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Instructional communication scholars examine three different types of learning outcomes: cognitive learning, affective learning, and behavioral learning. Cognitive and affective learning have been more substantially researched (Messman & Jones-Corley, 2001; McCroskey & McCroskey, 2006; Whitt, Wheeless, & Allen, 2004) in comparison to the limited general and communication-based literature examining behavioral learning (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956; Krathwohl, Bloom, & Masia, 1964; Mottet & Beebe, 2006). Behavioral learning is more complex to evaluate because it requires careful attention to targeted skill sets and criterion-based grading in a demonstration format (Mottet & Beebe, 2006; Stitt, Simonds, & Hunt, 2003). However, behavioral learning outcomes have recently received more explicit recognition in revised models of student learning (Krathwohl, 2002). This paper explores how indicators of student course engagement, student dispositions, and student demographics influence instructors’ evaluations of students’ skill development and behavioral learning in the basic course.
Krathwohl (2002) expanded and revised Bloom et al.'s original (1956) taxonomy of learning by identifying two dimensions, knowledge and cognition. The taxonomy was revised so that the updated framework incorporates all activities and objectives that may occur in any kind of course. Instructional strategies target four different types of knowledge: factual, conceptual, procedural, and meta-cognitive (Krathwohl, 2002). The revised cognitive dimensions are to remember, to understand, to apply, to analyze, to evaluate, and to create. The final and most complex cognitive domain, creating some sort of original product as an effective demonstration of their cognitive learning, addresses students’ integration and synthesis capabilities of course materials (Krathwohl, 2002). As such, the revised final cognitive domain incorporates behavioral learning of students’ mastery of course materials as some sort of product or outcome versus simple memorization or routine articulation of course facts.

One of the greatest concerns among program administrators of the basic course is maintaining consistency across multiple sections of the basic course (Morreale, Hugenberg, & Worley, 2006). Stitt et al. (2003) studied the impact of instructor training of speech grading and consistency of behavioral evaluations in the basic course. Greater evaluation fidelity increased with identification, diagnosis, training, and discussion of expectations for each part of a public speech in a group format before grading. Thus, multiple raters of a basic course can accurately and reliably evaluate students’ verbal competency and demonstration of effective public speaking.
The current study follows Stitt et al.’s (2003) approach of assessing students’ public speaking behavioral competency. We therefore extend the literature on behavioral assessment in public speaking by examining how student attributes in three areas (course engagement factors, dispositions, and demographics) affect students’ ability to enact effective public speaking behaviors for three public speeches over the course of a semester. Increased understanding of how these factors impact behavioral learning outcomes is needed because “everyday, hundreds of thousands of college students enter a basic communication course classroom” (Morreale et al., 2006, p. 415) and we do not know enough about public-speaking behavioral-based assessments (Bloom et al., 1956; Helsel & Hogg, 2006; Mottet & Beebe, 2006).

**REVIEW OF LITERATURE**

For purposes of this study, we group student attributes into three categories: possible indicators of course engagement (homework and class preparation, previous public speaking experience, and writing skills); dispositions (perceived value of classroom attendance, motivation, affective learning, critical thinking, communication apprehension, willingness to communicate, and self-esteem); and demographics (biological sex, other family members with college degrees, number of class credits attempted, and employment status). We examine these attributes’ ability to predict a student’s public speaking grade average in the basic public speaking course.
Determining the relationships among learners’ class engagement, academic performance, and academic achievement provides an assessment of how a variety of commonly examined factors impact students’ public speaking behaviors as an integrated or holistic approach. Nist and Simpson (2000) identify a successful student as someone who can manage the entire learning environment. Frymier (2005) recently showed “students’ communication effectiveness was positively associated with positive learning outcomes” (p. 197). In her study, students’ self-reports of their interaction involvement was positively related to their course grades. This review of literature will outline reasons indicators of students’ course engagement factors, dispositions, and demographic characteristics, may affect instructors’ trained evaluations of public speaking behaviors.

**Course Engagement**

For the purposes of this study, we employ a broad definition of potential course engagement consistent with Coates (2005), who describes the scope of student engagement as concern about “the extent to which students are engaging in a range of educational activities that research has shown as likely to lead to high quality learning” (p. 26). Coates details how student engagement can be individually based through examining either student- or instructor-based characteristics or treated as an interactive construct. In either situation, the focus of student engagement centers on anything that prepares students for, or creates greater student involvement in, a high quality learning environment. As such, we argue that student behaviors outside of class,
Completing homework and thinking about the course materials, their previous public speaking experience, and their writing skills, all serve as possible indicators of student engagement.

Handelsman, Briggs, Sullivan, and Towler (2005) observe that both definitions and measurement of engagement are limited, especially at the college level. While they note that it is a multidimensional construct, they concur that the specific dimensions have not been identified. After reviewing several different elements of engagement, they created the Course Engagement Questionnaire, which included four factors: skill engagement, emotional engagement, participation/interaction engagement, and performance engagement. While not a perfect fit, we believe that students' preparation for class, their decision to engage in public speaking before taking the course, and their writing skills can be viewed as skill engagement, participation/interaction engagement, and performance engagement.

**Homework and classroom preparation.** Despite changing social moods toward homework, homework generally exerts a positive influence on academic achievement (Cooper, Robinson, & Patall, 2006). Warton (2001) notes homework has consistently been associated with academic learning, student responsibility, learning autonomy, and effective time management. She adds, however, that systematic investigations on the students’ perspectives about homework are lacking.

