A Comparison of Traditional and Hybrid Teaching: The Effects on Student Learning and Engagement

The United States is on the verge of a paradigm shift within education. The lack of government funding has created a dynamic change in policies and procedures across all levels, preschool through college (Gabriel, 2011). Specifically in higher education, educators and administrators have been forced to be creative in their approaches to teaching in terms of costs per student and differentiation in an overcrowded classroom (Darbyshire, 2005). Budget cuts, enrollment increases, limited classroom space, and limited resources for new instructors have forced university administrators to consider alternatives to the traditional and large lecture classrooms (Harasim, 2002). Thus, hybrid and online courses are being considered as a replacement and/or substitution for traditional, face-to-face classrooms due to their ability to meet the current needs of educational institutions.

In a report entitled, *National Educational Technology Plan*, the U.S. Department of Education assessed the state of higher education and argued that “our society should transform its current educational system into a different model better suited to prepare students for the opportunities and challenges of an emerging global, knowledge-based civilization” (Dede, 2011, p. 5). According to the report, the elements necessary for educational change include: learning, assessments, teaching, and productivity (Dede, 2011). The report suggests that learning should be available on demand and should use technology to tap into resources other than the classroom teacher, such as online libraries and videos of professors from other campuses (Dede, 2011; Zhu, 2012). Another annual report was conducted by The Sloan Consortium, in which colleges and universities across the United States were surveyed about the state of online education. Based on data collected, there was an increase in the number of schools which reported that online
教育是其长期战略的关键（Allen & Seaman, 2011）。在2010年秋季学期，大约有610万学生注册了在线课程，占所有学生31%。这些数字与2002年相比显著增加，当时有160万学生注册了在线课程，9.6%的学生至少注册了一门在线课程（Allen & Seaman, 2011）。因此，这些报告提供了向电子学习转变的证据。

然而，似乎并不是所有人对高等教育都有相同的看法。在2011年，67%的大学管理者认为在线学习等同于或优于面对面学习，并将学生时间表的灵活性视为网络教学的最积极属性。另一方面，只有32%的教师认为这可以作为传统教室学习的替代方案。许多人担心学生与学生之间的互动不足。看起来管理者看到了在线学习的优点，但许多教师对拥抱在线学习的改变感到犹豫。

然而，尽管有大量学生注册了这些混合和在线课程，学者和教育者对在线学习的有效性存在分歧（Allen & Seaman, 2011）。因此，需要更多的研究来考察在线和混合学习是否是一个可行且有效的替代方案。因此，当前研究的目的是比较混合课程（50%在线，50%面对面）的两个部分，以及相同课程在传统教室中授课的两个部分。更具体地说，这项研究将考察两个环境中的学生学习成果，以确定是否存在差异。

此外，这项研究将关注两个环境中的学习过程，以确定学生学习参与的任何可能差异。
Literature Review

Benefits of Online Learning

Online learning, also referred to as e-learning, is defined using various, interchangeable terms such as distance education or web-based learning. E-learning occurs in an environment where the teacher and student are physically separated, but maintain communication through a variety of electronic (“e-”) media (Thompson, 2007). One of the primary concerns identified in previous literature examines the effectiveness of e-learning. For instance, previous research suggests courses that are redesigned from a traditional, face-to-face environment to a hybrid or online context demonstrate important academic outcomes including “increased course completion rates, improved retention, better student attitudes toward the subject matter, and increased student satisfaction with the new mode of instruction” (Twigg, 2003, p. 24). Existing literature also reveals that online courses provide significant improvements in drop, failure, and withdrawal rates in comparison to the traditional, face-to-face sections of the same course.

One line of research suggests that several advantages are present for using online or hybrid learning environments including the convenience and flexibility of anytime, anywhere accessibility where students can participate from home or work (Barnard-Brak & Sulak, 2010; Harasim, 2002; Richardson & Swan, 2003; Robinson, 2010; Thompson, 2007). Asynchronous or web-based learning also allows students to pause and reflect on their learning before responding, which in many instances can increase learning engagement and student confidence (Frymier & Houser, 2012; Harasim, 2002). Research also shows that some students prefer the autonomy of online courses because they want to be able to work at their own pace (Tallent-Runnels, Thomas, Lan, Cooper, Ahern, Shaw, & Liu, 2006). Finally, online courses offer some level of anonymity in cases where instructors and classmates may not have access to student
pictures. Therefore, online courses may provide students with more equal access to learning regardless of race, sex, disability, or appearance (Richardson & Swan, 2003).

