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Public Speaking versus Hybrid Introductory Communication Courses: Exploring Four Outcomes

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Abstract

The purpose of this study was to compare student growth in public speaking and hybrid introductory communication skills courses on four outcomes: public speaking anxiety, self-perceived communication competence, intercultural effectiveness, and connected classroom climate. This study also sought to find out whether there were differences in the achievement of outcomes and growth in each outcome by sex and ethnicity. Data from 908 participants utilized a within-subjects and between-subjects repeat measures design. Results showed that public speaking and hybrid communication courses reduced public speaking anxiety and increased self-perceived communication competence and connected classroom climate a similar amount, but did not significantly increase intercultural effectiveness for students overall. Small effects were found for sex on all outcomes and for ethnicity on two outcomes.

Keywords: Basic Communication Course, Public Speaking Anxiety, Communication Competence, Intercultural Communication Effectiveness, Connected Classroom Climate

Public Speaking versus Hybrid Introductory Communication Courses: Exploring Four Outcomes

College and university students today face a growing need for the development of strong communication skills. Oral communication skills have been identified by Hart Research Associates (2015) as one of the most important skills that employers indicate should receive more emphasis in college (85% of those surveyed), followed by ability to work in teams (83%), and written communication skills (82%). Additionally, 96% of employers agreed or strongly agreed that “All college students should have educational experiences that teach them how to solve problems with people whose views are different from their own” (Hart Research Associates, 2015, p. 3). Each of these skills is specifically targeted in the introductory communication skills course that meets a general education requirement on most campuses.

The most recent national survey of the introductory communication course (also known as the basic course) found that the two most popular courses at surveyed two- and four-year schools were public speaking (61%) and hybrid courses (27%) that include interpersonal, group, and public speaking skills. These have been the two most popular versions of the introductory communication skills course taught for the past 40 years (Morreale, Myers, Backlund, & Simonds, 2015). Research has shown that public speaking courses can reduce public speaking anxiety and communication apprehension (Broeckelman-Post & Hosek, 2014; Hunter, Westwick, & Haleta, 2014), increase perceptions of connected classroom climate in some contexts (Broeckelman-Post & Hosek, 2014; Broeckelman-Post, Titsworth, & Brazeal, 2011), and have mixed results for increasing self-perceived communication competence (Suwinyattichaiorn & Broeckelman-Post, 2016; Westwick, Hunter, & Haleta, 2016). Another

study demonstrated that the public speaking unit in a hybrid basic communication course successfully increased student public speaking competency (Farris, Houser, & Wotipka, 2013). However, little or no research has been conducted to compare the effectiveness of the two most popular forms of the introductory communication skills course in achieving different types of communication outcomes, nor has research been conducted to evaluate whether introductory communication skills courses have similar impacts for all groups of students.

The purpose of this study is to assess the degree to which public speaking versus hybrid introductory communication courses impact four communication outcomes: public speaking anxiety, communication competence, intercultural effectiveness, and connected classroom climate. Additionally, this study will help to provide a data point for the initial exploration of potential benchmarks for expected growth in each of these outcomes and will evaluate whether there are achievement gaps in these four outcomes based on sex or ethnicity.

Introductory Communication Course Outcomes

Though public speaking anxiety and communication competence have often been assessed as outcomes of introductory public speaking courses (e.g., Hunter et al., 2014; Suwiniyattichaiorn & Broeckelman-Post, 2016; Westwick et al., 2016), these measures only partially address the goals of a hybrid communication course. Measures of public speaking anxiety and communication competence are focused on the individual's level of confidence in a variety of communication situations, including the public speaking, interpersonal, and small group communication contexts that are typically the focus of a hybrid communication course. However, these measures do not clearly address an individual's level of confidence or skills when communicating with diverse others, nor do they measure whether students are enacting the interpersonal and small group communication skills with one another as they learn the skills

together in the classroom context. Since existing research has not yet evaluated the reduction of public speaking anxiety and enhancement of communication competence in hybrid communication courses, this study will use those measures in order to allow for a comparison of public speaking and hybrid communication courses on these outcomes.

This study will complement public speaking anxiety and communication competence measures with a measure of intercultural effectiveness. Intercultural effectiveness is an important component of communication competence that reflects the ability to communicate effectively with diverse partners in a variety of contexts and is an important communication outcome in an increasingly diverse, global society.

Additionally, this study will complement these three self-perception measures with a measure of how well the entire class is enacting effective communication practices. Because connected classroom climate is a product of whether students feel connected to and supported by their classmates, it can serve as a measure of how well an entire community of students is already practicing effective interpersonal, intercultural, and group communication skills within a diverse classroom context. Together, these four measures allow us to evaluate the degree to which public speaking and hybrid courses are helping students meet outcomes by examining their perceptions of their own communication skills as well as the communication skills of their classmates.

Public Speaking Anxiety

Public speaking anxiety (PSA) is defined as “situation-specific social anxiety that arises from the real or anticipated enactment of an oral presentation” (Bodie, 2010, p. 72). There are two types of PSA: state PSA, which is experienced in a specific time and setting, and trait PSA, which is anxiety experienced across communication contexts (Spielberger, 1966). PSA is a

context-specific type of communication apprehension (CA), which is defined as “an individual’s level of fear or anxiety associated with either real or anticipated communication with another person or persons” (McCroskey & Richmond, 2006, p. 55). Trait CA and PSA are biologically based and nearly impossible to change (Beatty et al., 2011; McCroskey, 2009), and state CA and PSA cannot be completely mitigated since they are at least partly influenced by trait CA and PSA (Harris, Sawyer, & Behnke, 2006).

In the past, researchers have successfully reduced state PSA through cognitive modification, habituation, performance feedback, systematic desensitization, communication-orientation modification therapy (COM therapy), skills training, and specially designed courses (Bodie, 2010; Finn, Sawyer, & Schrodt, 2009; McCroskey, 2009). In addition to the negative physiological, cognitive, and behavioral effects that result from PSA during public speaking situations (Bodie, 2010), high levels of CA are also related to lower GPAs and higher college drop-out rates (McCroskey, Booth-Butterfield, & Payne, 1989; Rubin, Rubin, & Jordan, 1997). This makes the reduction of PSA an important outcome for introductory communication skills courses. Previous research on the introductory communication skills course has shown that public speaking courses can reduce PSA (Broeckelman-Post & Hosek, 2014; Hunter et al., 2014; Rubin et al., 1997; Suwinyattichaiorn & Broeckelman-Post, 2016), but research has not yet been conducted to find out whether a hybrid communication skills course can also reduce PSA. While it is likely that both courses will reduce PSA, we hypothesize that public speaking courses will reduce PSA more than hybrid courses because public speaking courses include more opportunities to give formal speeches, and thus are likely to offer more systematic desensitization. Thus, we propose the following hypotheses:

H_{1a}: Students who complete a public speaking or hybrid communication skills course experience a decrease in PSA.