Scholars have used both deductive and quasi-experimental methods to study public speaking preparation. Smith and Frymier (2006) found students who practiced with an audience achieved higher evaluations.
than did those who did not practice with an audience. Menzel and Carrell (1994) determined grade point average, total preparation time, number of rehearsals for an audience, and state communication anxiety predicted the quality of a speech performance. Pearson and her colleagues (Pearson, Child, & Kahl, 2006; Pearson & Child, 2008) studied the influence of preparation time on public speaking grades and found greater preparation time, particularly focusing on both contemplative and actual practice, predicted higher speech grades.

Prior public speaking experience. A student’s prior experience with public speaking and forensic activities should predict higher public speaking grades. Rubin, Graham, and Mignerey (1990) found that students who engage in extracurricular communication experiences are more competent on a number of measures. Similarly, Pearson and Child (2008) determined that public speaking experience positively influenced college students’ public speaking grades. Furthermore, the simple act of watching and critiquing fellow students’ speeches prior to giving a speech has also been found to improve students’ own public speaking skills (Semlak, 2008).

Writing skills. Writing skills should be related to public speaking skills, as evaluations of both share certain elements, such as correct grammar, expressive language, and appropriate organization (Dunbar, Brooks, & Kubicka-Miller, 2006). The necessity of recognizing writing skills’ importance is supported by the perspective of many college students, who feel they were insufficiently prepared for college writing standards (Fitzhugh, 2006). Just as engagement with course materials should predict higher evaluations of public speaking performance, pre-existing student attitudes and disposi-
tions should affect students’ performance in the basic course.

**Student Dispositions**

*Perceived value of classroom attendance.* Some college teachers require class attendance, while others do not. For most students, attending class leads to positive outcomes including higher academic achievement (Moore, 2005). Clump, Bauer, and Whiteleather (2003) point out that the relationship between class attendance and cognitive understanding remains strong, even though students can now gain access to much classroom information without attending class.

*Student motivation.* As a global concept, motivation is “an internal state that arouses, directs, and sustains human behavior” (Glynn, Aultman, & Owens, 2005, p. 150). Specifically in the academic environment, student motivation refers to student’s desire to learn, evaluation of learning activities as worthwhile, and committed work toward achieving individual learning goals (Martin, 2001). Thus, student motivation is essential to learning (Braten & Olausen, 2005; Linnenbrink, 2005; Yeung & McInerney, 2005), and affects the chances for student success in both distance and traditional classrooms (Carneiro, 2006).

*Affective learning.* Students’ general attitudes, as well as attitudes toward a particular class, may affect their motivation to learn, and consequently, may influence academic performance (Doyle & Garland, 2001; Kearny, 1994; Mollet & Harrison, 2007; Witt & Schrodt, 2006). Affective learning reflects an overall attitude and is not influenced by isolated classroom specifics, such as
workload demands (Mottet, Parker-Raley, Beebe, & Cunningham, 2007). Examining students’ affect for their public speaking course provides a more holistic view of their general attitudes about the specific classroom context and environment.

Critical thinking. Critical thinking is defined as a purposeful and reasoned use of cognitive skills or strategies directed toward achieving a certain goal (Halpern, 1999). In its application, critical thinking is, “The kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions” (Halpern, 1999, p. 70). Meta-analytical research supports that communication exercises in the classroom, especially forensics, lead to an increase in critical thinking abilities (Allen, Berkowitz, Hunt, & Louden, 1999; Berkowitz, 2006). Public speaking grades might be related to students’ self-perceived critical thinking skills.

Communication apprehension. Communication apprehension (CA) may affect classroom performance, particularly in the basic public speaking course, which requires high levels of verbal communication. Communication apprehension is positively related to objective measures of academic success (Ayres, 1996; Butler, Pyrro, & Marti, 2004; Pearson et al., 2006), negatively related to communication competence, communication skill, and positive affect for a course (McCroskey & Beatty, 1999). Furthermore, students with higher self-perceptions of CA expect to achieve lower academic outcomes than do those with either moderate or low levels of CA (O’Mara, Allen, Long, & Judd, 1996).

Unwillingness to communicate. Unwillingness to communicate occurs when an individual finds little
value in, or avoids, verbal communication (Burgoon, 1976). While teacher behaviors may increase or decrease students’ willingness to communicate (Menzel & Carrell, 1999; Mottet, Martin, & Myers, 2004), student motivation to communicate is guided by five reasons: relational reasons, sycophantic reasons, functional reasons, to fulfill participation goals, and to make excuses (Martin, Myers, & Mottet, 1999). Willingness to communicate may also be reflected in the extent of college students’ extracurricular involvement. Rubin et al. (1990) found students who were involved in extracurricular activities, especially in leadership roles, and who had communication classes in high school earned overall higher grade point averages than students who had fewer communication experiences. In general, students who seek out and find communicating with others more rewarding overall, may have higher public speaking grade averages.