Although many studies focus on the examination of the positive aspects of online learning, another area of research highlights the differences between fully online or blended classes and traditional, face-to-face classes. Specifically, over the past thirty years, researchers have been interested in pedagogical differences and differences in learning indicators between the two methods of instruction. (Clark & Jones, 2001; Harasim, 2002; Tallent-Runnels et al., 2006).

**Traditional vs. Hybrid Courses**

Parker and Gemino (2001) examined differences between online and traditional courses over a five-year period and found that there was no statistical difference in exam scores between students enrolled in online and face-to-face courses. In a similar study, Riffell and Sibley (2005) looked at the results of changing a large, introductory lecture course into a hybrid course. Their rationale for the change was increasing information retention, higher order thinking skills, and motivation for learning. The study compared two sections of the course both taught by the same instructor, one traditional and one hybrid. Findings suggest students in hybrid courses used their textbook more often, contacted other students with questions, studied more frequently in groups, and scored higher on pre- and post-tests measuring student effort and perceptions of the course. The most significant gains were for older (juniors and seniors), resident, non-major students in the hybrid course (Riffell & Sibley, 2005).

Additionally, a longitudinal study examining differences between a traditional classroom and a hybrid environment was conducted, and students were compared based on pre- and post-test scores, as well as scores on midterm and final exams (Scheines, Leinhardt, Smith, & Cho,
2005). Students who only completed online learning modules and never attended face-to-face lectures scored 5.3% higher on the final exam than students who only attended lecture. Data from the study revealed online students completed more courses, worked more hours per week, were likely to have a computer more readily available to them, and rated themselves higher in working without supervision while students in the traditional classroom thought it was more important to have increased interaction with their classmates (Clark & Jones, 2001). Many of these studies were conducted in response to Thomas Russell’s *The No Significant Difference Phenomenon* (1999), which asserts no significant differences exist between traditional and online courses.

**The No Significant Difference Phenomenon**

Many scholars have examined the validity of Russell’s *No Significant Difference* argument which asserts there are no differences in achievement of learning between students enrolled in online and face-to-face sections of the same course. For instance, Girod and Wojcikiewicz (2009) compared students in online and traditional courses to determine if learning outcomes were indeed similar. Students had equivalent scores in both distance and campus-based delivery methods, but post-hoc analysis of the data showed differences in that the online course: (a) had more formative assessments, (b) had more structure, and (c) had less in-depth analysis of readings. These differences existed even though the same professor taught both classes. The authors concluded there were no differences in learning outcomes between the two methods of delivery, but special care should be taken to align pedagogical principles within the limits of technology applications in ways that maximize student opportunity to learn. In both classes students were able to learn course content, but technology allowed the instructor to provide more opportunities for review and self-assessment of their learning with immediate feedback.
Another study exploring the validity of the *No Significant Difference* argument used a meta-analysis and indicated 67% of studies favored online over traditional instruction in terms of grades and student perceptions about the course. Thus, instead of finding similarities in learning achievement between students enrolled in different delivery formats, this meta-analysis suggests students in online and hybrid courses tend to score higher on learning outcome measures and have more favorable perceptions of the course in general. These results were consistent regardless of whether the online portion of the course was synchronous, asynchronous, hybrid, or online (Zhao, Let, Yan, Lai, & Tan, 2005).

Consequently, two primary arguments are set forth in the literature: that students in the online and face-to-face sections of the same course demonstrate equal achievement of learning (Girod & Wojcikiewicz, 2009; Parker & Gemino, 2001; Russell, 1999) or that students in the online sections score higher on learning indicators than their traditional counterparts (Zhao et al., 2005). Researchers argue these results are due to an inherent selection bias of student class enrollment. For instance, hybrid students may feel more comfortable with self-guided learning and independence, while students enrolled in traditional sections may rely more heavily on learning and immediacy from the instructor (Zhao, et al., 2005). Based on the *No Significant Difference* argument and the subsequent, contradictory studies examining its validity, the following research question has been posited:

RQ1: How, if at all, do students enrolled in a hybrid course differ from students enrolled in a traditional, face-to-face course in terms of cognitive, affective, and behavioral learning outcomes?