H_{1b}: Students who complete a public speaking course experience a greater decrease in PSA than students who complete a hybrid communication skills course.

Communication Competence

Communication competence (CC) is a subjective judgment of the quality of communication and is generally believed to have two dimensions: appropriateness, which is “the perceived legitimacy or acceptability of behavior or enactments in a particular context,” (Spitzberg, 2015, p. 241) and effectiveness, which is “the relative degree to which preferred alternative outcomes are achieved by behavior or enactments” (p. 241). Because competence is context-based, researchers have struggled to develop competence measures that can be used across contexts (Keyton, 2015), so introductory communication course assessment research has typically relied on self-report measures, such as those developed by Rubin (1982) and McCroskey and McCroskey (1988), or a rarer combination of self- and peer-report surveys (Spitzberg, 2011). Research has shown that public speaking courses increase students’ self-perceived communication competence (SPCC) in face-to-face courses, but not necessarily in fully online courses (Rubin et. al, 1997; Suwinyattichaiorn & Broeckelman-Post, 2016; Westwick et al., 2016). Additionally, SPCC has typically been negatively correlated with CA (Rubin et al., 1997; Suwinyattichaiorn & Broeckelman-Post, 2016), so it is reasonable to expect that both public speaking and hybrid courses should increase SPCC, but that hybrid courses might yield greater increases in SPCC since they emphasize skills development in multiple communication contexts, so we propose the following hypotheses:

H_{2a}: Students who complete a public speaking or hybrid communication skills course experience an increase in SPCC.

H_{2b}: Students who complete a hybrid communication skills course experience a greater increase in SPCC than students who complete a public speaking course.

Intercultural Effectiveness

One component of communication competence is intercultural communication competence (ICC). Like CC, ICC is comprised of the dimensions of appropriateness and effectiveness (Spitzberg, 1997). Much of the early research in ICC included lists of skills, abilities, and attitudes that were important for interacting with culturally different others (Spitzberg, 1989; 1997) or described dimensions that could be used to categorize and understand other cultures (Hall, 1976; Hofstede & Hofstede, 2013). More recently, Ting-Toomey and Dorjee (2015) offered an integrative model for intercultural-intergroup communication competence that includes a mindfulness of culture-sensitive and identity-sensitive knowledge, developing an ethnorelative mindset and open-hearted attitudes, and intercultural-intergroup communication skillsets. Though many measures have been developed for ICC and intercultural effectiveness (IE), Bradford, Allen, and Beisser (2000) conducted a meta-analysis of 71 manuscripts and concluded that measures of both constructs performed the same way in previous empirical studies, so for research purposes, measures of ICC and IE can be used interchangeably.

Even though effective intercultural communication skills have not traditionally been thought of as a primary outcome of the introductory communication skills course, those skills are already embedded as an element in some of the Core Communication Competencies for Introductory Communication Courses identified by the National Communication Association, such as “Monitoring and Presenting Yourself,” “Practicing Communication Ethics,” and

“Adapting to Others” (Ward et al., 2014). Furthermore, 96% of employers agreed or strongly agreed that “All college students should have educational experiences that teach them how to solve problems with people whose views are different from their own” (Hart Research Associates, 2015, p. 3), yet over the past few years, the headlines have been filled with stories about intercultural and co-cultural conflicts and racial tensions across U.S. campuses. In the most recent survey of the introductory communication course, culture and diversity was listed as one of the most commonly taught topics for which the textbooks used do not yet include a chapter (Morreale, et al., 2015), suggesting that this topic is already being treated as an important outcome in many introductory communication course programs. Though both courses allow students to interact with and learn from culturally different classmates, hybrid courses that include training in multiple communication contexts might have a stronger impact on IE than public speaking courses, so we pose the following hypotheses:

H_{3a}: Students who complete a public speaking or hybrid communication skills course experience an increase in IE.

H_{3b}: Students who complete a hybrid communication skills course experience a greater increase in IE than students who complete a public speaking course.

Connected Classroom Climate

Connected Classroom Climate (CCC) is defined as “student-to-student perceptions of a supportive and cooperative communication environment in the classroom” (Dwyer et al., 2004, p. 267), and is characterized by a sense of belongingness, social support, and connection within a classroom community. Students who feel more connected to their classmates are more likely to prepare for and speak up in class (Sidelinger & Booth-Butterfield, 2010) and are more likely to persist toward graduation (Meeuwisse, Severiens, & Born, 2010). Previous research has shown

that instructors can facilitate a more positive classroom climate by using affinity-seeking strategies (Myers, 1995), using confirmation behaviors (Sidelinger & Booth-Butterfield, 2010), using slang (Mazer & Hunt, 2008), using nonverbal immediacy (Johnson, 2009), and by not using verbal aggressiveness (Myers & Rocca, 2001). Additionally, developing opportunities for increased peer interactions, such as peer workshops, have already been shown to increase perceptions of connected classroom climate in public speaking classes (Broeckelman-Post & Hosek, 2014; Broeckelman-Post et al., 2011). Since increased CCC should be a result of using effective interpersonal, intercultural, and small group communication skills in the classroom context, it can serve as a measure of how well students are using those skills. Because hybrid classes include a specific emphasis on building interpersonal relationships and group communication skills that are important aspects of creating a positive climate, we posit the following hypotheses:

H_{4a}: Students who complete a public speaking or hybrid communication skills course experience an increase in CCC.

H_{4b}: Students who complete a hybrid communication skills course experience a greater increase in perceived CCC than students who complete a public speaking course.

Sex and Ethnicity

Because social expectations, constraints, and power relations impact the experiences of groups of individuals differently due to gender, ethnicity, and other demographic variables in any communication interaction context (Stier, 2006), and since previous research has shown that female students have higher levels of public speaking anxiety than do males at the beginning of a public speaking course (Hunter et al., 2014), we propose the following hypotheses:

H_{5a}: There is a difference in the amount that males and females decrease PSA and increase SPCC, IE, and CCC in introductory communication courses.

H_{5b}: There is a difference in the amount that males and females decrease PSA and increase SPCC, IE, and CCC in public speaking versus hybrid introductory communication courses.

H_{6a}: There is a difference in the amount that student of different ethnicities decrease PSA and increase SPCC, IE, and CCC in introductory communication courses.

H_{6b}: There is a difference in the amount that student of different ethnicities decrease PSA and increase SPCC, IE, and CCC in public speaking versus hybrid introductory communication courses.

Method

Participants and Context

A total of 908 students participated in this study. All students who were enrolled in either of the two face-to-face introductory communication courses that meet the oral communication general education requirement at a diverse, large public university on the east coast of the United States were invited to participate in this study and were asked to complete a pre- and post-course survey as a course assignment. These courses included a public speaking course and a hybrid introduction to communication course that included foundations of communication, interpersonal communication, public speaking, and small group communication. Both courses also included a unit on culture and diversity in communication with an associated textbook chapter, though the assignment and textbook chapter were different for each course.