Self-esteem. College student’s self-esteem is positively related to the frequency of interaction with students and instructors (Clifton, Perry, Stubbs, & Roberts, 2004). In addition, self-esteem and academic achievement are related (Clifton et al., 2004; Thompson & Perry, 2005; van Laar, 2000); even though a causal direction has not been demonstrated. Thus, academic achievement might influence levels of self-esteem, which may in turn affect students’ academic performance and achievement. After testing the influence of course engagement factors and student dispositional characteristics, we examine the impact of several student demographic characteristics on public speaking grades.
**Demographics**

*Biological sex and education.* Over thirty years ago, researchers noted that males and females demonstrate differences in abilities and achievements. Summarizing some of the major conclusions about differences between the sexes, Maccoby and Jacklin (1974) note: (a) girls exceed boys in most aspects of verbal ability during the preschool and early school years; (b) girls consistently receive higher grades than boys through the school years—even in subjects in which boys earn higher scores on standard achievement tests; and (c) after leaving school, the situation reverses, as men excel on all measures of intellectual achievement. Today, the situation is roughly the same. Girls demonstrate greater literacy skills than boys in early childhood education (Ready, Logerfo, Burkam, & Lee, 2005). Women continue to achieve more than men in college (Cook, 2006; Manzo, 2004), including in basic public speaking courses (Pearson, 1991; Pearson, Carmon, Child, & Semlak, 2008; Pearson & Child, 2008).

*Other family members with college degrees.* Pike and Kuh (2005) found first-generation college students tend to be less involved in campus life and take fewer course credits than students whose parents both have undergraduate degrees. First-generation students receive lower grades on average than their counterparts whose family members have graduated from college (Pascarella, Pierson, Wolniak, & Terenzini, 2004). Due to the extant research, many universities and colleges provide additional academic support services specifically designed to assist first-generation college students to succeed in college.
Number of class credits. Students who attempt more class credits achieve higher cumulative grade point averages (Jackson, Weiss, Lundquist, & Hooper, 2003). In addition, students who attempt more credit hours have higher gains in reading comprehension than students who attempt fewer credit hours (Bray, Pascarella, & Pierson, 2004). Motivated students who take full course loads, and complete college in a timely manner appear to have higher grade point averages than do students who do not take full course loads.

Job status. College students’ job status does not show clear relationships with grade point averages. Kulm and Cramer (2006) found student grade point averages negatively correlated with employment. Alternatively, Chee, Pino, and Smith (2005) determined that employment has a differential effect for women and men; women who worked had higher grade point averages than men who worked.

In this study we examine the attributes of the student which may lead to his or her learning, including course engagement, student disposition, and demographic characteristics. This study is unique in that the effects of several student- and course-related factors on public speaking grades are simultaneously and incrementally examined. The study seeks to understand if the prediction of public speaking grades from simple demographic characteristics will be diminished, or eliminated, by first controlling for several factors, which are indicative of the holistic learning environment. Therefore, the following two research questions guide the study:

RQ1: Will course engagement characteristics and dispositional factors incrementally improve
the prediction of higher public speaking grades?

**RQ2:** Will controlling for both course engagement characteristics and dispositional factors reduce the prediction of higher public speaking grades from demographic characteristics?

**METHOD**

**Participants**

Seven hundred and nine students enrolled in the basic public speaking course participated in this study. Four hundred fifty students were enrolled at a midsize, Midwestern university. Of students surveyed at the first site, 219 (49%) were male, 230 (51%) were female. Included were 310 first-year students (69%), 96 sophomores (21%), 28 juniors (6%), and 16 seniors (4%). The self-reported cumulative grade point average of participants at this location was 3.2 (SD = .58) with an average ACT score of 24 (SD = 3.63).

Two hundred fifty-nine students (36.5%) were enrolled at a large, Midwestern university. Of students surveyed at the second site, 125 (48%) were male and 134 (52%) were female. This portion of the sample consisted of 243 first-year students (94%), six sophomores (2%), seven juniors (3%), and three seniors (1%). The self-reported cumulative grade point average of participants at this location was 2.8 (SD = .78) with an average ACT score of 23 (SD = 4.36).

T-tests were conducted to determine if significant differences existed among the continuous variables
among participants from the two study locations. Two of the independent variables and the dependent variable were significantly different. Given that two of the independent variables and the dependent variable were significantly different, the survey site location variable was dummy coded and controlled in the first step of the hierarchical multiple regression to eliminate any differences in public speaking grades based on the data collection site.

**Procedures**

Data were collected from 25 sections of the basic public speaking course at a midsize, Midwestern university and from 13 sections of the basic public speaking course at a large, Midwestern university. The study included 38 sections of basic public speaking courses taught by a variety of instructors reflecting a diverse sample from the two universities. Course instructors were contacted three weeks into the spring 2006 semester. Data were collected intentionally during the middle of the semester to allow students familiarity with the syllabus, the course content, and the instructor. Collecting data at this time reduced attrition in the study, as the speech assignment grades and data collected at the end of the semester spanned the entire course of the semester. One of the researchers asked participants to complete a 120-item questionnaire and to provide a writing sample. The completion of the questionnaire took between 20 and 25 minutes.

At the end of the semester, the instructors of the 38 sections provided researchers with the number of points each participant earned on each speech assignment.
This information was used to compute a percentage of points earned for each speech and one overall speech grade average for the semester. Student ID numbers were used throughout the procedure to maintain confidentiality. Approximately 30 surveys were not used because there was no match between initial survey participation and final grade. This may be due to students dropping the course, illegible writing, or survey fatigue.

Measures

Dependent speech grade average. Over the course of the semester, students gave three speeches. The grade given, as a total of the points earned out of the total possible, on each speech was used to compute a total speech grade average for each participant. The first two speeches were informative presentations and the final speech was an actuation persuasive speech. Overall, participants maintained a B speech grade average ($M = 86.6$, $SD = 7.2$).

