to demonstrate a 75% completion and graduation rate to provide for an additional 54,000 graduates by 2020, the results of this research add to the body of knowledge base of technical college students motivation and teacher communication. This research focused solely on technical colleges and adult learners. Technical colleges are primary providers of business and industry workforce needs. Utilization of these results in technical college teachers' professional develop could influence the completion rates of students in the historically difficult to complete courses, and positively impact the supply and demand equation for the Technical College System of Georgia.

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