Of the 1873 participants who were enrolled in the introductory courses, 1481 completed the pre-survey, and 1104 completed the post-survey. Because some demographic groups were

too small to test for differences, sex and ethnic groups that had less than 25 participants were removed prior to conducting analysis. Of the remaining participants, 460 (51%) were enrolled in public speaking and 448 (49%) were enrolled in the hybrid course. Of those students, 58% ($N = 522$) were female and 41% ($N = 373$) were male. The mean age of participants was 19.1 years. For ethnicity, 51% ($N = 443$) of participants reported that they were White or Caucasian, 24% ($N = 205$) were Asian, 11% ($N = 94$) were Black or African American, 9% ($N = 75$) were Hispanic or Latino, and 5% ($N = 49$) were more than one. For year in school, 62% ($N = 560$) of participants were freshmen, 24% ($N = 216$) were sophomores, 9% ($N = 84$) were juniors, 5% ($N = 46$) were seniors, and 0.2% ($N = 2$) were non-degree seeking students.

Procedures

All students in the class were required to complete an online pre-survey and post-survey as a course assignment, which included four course outcome measures and demographic items. The pre-survey was available during the first two weeks of the semester, and the post-survey was available during the last two weeks of the semester. The pre-survey and post-survey data were matched at an individual student level, and students who selected to opt out of having their data included in research analyses were deleted from the data set prior to analysis, per IRB instructions.

Instrumentation

Public speaking anxiety. Public speaking anxiety was measured using the Personal Report of Public Speaking Anxiety (McCroskey, 1970), which measures anxiety specifically in public speaking contexts. This scale includes 34 items measured on a 5-point Likert scale. This scale includes items such as “I get anxious when I think about a speech coming up” and “I do poorer on speeches because I am anxious.” This scale typically has a reliability of $\alpha = .90$

(McCroskey, 2005), and in this study, this scale had a reliability of $\alpha = .96$ in the pre-test and $\alpha = .95$ in the post-test.

Communication competence. Communication competence was measured using McCroskey and McCroskey's (1988) Self-Perceived Communication Competence Measure. This scale includes 12 items measured on a 100-point scale ranging from 0 = completely incompetent to 100 = competent. This scale includes items such as "Talk with an acquaintance" and "Present a talk to a group of friends." This measure typically has reliability above $\alpha = .85$ (McCroskey, 2005), and in this study, the scale had a reliability of $\alpha = .95$ in the pre-survey and $\alpha = .84$ in the post-survey.

Intercultural effectiveness. Intercultural effectiveness (IE) was measured using Portalla and Chen's (2010) Intercultural Effectiveness Scale. IE is defined as "the behavioral aspect of intercultural communication competence" (p. 22) and includes six different dimensions: behavioral flexibility, interaction relaxation, interactant respect, message skills, identity maintenance, and interaction management. This scale includes items such as "I find it easy to talk with people from different cultures" and "I find it easy to identify with my culturally different counterparts during our interaction." The Intercultural Effectiveness Scale includes 20 items on a 5-point Likert Scale and has a reported reliability of $\alpha = .85$ (Portalla & Chen, 2010). In this study, the overall reliability for the full measure was $\alpha = .87$ in the pre-test and $\alpha = .88$ in the post-test.

Connected classroom climate. Connected classroom climate was measured using Dwyer et al.'s (2004) Connected Classroom Climate Inventory, which measures perceptions of connectedness among students in a university classroom. This scale includes 18 items that are measured using a 5-point Likert scale. This scale includes items such as "The students in my

class are supportive of one another” and “I feel a strong bond with my classmates.” This scale was originally reported as having an overall reliability of $\alpha = .94$ (Dwyer et al., 2004), and in this study, the scale had a reliability of $\alpha = .93$ in the pre-survey and $\alpha = .97$ in the post-survey.

Results

In order to reduce the family-wise inflation of alpha, a within-subjects MANOVA was conducted to determine whether there were changes in PSA, SPCC, IE, and CCC as a result of taking an introductory communication skills course, as well as to assess whether those effects differed by sex, ethnicity, and course type. Box’s Test for the Equality of Covariance Matrices was significant, $F = 1.20$, $p < .001$, so Pillai’s Trace values were used (Mertler & Vannatta, 2005).

Multivariate Tests. Multivariate tests showed that there were between-subjects effects for sex [$F(4, 735) = 5.12$, $p < .001$, $\eta_p^2 = .03$, power = .97] and ethnicity [$F(16, 2952) = 1.68$, $p < .05$, $\eta_p^2 = .01$, power = .93], but not for course type [$F(4, 735) = .45$, $p > .05$, power = .16]. There were no between-subjects interaction effects. Multivariate tests also showed that there were within-subjects effects for time [$F(4, 735) = 66.39$, $p < .001$, $\eta_p^2 = .27$, power = 1.0] and for time-by-ethnicity [$F(16, 2952) = 1.76$, $p < .05$, $\eta_p^2 = .01$, power = .95].

Effects by Course

To test Hypotheses 1-4, univariate between-subjects effects for course and within-subjects effects for time and course-by-time were examined. Between-subjects effects for course were not significant for any of the four outcome variables, which indicates that there is no difference in the overall levels of any of the outcome variables in the public speaking versus the hybrid introductory communication course. Within-subjects effects for time were significant for PSA [$F(1, 738) = 192.79$, $p < .001$, $\eta_p^2 = .21$, power = 1.0], SPCC [$F(1, 738) = 38.66$, $p < .001$,

$\eta_p^2 = .05$, power = 1.0], and CCC [$F(1, 738) = 110.64$, $p < .001$, $\eta_p^2 = .13$, power = 1.0], but not IE [$F(1, 738) = 3.4$, $p > .05$, power = .45]. Within-subjects effects for course-by-time were not significant for any of the outcome variables. These results show that students in both public speaking and hybrid introductory communication courses experienced a significant decline in PSA and a significant increase in SPCC and CCC, but no significant change in IE, so H_{1a} , H_{2a} , and H_{4a} were supported, but H_{3a} was not supported. However, there is no significant difference between public speaking and hybrid introductory courses in the degree to which they impact PSA, SPCC, IE, and CCC, so H_{1b} , H_{2b} , H_{3b} , and H_{4b} were not supported. Means, standard deviations, and the percent of change in scores are shown in Table 1.