Time spent completing homework. Students answered one question on a five-point scale pertaining to the amount of time spent completing homework. Overall, participants felt the amount of time spent completing homework for classes was close to sufficient ($M = 2.81$; $SD = .76$).

Prior public speaking experience. Students answered one question about their previous public speaking experience including participating in high school public speaking events, activity on their high school debate team, or participating in public speaking activities with organizations or groups such as FFA, 4H, or church or religious groups. The question was arrayed on a seven-
point scale. The responses to the question were normally distributed and the sample reflected close to moderate experience in students’ overall previous public speaking experience ($M = 3.57; SD = 1.43$).

**Writing competence.** From the sample, 386 individuals (54% of the participants) completed a writing assessment. To measure writing competence, one writing prompt was selected from the Graduate Record Examination (GRE) pool of practice topic writing prompts. To evaluate writing scores, the authors then modified the essay scoring guide provided by the Scholastic Aptitude Test (SAT), a familiar college entrance examination$^1$.

To evaluate writing competence, two members of the research team first worked together with 25 writing samples to evaluate writing scores together, talking through each writing sample to determine the appropriate score. Then, to determine initial intercoder reliability, both evaluators separately coded 50 writing samples, achieving a collective Cohen’s Kappa value of .89. After establishing reliability, the two writing evaluators each separately coded approximately half of the remaining writing samples. Finally, to determine concluding intercoder reliability, the two writing coders each evaluated the final 50 writing samples at the end of the study, earning a collective Cohen’s Kappa value of .91, with reliabilities falling between .86 and 1.0. Of those who completed the writing assessment, 70 individuals (18%) scored a one, 168 individuals (44%) scored a two, 99 individuals (25%) scored a three, 38 individuals (10%) scored a four, and 11 individuals (3%) scored a five.$^2$ Overall, participants’ writing scores were slightly below average to the theoretical mid-point of the instrument ($M = 2.21, SD = 1.12$).
Perceived value of classroom attendance. Students answered five items pertaining to perceptions of classroom attendance. Sample questions included, “Attending class sessions is important to mastering the course goals and objectives,” and “Class attendance is a priority.” Responses were on a five-point scale ranging from “strongly disagree” to “strongly agree.” Negatively worded items were reverse coded and the five items were averaged and used to create a composite score for perceived value of classroom attendance ($a = .74$, $M = 3.68$, $SD = .74$).

Student motivation scale. Students answered sixteen questions related to their feelings about the particular public speaking class in which they were enrolled. Responses were on a seven-point semantic differential scale. The measure is consistent with items used by Christophel (1990) and Richmond (1990). The items were averaged, used as a composite score for student motivation, and maintained excellent reliability ($a = .93$, $M = 4.28$, $SD = 1.05$).

Affective learning. Students answered twenty questions about their attitudes toward their specific public speaking course, the course content, and the instructor. In addition to determining student attitudes about the class, the survey also measured students’ intended behaviors for engaging in strategies recommended in the course and their likelihood of taking more courses focused on similar content areas. The responses were on a seven-point semantic differential scale developed by Andersen (1979). The affective learning measure maintained excellent reliability ($a = .90$, $M = 4.92$, $SD = .86$).

Critical thinking self-assessment. Students responded to seventeen items designed to assess their
overall critical thinking skills. Participants answered questions including “After reading or hearing someone’s line of argument on an issue, I can give an accurate, detailed summary of how the line of argument went,” and “I enjoy thinking through an issue and coming up with strong arguments about it.” Responses were on a five-point scale ranging from “never” to “always.” The seventeen items were summed to provide a composite measure for critical thinking and the instrument maintained excellent reliability ($\alpha = .90$, $M = 60.02$, $SD = 8.92$).

Personal report of communication apprehension (PRCA). Students completed McCroskey’s (1970; 1978) measure of trait-like communication apprehension (PRCA-24). The instrument measures communication apprehension in public, small group, meeting, and interpersonal contexts. Previous research indicates the PRCA-24 has an alpha reliability ranging from .93 to .95. The 24 items maintained excellent reliability and participants overall scores to the PRCA-24 reflected moderate communication apprehension ($\alpha = .94$, $M = 67.09$, $SD = 16.25$).

Unwillingness to communicate. Students answered twenty items developed by Burgoon (1976) to measure an individual’s inclination of avoiding communication encounters or situations. The responses were on a seven-point Likert scale from “strongly disagree” to “strongly agree.” The unwillingness to communicate scale contains two dimensions. The first dimension contains items reflecting an individual’s likelihood of participating in communication encounters, or approach-avoidance. Higher scores reflect greater desire to approach communication encounters. The second dimension contains items assessing the perceived value, or
rewarding nature, of communication. The ten approach-avoidance items were averaged and maintained excellent reliability (α = .86, M = 4.39, SD = 1.07) as did the reward items (α = .84, M = 5.40, SD = 0.93).

**Self-esteem.** Students completed the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). The ten items included statements such as “On the whole, I am satisfied with myself” and “I feel that I am a person of worth, at least on an equal plane with others.” Responses were on a five-point scale ranging from “strongly disagree” to “strongly agree.” Negatively worded items were recoded and the ten items were averaged. A higher score on the RSE reflects higher perceived self-esteem by a participant. The measure maintained excellent reliability (α = .88, M = 3.86; SD = .70).