<<INSERT TABLE 1 HERE>>

Effects by Sex

To test H_{5a} and H_{5b} , between-subjects effects for course-by-sex and sex, and within-subjects effect for time-by-course-by-sex and for time-by-sex were examined for each of the four outcome variables. Between-subjects effects for sex were significant for PSA [$F(1, 738) = 16.05$, $p < .001$, $\eta_p^2 = .02$, power = .98] and for SPCC [$F(1, 738) = 4.28$, $p < .05$, $\eta_p^2 = .01$, power = .54], but not for IE [$F(1, 738) = .75$, $p > .05$, power = .14] or CCC [$F(1, 738) = .42$, $p > .05$, power = .10]. None of the between-subjects effect for sex-by-course were significant, nor were the within-subjects effects for time-by-course-by-sex. However, within-subjects effects for time-by-sex were significant for CCC [$F(1, 738) = 5.49$, $p < .05$, $\eta_p^2 = .01$, power = .65] and for IE [$F(1, 738) = 4.24$, $p < .05$, $\eta_p^2 = .01$, power = .54]. Even though the degree of change for males and females was the same for PSA and SPCC, females had higher PSA (Figure 1) and lower SPCC (Figure 2) than males. Females experienced greater growth in CCC than males (Figure 3). While males had similar levels in IE at the beginning and end of the course, females

experienced significant gains in IE (Figure 4). H_{5a} was supported for all four outcomes, but H_{5b} was not supported for any of the outcomes.

<<INSERT FIGURES 1-4 HERE>>

Effects by Ethnicity

To test H_{6a} and H_{6b} , between-subjects effects for course-by-ethnicity and ethnicity, and within-subjects effect for time-by-course-by-ethnicity and for time-by-ethnicity were examined for each of the four outcome variables. Significant between-subjects effects for course-by-ethnicity were found for SPCC [$F(1, 738) = 3.83, p < .01, \eta_p^2 = .02, \text{power} = .90$], but not for the other outcome variables. Significant between-subjects effects for ethnicity were found for CCC [$F(1, 738) = 2.41, p < .05, \eta_p^2 = .01, \text{power} = .70$], but not for the other outcome variables. No within-subjects effects were found for time-by-course-by-ethnicity, but there was a significant effect for time-by-ethnicity for SPCC [$F(1, 738) = 3.48, p < .01, \eta_p^2 = .02, \text{power} = .86$]. Tukey Post Hoc tests and an examination of profile plots reveals that overall, Black or African American students have the lowest levels of SPCC of all ethnic groups and have statistically lower SPCC than White or Caucasian students. Furthermore, while all groups experienced an increase in SPCC in the hybrid course (Figure 5), Black or African American students actually experience a slight decrease in SPCC after taking a public speaking course (Figure 6), as opposed to the increase in SPCC experienced by all other ethnic groups. Additionally, while Asian students had the highest levels of SPCC in the hybrid course, they began with the lowest levels of SPCC in the public speaking course. For Connected Classroom Climate, students who identified themselves as having more than one ethnicity had higher gains in CCC and higher overall levels of CCC at the end of the semester than other students. H_{6a} was supported for CCC, and H_{6b} was supported for SPCC. These differences, while significant, were small.

<<INSERT FIGURES 5-7 HERE>>

Additional Finding: Abbreviated Intercultural Effectiveness Scale

Before conducting the analysis, reliabilities for the overall scale and subscales for the IE measure were run using the pre-test data, and some of the subscale reliabilities were low to moderate, ranging from $\alpha = .29$ to $\alpha = .91$.¹ Because the original study developing and validating this measure reported that these six factors accounted for only 42% of the total variance (Portalla & Chen, 2010), not the recommended 70% (Stevens, 2002), an Exploratory Factor Analysis was conducted and revealed that three potential factors only accounted for 44% of the total variance in the scale, which suggests that this measure should be treated as unidimensional scale.

However, reliability analyses and correlations suggest that the items that loaded onto the first suggested factor comprise an appropriate abbreviated eight-item measure of Intercultural Effectiveness. This eight-item measure had a reliability of $\alpha = .86$ in the pre-survey and $\alpha = .89$ in the post-survey, which are similar to the reliabilities found for the full 20-item measure. The correlations between the full and abbreviated measures were very high (.89 for the pre-survey and .85 for the post-survey), and the correlations between each of the outcome variables and the full and abbreviated Intercultural Effectiveness measures very similar (see Table 2). Table 3 shows the items that were retained for the Abbreviated Intercultural Effectiveness Scale. Future research should further investigate the reliability and validity of this Abbreviated Intercultural Effectiveness Scale so that it can be considered as an option for future studies, particularly for long surveys in which respondent fatigue might be a concern.

<<INSERT TABLE 2 HERE>>

<<INSERT TABLE 3 HERE>>

Discussion

Overall Course Outcomes

This study found that both public speaking and hybrid communication skills courses decrease public speaking anxiety (H_{1a}), increase self-perceived communication competence (H_{2a}), and increase connected classroom climate (H_{4a}), but do not significantly increase intercultural effectiveness for students overall (H_{3a}). There was no significant difference in the impact of these courses when all students were considered together as a group, so on the surface, this finding suggests that either course format can be equally effective in meeting communication skills outcomes. Considering that the two most popular communication skills courses that meet general education requirements on most campuses fit one of these two formats (Morreale et al., 2015), this finding adds further reinforcement to support existing campus practices. It is especially notable that hybrid and public speaking courses have the same effect on PSA and SPCC since, anecdotally, arguments about the reduction of PSA or the increase in communication skills across contexts are often the rationale for requiring one type of class over another. Unfortunately, lack of significant results for IE for male students suggests that additional development of the curriculum is needed to better develop intercultural communication skills.

However, one limitation is that the similarity of the overall achievement of outcomes between courses might be due in part to the nature of the interactions in the courses on the campus where this study was conducted. In the public speaking course, students are still working in dyads and small groups in many of the in-class activities and the peer workshops that help students prepare for each of their five speeches. They therefore get experience interacting in multiple speaking contexts with diverse classmates, even though interpersonal and small group

communication skills are not taught directly through the curriculum. At the same time, the hybrid course includes three presentations and a unit on public speaking skills, so even though students are getting less direct instruction about how to deliver a speech, it is possible that they are reducing PSA through the experience of delivering those speeches. It is possible that courses that have not adopted a similar interactive format, that are taught partially face to face and partially online, or that are taught in a fully online format might have different results for the four outcomes explored in this study. Future studies should examine the achievement of outcomes in those course formats. Future research should also include multiple universities in multiple geographic regions, different types of student demographics, and courses that do not already include a unit on culture and diversity in order to better evaluate the effectiveness of including a unit on culture and diversity. This will also allow researchers to establish the degree to which the diversity of the student body is impacting results.

Sex and Ethnicity Gaps

When examining whether public speaking and hybrid courses are equally effective depending on a student's sex or ethnicity, there were some small but significant findings. Female students experienced slightly more growth in CCC than male students, and female students experienced significant growth in IE, whereas male students did not. Even though most students experienced similar growth in the public speaking and hybrid courses, Asian and African American students had higher levels of SPCC when they were enrolled in the hybrid class than when they were enrolled in the public speaking course. Additionally, African-American students experienced a slight decline in SPCC when they took the public speaking course, but experienced an increase in SPCC when they took a hybrid course. These findings suggest that the hybrid course might be a bit more comfortable for students coming from cultures

that are more collectivist (Hofstede & Hofstede, 2013) or for students whose interactions with faculty and other students might be impacted by experiences with racial profiling (Iverson & Jagers, 2015). Overall, these differences accounted for less than 2% of the variance in the way that each course impacted each group of students, which is a negligible difference when considering the real-life impact that the courses are having on student development. This overall lack of meaningful significant differences in the growth experienced by students is good news because it shows that both the public speaking and hybrid courses are benefitting all students equally instead of increasing any existing systematic inequalities.

At the same time, these findings revealed that there is a gender gap when students enter the class that is not being closed by taking either course. Female students had higher PSA and lower SPCC than male students (H_{5a}) in both courses, which echoes the findings of Hunter et al. (2014) and suggests that such differences are likely widespread since similar results were found at two geographically and demographically different universities. Previous research suggests that biases related to gender influence communication styles, and that those biases impact the degree to which men and women are likely to advance in specific types of careers (Lakoff & Bucholtz, 2004; Tannen, 1990). It is possible that differing expectations for each gender influence the degree of confidence and anxiety experienced by males and females in communication courses. While these findings do not suggest that either type of course is more effective for males or females, these findings do indicate a clear gender gap in communication apprehension and confidence that should be addressed at both the university and K-12 levels, just as a gender gap in the STEM fields has been the focus of many initiatives.

A Need for Benchmarks

One of the most valuable contributions of this study is that it helps to provide a data point for the initial exploration of benchmarks for expected growth in these four outcomes for introductory communication skills courses. There are currently no benchmarks for how much growth should be seen as a result of taking a communication skills course, nor for what score students should ideally have for each outcome measure after completing such a course. It is therefore difficult to evaluate whether this is enough growth for instructors and administrators to be satisfied with the impact of each course. While the amount of growth seen in this study had strong statistical significance, statistical significance and practical significance sometimes need to be weighed differently. As Table 1 shows, the change in scores reflected a 5.6%-8.2% growth in each competency that had significant growth, based on the maximum possible score that could be achieved with each measure. Within the researchers' introductory course program, these numbers can be an initial benchmark against which to compare future assessment results to evaluate whether future changes increase the impact of these courses. Within the larger introductory course research community, it might be helpful to establish practical and aspirational benchmarks for levels of achievement and levels of growth against which each program can compare their own course progress, and this study can serve as a starting point in setting benchmarks against which other programs can compare their progress.

However, one caution is that this study is relying on self-report data that measures students' perceptions of their own skills. While this is an efficient type of measurement that is valuable for identifying and reporting progress, these data should be paired with performance-based assessments that better measure students' actual skills. Even though self-perceptions are usually highly correlated with the ways that others rate someone on the same trait or skill (Allik,

Realo, Mottus, & Kuppens, 2010), someone's perceptions of their own communication skills and learning do not always reflect actual skills and learning (Hooker & Denker, 2014; Spitzberg, 2011), and it is possible that student perceptions of their own communication skills do not match actual competence.

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Footnotes

¹ For Behavioral Flexibility, $\alpha = .29$. For Interaction Relaxation, $\alpha = .91$. For Interactant Respect, $\alpha = .73$. For Message Skills, $\alpha = .67$. For Identity Maintenance, $\alpha = .64$. For Interactant Management, $\alpha = .67$.

Table 1

Means and Standard Deviations for all Dependent Variables by Time

	Pre-Test		Post-Test		Maximum Possible Score	% Change as Proportion of Scale
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
PSA	110.99	22.29	97.09	21.61	170	-8.2%
SPCC	75.75	14.51	81.30	13.77	100	5.6%
IE	70.76	9.13	71.48	9.97	100	0.7% (ns)
CCC	65.21	8.15	71.52	11.23	90	7%

Table 2

Correlations between Full and Abbreviated Intercultural Effectiveness Scale and other Communication Variables

	Pre-Survey		Post-Survey	
	20-item IE Scale	8-item IE Scale	20-item IE Scale	8-item IE Scale
PRPSA	-.21	-.18	-.31	-.26
SPCC	.32	.35	.26	.28
CCCI	.31	.35	.41	.48

Note: All correlations are significant at the .001 level

Table 3

Abbreviated Intercultural Effectiveness Scale

1. I find it easy to talk with people from different cultures.
2. I find it is easy to get along with people from different cultures.
3. I am able to express my ideas clearly when interacting with people from different cultures.
4. I am able to answer questions effectiveness when interacting with people from different cultures.
5. I always know how to initiate a conversation when interacting with people from different cultures.
6. I feel relaxed when interacting with people from different cultures.
7. I find I have a lot in common with my culturally different counterparts during our interaction.
8. I find it is easy to identify with my culturally different counterparts during our interaction.

Note: These are items 1, 3, 5, 7, 11, 13, 17, and 19 in Portalla and Chen's Intercultural Effectiveness Scale. Items are measured using a 5-point Likert scale.