**Demographic characteristics.** Participants answered four demographic questions: if anyone in a participants’ family had completed a four-year degree, the current number of credits taken, if the student had a job or not, and biological sex. Close to three-quarters of the sample (n = 508, 72%), had someone in their immediate family who had obtained a four-year college degree. On average, participants were enrolled in 16 credits during the semester of the study (M = 15.6, SD = 2.35). Two hundred and six participants (29%) said they did not work while going to school, 188 participants (27%) maintained a job while going to school, and 315 participants (44%) chose not to answer the question about working while attending school.
A four-step hierarchical multiple regression was used to test the two research questions of this study. This technique was used to determine how the addition of course engagement characteristics, dispositional factors, and demographic factors incrementally improve the prediction of public speaking grades. The first three steps in the regression answer research question one while the final step answers research question two.

In step one, the survey site was entered into the regression to eliminate any variance in public speaking grades due to data collection location. In step two, the three course engagement variables (time spent completing homework, prior public speaking experience, and writing competence) were entered. In step three, the seven dispositional factors (perceived value of classroom attendance, student motivation, affective learning, critical thinking self-assessment, personal report of communication apprehension, two dimensions of unwillingness to communicate, and self-esteem) were entered. In step four, four demographic characteristics (four-year degree in family, number of credits taken currently, if the student maintained a job and biological sex) were added.

Participants who did not answer all of the questions for each measure were excluded pairwise from the regression analysis. Categorical questions (family members with a four year degree, maintaining a job through school or not, and biological sex), were each dummy coded with ones and zeros in order to be included in the regression analysis.
RESULTS

Table 1 displays the correlations between the variables, the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), the semi-partial correlations (sr²), and R, R², and adjusted R² after entry of all independent variables, and the overall R = .43, F (16, 327) = 4.62, p < .001. After step one, with the survey site entered into the regression equation, the overall R² = .08, F (1, 342) = 30.90, p < .001. Therefore, the first step in the regression equation indicates that the survey site location explains roughly eight percent of the variance in public speaking grades (β = -.28, t (708) = -5.35, p < .001). Participants at the first survey site had higher public speaking grades than individuals at the second survey site.

After step two with the three course engagement variables added into the equation, while controlling for survey site, the overall R² = .13, Δ R² < .05, Finc (3, 339) = 6.42, p < .001. Two of the three course engagement variables were significant as main effects in the second step of the regression equation. In particular, the amount of time students spent weekly completing homework for all of their classes was positively related to higher speech grade averages (β = .13, t (409) = 2.59, p < .01) and writing competency was also positively related to speech grade averages (β = .17, t (385) = 3.27, p < .001). Overall, the second step in the regression demonstrates that course engagement factors result in a significant increment in R².

After step three, with the seven dispositional factors added to the regression equation, the overall R² = .15, Δ R² = .022, Finc (8, 331) = 1.07, p = .384. Therefore,
knowledge of several dispositions, including a participants perceived value toward class attendance, course motivation, affective learning, critical thinking self-assessment, personal report of communication apprehension, unwillingness to communicate, and self-esteem, did not result in a significant increment in \( R^2 \). Thus, none of the factors resulted in students obtaining higher speech grade averages.

In step four, when the four demographic characteristics were added to the regression equation, and controlling for all of the factors in the previous three steps, the overall \( R^2 = .18 \) (adjusted \( R^2 = .15 \)), \( \Delta R^2 = .03 \), \( F_{inc} (4, 327) = 3.03, p < .05 \). In the final equation the only demographic characteristic which was positively related to speech grade averages as a main effect was biological sex (\( \beta = .17, t (707) = 3.16, p < .01 \)). In particular, women (\( M = 88.03, SD = 6.65 \)) had higher speech grade averages than did men (\( M = 85.13, SD = 7.30 \)). In the final regression equation, the other factors significant in the first and second steps remained significant as well (see Table 1).

Research question one asks if course engagement characteristics and dispositional factors incrementally improve the prediction of higher public speaking grade averages. Results of the hierarchical multiple regression support that after controlling for the sites of the survey, course engagement characteristics, specifically writing competency and the total amount of weekly time students spend doing homework for their classes, uniquely explain five percent of the variance in public speaking grade averages. However, several of the hypothesized dispositions were not related to higher public speaking grade averages.
### Table 1
**Hierarchical Multiple Regression of Speech Grade Average after the Final Step with All Variables in the Model**

| Variables                  | DV | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   |
|----------------------------|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Step 1 (Glimpse of Survey) |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|   1. Likelihood            |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2. Homework                |    | .19  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3. Peer Exp.               |    | .05  | .03  | .10  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 4. Writing                 |    | .13  | .14  | .01  | .10  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Step 2 (Dispositional Factors) |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|   5. Attendance            |    | .10  | .01  | .08  | .06  | .06  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 6. Motivation              |    | .07  | .03  | .20  | .19  | .07  | .23  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 7. A. Learning             |    | .03  | .04  | .14  | .16  | .07  | .26  | .89  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 8. C. Thinking             |    | -01  | .06  | .09  | .38  | .06  | .03  | .07  | .14  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 9. Cmns App                |    | .01  | .01  | .03  | .42  | .01  | .10  | .28  | .20  | .34  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 10. Apptitude              |    | .05  | .01  | .06  | .33  | .04  | .00  | .29  | .17  | .27  | .72  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 11. Reward                 |    | .00  | .05  | .07  | .08  | .09  | .10  | .17  | .20  | .17  | .09  | .36  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 12. Self-Efficence         |    | .07  | .07  | .06  | .08  | .05  | .17  | .14  | .23  | .26  | .21  | .33  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Step 3 (Demographic Characteristics) |    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 13. 4-yr degree            |    | .01  | .02  | .02  | .09  | .03  | .04  | .01  | .01  | .26  | .08  | .04  | .01  | .02  |      |      |      |      |      |      |      |      |      |      |      |      |
| 14. Credits taken          |    | .11  | .12  | .10  | .24  | .05  | .02  | .03  | .33  | .05  | .01  | .01  | .09  | .05  | .08  |      |      |      |      |      |      |      |      |      |      |      |
| 15. Work Exp               |    | .06  | .15  | .06  | .36  | .05  | .10  | .01  | .02  | .02  | .01  | .00  | .01  | .01  | .17  | .02  | .01  | .01  | .17  | .02  | .01  | .01  |      |      |      |      |