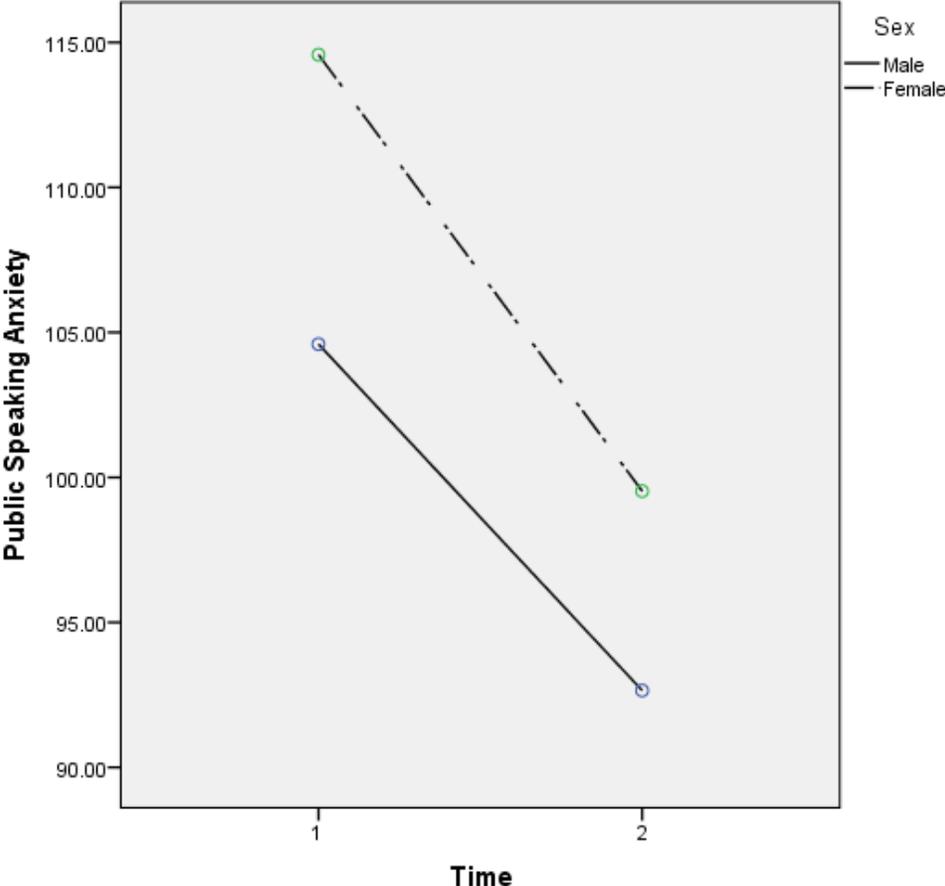


Figure 1. Public speaking anxiety by sex by time

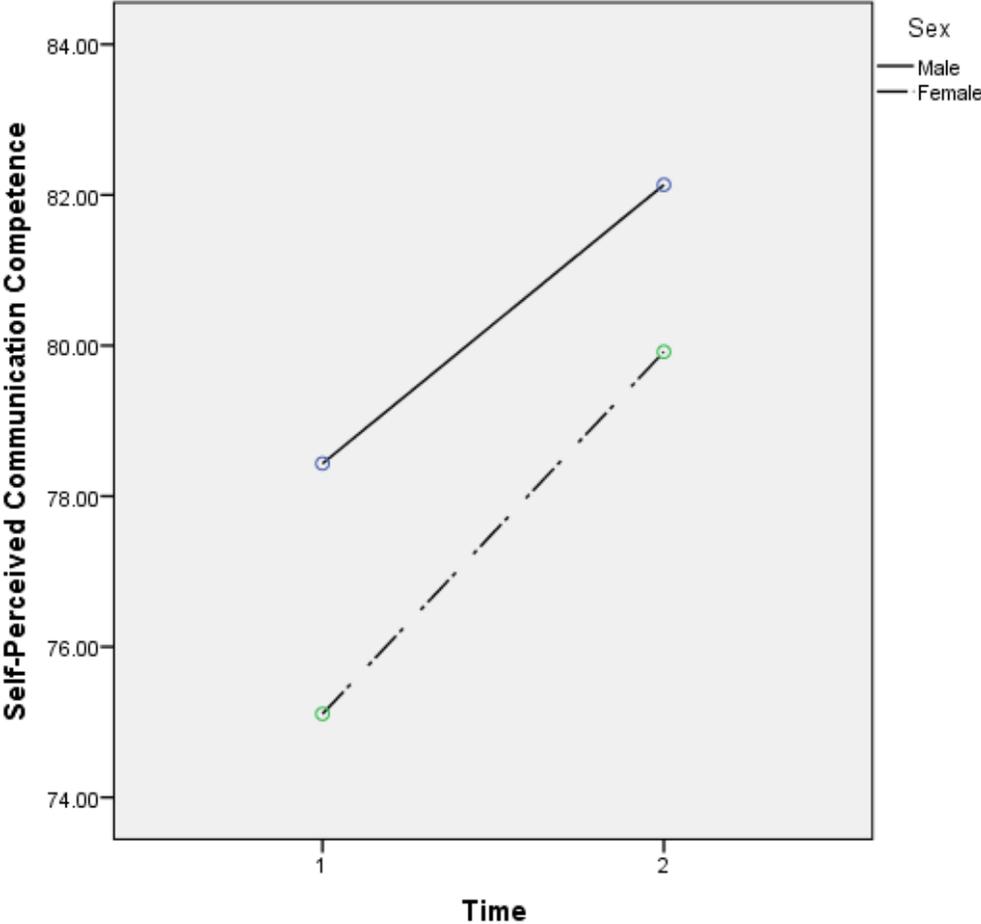


Figure 2. Self-perceived communication competence by sex by time

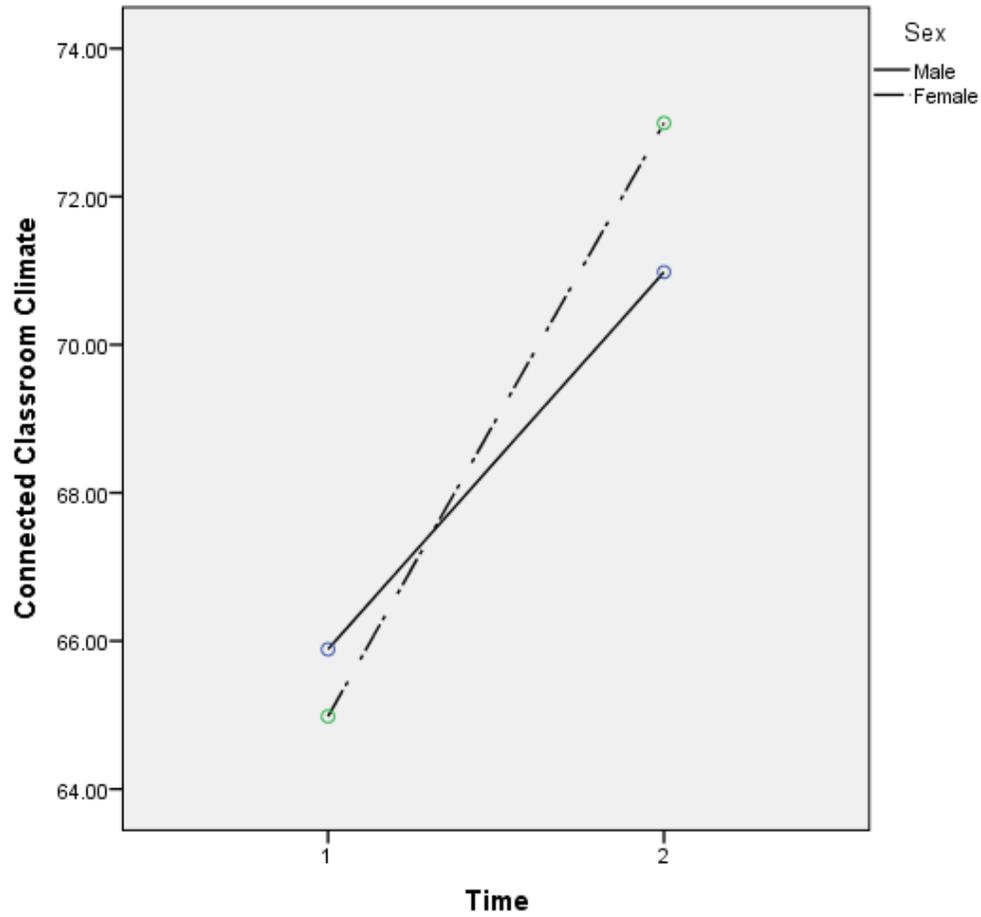