**Note:** The *R^2* value for a hierarchical multiple regression denotes the increase in unique variance explained with the addition of the added variables beyond the unique variance explained from the previous steps. *p<.05, **p<.01
The second research question asked if the impact of demographic characteristics, particularly biological sex, would be eliminated when the variance explained by both course engagement and dispositional factors has been removed. Results of the final step in the hierarchical multiple regression support that biological sex uniquely explains three percent additional variance in public speaking grade averages when the variance explained by twelve other variables has been removed.

**DISCUSSION**

Public speaking classes are recommended or required at almost every college and university. At the same time, we know too little about how students succeed in these courses. This study sought to extend our knowledge on behavioral assessment in public speaking by examining how student attributes in three areas (course engagement factors, dispositions, and demographics) affect students’ ability to enact effective public speaking. We summarize our results here.

**Course Engagement**

*Homework and classroom preparation.* Students apparently know if they are spending adequate time doing homework. Students who felt they spent sufficient time doing homework achieved higher grades than those who felt they spent insufficient time doing homework. These findings are consistent with other research demonstrating homework and course preparation exerts a positive influence on academic achievement, and influ-
The findings are also consistent with studies of public speaking preparation (Menzel & Carrell, 1994; Pearson et al., 2006; Pearson & Child, 2008).

**Prior public speaking experience.** Prior speaking experience was not related to public speaking grades. This finding may be comforting to college students who come to college without the opportunity to engage in public speaking before attending college. Yet, the finding is not consistent with earlier research suggesting prior public speaking experience predicts higher public speaking grades (Pearson & Child, 2008; Rubin et al., 1990).

However, the lack of impact of prior public speaking experiences on current behavioral assessments deserves greater scrutiny. Students who have prior public speaking experience as defined in this study (high school public speaking or debate activities or participating in public speaking activities within organizations) may have learned or been practicing an entirely different style of public speaking which was not useful in their college public speaking course. Students of the current study were required to develop speeches that were highly conversational, audience-centered, and developed with the utmost content scrutiny. Some students’ previous forensic and extra-curricular public speaking experiences may have emphasized the form of public address without as careful attention to the conversational delivery style or the credibility of information utilized that occurs in a college public speaking course. Without a better understanding of the quality or style of training that occurred in conjunction with students’ previous public speaking activities, little is known about the relevance and applicability of such
previous experiences to the behavioral learning outcomes expected in their public speaking course.

The current study relied on a single Likert-type item which measured the frequency of previous public speaking experience activities. Perhaps a more detailed and refined measurement of previous public speaking experience and training would have yielded different results. Future research may want to consider the optimal assessment of high quality previous public speaking experiences.

**Writing skills.** Students judged as better writers were also judged to be better speakers. Both writing competence and public speaking competence were measured with teachers’ assessments of student skills. Teachers’ assessments across contexts may be more reliable than establishing relations between teachers’ assessments (public speaking grades) and students’ self-reports (all of the measures in this study with the exception of writing competence).

The connection between writing and speaking skills encourages the development of combined speaking and writing programs as recommended by Avery and Bryan (2001). Their approach involves “grammar and language awareness, stylistic analyses and creative writing/rewriting, oral presentations and effective seminar participation, and writing for academic purposes” (p. 175). Similarly, these findings encourage the continued support and development of Writing Across the Curriculum programs (Hoffman Beyer & Gillmore, 2007; Manzo, 2003). Such programs, stressing the importance of writing and speaking about written assignments, hit on two key components predictive of enhanced skill development in the basic course.
Student Dispositions

Perceived value of class attendance. The perceived value of classroom attendance was not related to students' grades. While actual attendance was not measured, the perceived importance of attendance was not shown to impact the achievement of higher public speaking grades. For most students, actual class attendance leads to positive outcomes including higher academic achievement (Clump, Bauer, & Whiteleather, 2003; Gump, 2005; Moore, 2005). However, students may attend class for a variety of reasons, including requirements, and still not find it valuable. These data indicate students may not value class attendance, but may still perform well.

Perhaps the lack of significant connection between students' perceptions of classroom attendance and final course grade is a call to action for teachers to demonstrate the importance of attending class to their students. How do classroom lectures, activities, and interactions go beyond the textbook and other written materials provided to students? How does class attendance relate to online courses or materials that are available online? In the increasingly technological university, classroom attendance may be passé, and face-to-face education may seem outdated to students who are accustomed to the digital exchange of information. Such questions are appropriate avenues for future research.

Student motivation. Although students report different levels of motivation, student motivation was not related to public speaking grades. Student motivation is essential to learning (Braten & Olaussen, 2005; Linnenbrink, 2005; Yeung & McInerney, 2005), affecting the chances for student success in both distance and tradi-
tional classrooms (Carneiro, 2006). Spitzberg’s model (Spitzberg, 2006; Spitzberg & Cupach, 1984; Spitzberg & Hecht, 1984) of communication competence includes motivation, knowledge, and skills. Although students may be highly motivated, they might not have the requisite knowledge or skills to be judged as competent public speakers. This study’s more holistic view of communication competence may explain why motivation alone did not predict higher public speaking grades.

**Affective learning.** Students who reported greater affective learning did not achieve higher public speaking grades. Common popular bromides suggest “you can be anything you want.” However, feeling good about a course is not sufficient to receive higher public speaking grades. This lack of significance parallels the finding on motivation. Predispositions may be insufficient to forecast public speaking competence. This research conclusion supports the notion that quantity of communication is not always associated with the quality or effectiveness of information communicated.

**Critical thinking.** Students’ assessments of their own critical thinking skills were not related to their public speaking grades. This finding may simply result from the reality that self-reports are not completely reliable indicators of actual ability and behavior. Critical thinking has been viewed as important in the college setting for nearly three decades (Halpern, 1999) and many colleges and universities view critical thinking as central to the collegiate experience (Royse, 2001). Meta-analyses link communication activities in the classroom to critical thinking abilities (Allen et al., 1999; Berkowitz, 2006).
Communication apprehension. Students’ reports of their communication apprehension were not related to their public speaking grades. Self-perceptions are not necessarily realized in behavior. If students can control their anxiety, partly because of their public speaking class, they can achieve scores similar to those with lower communication apprehension. The students’ reports of communication apprehension were determined at the beginning of the academic term, while their public speaking grades spanned the entire semester. The student’s high communication apprehension scores may have reduced as the semester progressed and more speaking assignments were completed. Nonetheless, this finding is counter-intuitive to previous research (Ayres, 1996; Daly, Caughlin, & Stafford, 1989).

Unwillingness to communicate. Similarly to communication apprehension, unwillingness to communicate was not related to public speaking grades. Students’ unwillingness of participating in communication and their perception of communication as non-rewarding does not result in lower public speaking grades.

Self-esteem. Students who have lower self-esteem or who are dissatisfied with themselves do not receive lower public speaking grades. Previous research is ambiguous: a direct connection between self-esteem and grade point average has been demonstrated (Eldred, Dutton, Snowdon, & Ward, 2005; Thompson & Perry, 2005), as has been a more complex relationship (van Laar, 2000). Questioning the positive relationship, Clifton et al. (2004) found that men have higher self-esteem than women, but females earn higher academic scores than males.
The age of the majority of current college students may also explain why there is no significant connection between self-esteem and public speaking grades. Most of the students in this investigation were from the millennial generation and consequently grew up surrounded by digital media. Millennials tend to be sociable, optimistic, achievement-oriented, and have positive views of themselves (Child, Pearson, & Amundson, 2007; Hoffman, Novak, & Venkatesh, 2004). These perceptions are not necessarily enacted in their behavior.

**Demographic Characteristics**

With the exception of biological sex, the demographic characteristics measured in this study (biological sex, family members with college degrees, number of class credits in which they are currently enrolled, and job status) were not significantly related to public speaking grades. Women achieved higher public speaking grades than did men. This finding is consistent with past research (Pearson, 1991; Pearson et al., 2008; Pearson & Child, 2008) and is particularly noteworthy since the effects of course engagement and student dispositional constructs were removed before biological sex was examined.

Women continue to receive higher public speaking scores regardless of course engagement and dispositional factors of students. Women appear to have better written and oral communication skills (Cook, 2006; Maccoby & Jacklin, 1974; Manzo, 2004; Ready et al, 2005). Women also want to please others more than do men and generally, have more positive dispositions and
achieve higher grade point averages than men (Clifton, 1997; Conley, 2001).

**Practical Implications**

This study provides several suggestions for basic course instructors and directors. Based upon the above results, focusing on writing within an oral communication course, as well as finding ways for students to spend more time on their homework, may improve student grades in a basic communication course. First, this study illustrates strong writing skills are important for student success in the basic communication course. While many basic communication courses require students to develop outlines for their speaking assignments, a variety of other public-communication focused writing assessments exist. Simple assignments, including an analysis of a televised speech, a reaction paper to course experiences, or a description of how course concepts apply to real life, are a few assignments which require students to engage in course content while writing (Jones, Simonds, & Hunt, 2006). Writing assignments, when used in conjunction with course content, likely help students improve their writing abilities while improving overall course grades.

A second implication of this study focuses on students who spend more time completing their homework assignments may earn higher overall course grades. While increased time spent generating topic ideas, constructing a formal speech outline, and rehearsing delivery lead to higher overall speech grades (Pearson et al., 2006), it is difficult for instructors to monitor the actual amount of time spent on homework. However, basic
course instructors and directors could develop assignments to help students focus on course content outside of class time. One possibility, an application essay, asks students to identify how course content applies to their lives, forcing students to think about course content outside of class (Jones et al., 2006). Additionally, service learning assignments increase learning outcomes (Novak, Markey, & Allen, 2007) and encourage application of course material to out-of-class experiences (Ahlfeldt, 2009). While the application essay and service learning projects, and other assignments designed to encourage student engagement in course content outside of the classroom, do not directly require students to increase the amount of time they spend on their homework, they do encourage students to think about what they are learning.