Figure 3. Connected classroom climate by sex by time

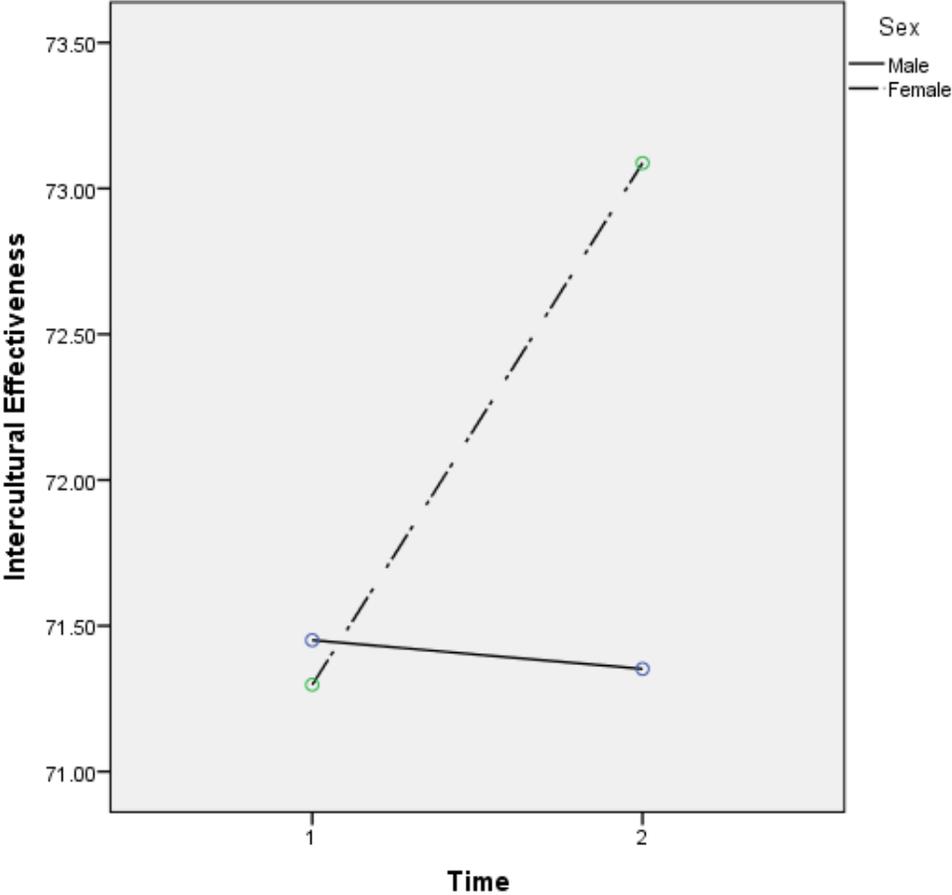


Figure 4. Intercultural effectiveness by sex by time

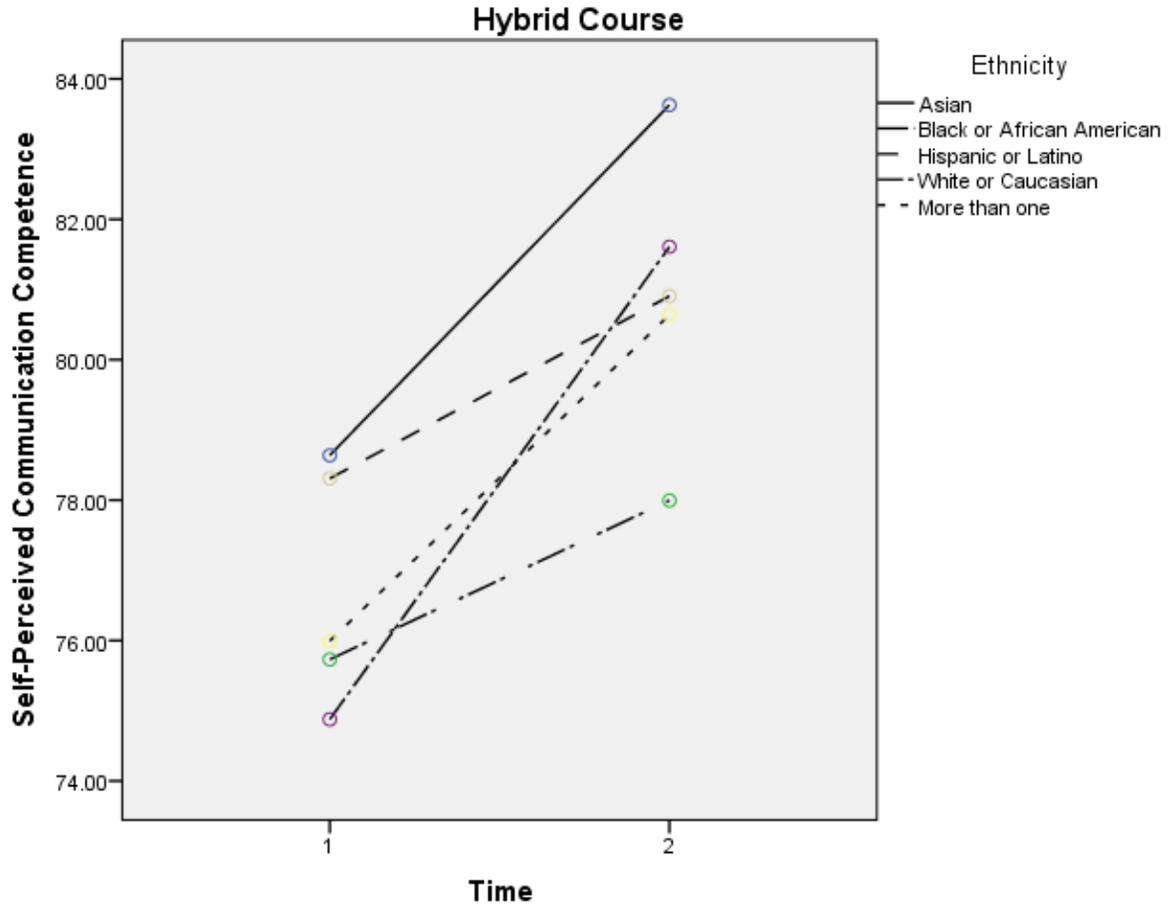


Figure 5. Self-perceived communication competence by ethnicity by time for the hybrid course