Limitations

This study included a number of limitations. First, nothing is known about the characteristics of the classroom teachers. Similarly, the study did not capture any data about instructor attempts at influencing the classroom climate or culture. As the variance in public speaking grades remains only partially explained, instructor-student dynamics and student-student dynamics offer areas for further exploration. Course grades might not be objective evaluations of students’ mastery and understanding of the subject matter. The classroom environment affects both students and instructors. Feeley (2002) notes a halo effect in student evaluations of public speaking instructors. Similarly, a
classroom dynamic halo effect may be influencing teachers’ evaluations of students.

Most of the measures in this investigation (except for the writing and the speaking assessments) are based on students’ perceptions and self-reports. They may not necessarily be related to the students’ actual behaviors. The one exception is the writing scores, evaluated by college teachers who were members of the research team. The significant relationship between the writing scores and the public speaking scores may be partly due to the way these scores were measured. As the overall amount of variance in student grades explained in this study was small, there are likely many more variables which influence overall student grades. These factors may come from within the model of course engagement, student dispositions, and demographic characteristics, or from external factors.

Although the study included fifteen variables, other communication constructs may be salient in understanding public speaking grades. In addition, some of the constructs could be measured in alternative ways. For example, actual attendance could have been measured as opposed to the perceptions of the importance of attendance. Job status was measured only by asking if students were working or were not working, not by asking about the number of hours per week they were employed.

The grouping of the fifteen variables could also be questioned. While we provide arguments for the three overarching dimensions examined (possible indicators of course engagement, dispositions, and demographic characteristics), others may view these variables differently. For example, some researchers may view previous
public speaking experience as a demographic factor. Another theorist may suggest that writing skills are not an indication of engagement.

Finally, grade inflation and the small amount of dispersion of grades make the finding of differences very difficult in the basic public speaking course. When most students are being given high grades and grades with little deviation, researchers cannot hope to find significant differences on many measures. Future research should examine the way in which grade inflation is handled by different communication programs.

**Future Research**

The characteristics of the teacher and the course should be simultaneously studied with the characteristics of the student. The complex interactions among teachers, students, and the course are difficult to measure and understand, but are probably essential in a thoughtful pursuit of a model which explains course outcomes, including public speaking grading patterns. The Heisenberg Principle from quantum mechanics suggests that we can only measure the position or the movement of a particle at any one point in time. As we add multiple variables to the model, measurement becomes more difficult. Newer statistical methods may help us solve these riddles.

Variation in the focus of the basic course from campus to campus necessitates greater ongoing research and assessment about communication-based learning outcomes. The participants of this study were enrolled in basic communication courses which focus on encouraging critical thinking skills. Other basic communica-
tion courses focus on differing types of engagement, service learning, and Speaking Across the Curriculum programs. Comparing student outcomes of different instructional foci may shed light upon strategies which may increase student learning. Empirical reports describing and assessing the behavioral impact of various approaches to teaching the basic course are critical given the budgetary constraints on many college and university campuses and the increasing need to demonstrate how our programs are enriching students' current lives and future career opportunities.

The evolution of the basic public speaking course today which incorporates more online learning with more technology-savvy student has also created more need for ongoing behavioral and skill assessment. An increasing variety of basic communication courses are being offered in hybrid or online formats. What happens to course engagement factors, student disposition, and learning outcomes when the course is increasingly facilitated through digital technology? This question is particularly interesting as the millennials populate the public speaking classroom with their familiarity of, and fondness for, electronic communication (Child, Pearson, & Amundson, 2007). The basic public speaking course is evolving and the population within it is shifting. Although researchers have amassed a great deal of knowledge about the traditional basic public speaking course, in some ways that course is an historical artifact. Future communication research must continue to uncover contemporary classroom methods, and researchers must look forward as well as to the past.

Future research should also look at the relationships among teachers' perceptions of students' abilities in a
variety of areas, not only writing and speaking, but students’ ability to build arguments; their knowledge of world events, history, and culture; and their understanding of, and sensitivity to, other people. Public speaking abilities are comprised of student’s compositional abilities, their critical and creative thinking, their knowledge of the world, and their understanding of other human beings. Public speaking is complex and comprehensive and perhaps difficult to manage in a variable-analytic paradigm.

CONCLUSION

The basic public speaking course is an important context for instructional communication researchers. Determining the relationships among learners’ attributes and academic performance provides a description of an effective student. In this study, we turned our attention to three sets of student attributes including course engagement, dispositions, and demographics. This study demonstrated that preparation time, writing competency, and biological sex explain differences in public speaking grades.

Although biological sex does not explain a large amount of variance, the strength of this demographic variable is evident when the influences of twelve other variables are removed. In an ideal world, demographic characteristics would not hold so much sway. Instructional communication researchers must continue to understand the effects of biological sex on assessment, even if variance related to biological sex is relatively small.
The specifics of communication and assessment in the public speaking classroom are changing in today’s digital information age. Nevertheless, Spitzberg’s (1991) observation of competent communication as a combination of knowledge, motivation, and skills probably remains valid. For many students in a variety of majors, the basic public speaking course provides the primary academic context for developing such competency. Therefore, especially in an age of increasing importance of effective public speaking skills, the basic course demands our attention as researchers, as instructors, and as course developers. This investigation provides a starting point for assessing how several communication constructs impact students’ public speaking skill development as reflected in grade assessments of their speeches.

**ENDNOTES**

1The final rubric used to evaluate writing samples, sample writing scores, actual student responses, and an explanation of the evaluation for this study is available from the first author.

2A score of one was the worst score one could achieve while a five was the best score.
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