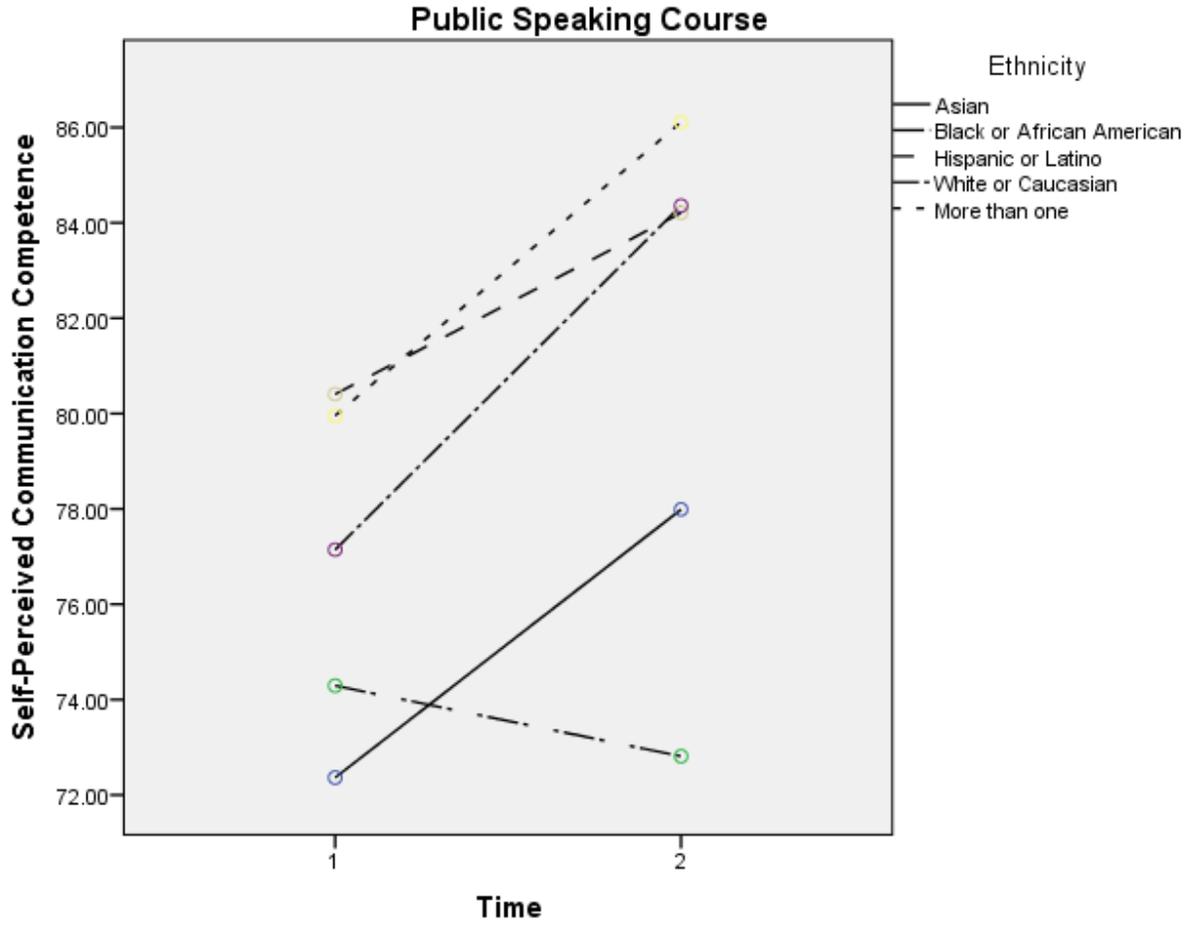


Figure 6. Self-perceived communication competence by ethnicity by time for the public speaking course

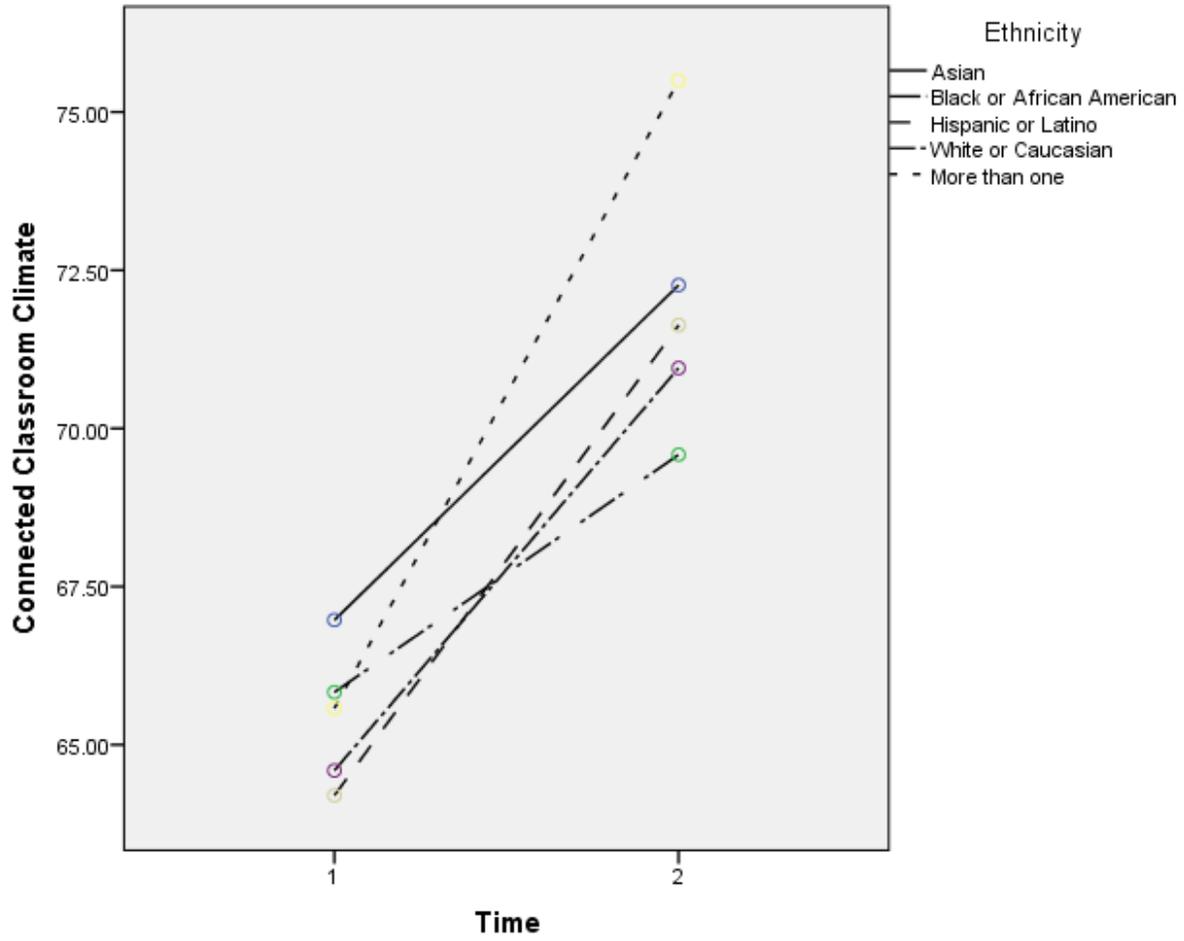


Figure 7. Connected classroom climate by ethnicity by time