**Learning Engagement**
Although it is important to examine differences in achievement of learning outcomes between the two groups, a gap exists in the current literature assessing the differences in the process of learning. It may be more important to discover differences in how students learn rather than solely relying on an outcome based measure of learning (Frymier & Houser, 2011). Dweck and Leggett (1988) first looked at learning engagement (LE) from a psychological perspective. Frymier and Houser (2011) re-conceptualized LE as communication behaviors associated with the learning process and defined the construct as “the cognitive and behavioral involvement of a student in learning processes, content, and activities in the classroom” (p. 6). Thus, this construct is examined as a process of learning rather than as a product.

The learning process is just as important, if not more so, than the product of rote memorization and recall on an exam (Dweck & Leggett, 1988; Gorham, 1988; Frymier & Houser, 2012). For example, standardized testing (e.g., ACT, SAT, GRE) can create anxiety due to the high-stakes nature of measuring learning outcomes at one point in time. Therefore, it may be more realistic and telling to examine how students learn rather than the outcome of their learning (Frymier & Houser, 2011). Although learning engagement is not the sole construct involved in students’ learning process in the classroom, this variable was selected as it is analogous to being engaged in communication in the classroom (Frymier & Houser, 2011). In other words, this gives the researchers the opportunity to examine how cognitively and behaviorally involved the students were during the face-to-face and hybrid class sessions they “attended”. As a result, the researchers will examine how the process of learning differs among the student groups.

RQ2: How, if at all, do students enrolled in a hybrid course differ from students enrolled in a traditional face-to-face course in terms of their learning engagement?
Methods

Participants

Students \( n = 318 \) were recruited from hybrid and face-to-face sections of a basic communication course taught by the same instructor at a large, Southwestern university. This sample represents 70% of the class enrollment and 17% of the entire population enrolled in the basic course during the semester in which data was collected. Participants self-selected into two groups by enrolling in either a hybrid section of the course \( (n = 166) \) in which 50% of the course (cognitive learning) was offered in an online environment or in a face-to-face section of the course \( (n = 151) \) in which students attended large lectures for the cognitive content. Participants in both sections attended smaller lab classes for behavioral learning and application of communication skills. The sample consisted of 133 males (42%) and 185 females (58%). Participants are representative of the ethnic background of the university with 172 students (54%) identifying themselves as Caucasian, 98 as Hispanic (30%), 23 as African-American (7%), 17 as Other (5%), and 8 as Asian-American (3%). The following indicates the breakdown of the classification of the sample: Freshmen \( (n = 140) \), Sophomores \( (n = 88) \), Juniors \( (n = 56) \), and Seniors \( (n = 34) \). Students earned a completion grade of ten points for completing the pre and post test instruments collected for the study.

Delivery of the Course

Both sections of the course attended mandatory lab classes in which the students practiced communication skill sets and engaged in experiential learning activities (behavioral and affective learning). Thus, the only difference in the delivery of the course was the means through which students learned cognitive components of the course. Students enrolled in the face-to-face section of the course would attend large lecture classes to learn chapter content, while students enrolled in the hybrid section would participate in online learning modules.
learning modules were created with the purpose of varying the delivery of the course content frequently within each online session (Twigg, 2003). The modules required students to read the chapter of interest, watch a mini-lecture which was asynchronous and pre-recorded, participate in various online activities, and take online quizzes assessing their cognitive learning for each chapter. For instance, students were asked to visit Paul Ekman’s website (http://www.paulekman.com/paul-ekman/) to practice decoding emotions for the nonverbal communication unit. For other chapters, students are asked to watch various media clips and apply what they learned from the chapter to those clips. Students were also asked to complete online discussion forums to provide a sense of community between students and further the cognitive learning of the students in the hybrid classes. Course attendance policies required students in both sections of the course to “attend”. Students in the face-to-face section merely signed in on an attendance sheet while in lecture and lab, while students in the hybrid section completed online activities for completion (attendance) grades for the lecture portion and signed an attendance sheet while in lab.

Procedures

In order to answer research question one, a pre-test-post-test design was conducted. Thus, data was collected from the same group of participants at the beginning of the semester (before learning occurred) and at the end of the semester (after learning occurred). The pre- and post-tests were administered using an online survey tool, and students were advised to complete the instruments without using any course materials. Participants were also asked to provide their student IDs (distributed by the university to each student) so the research team could match each student’s corresponding pre- and post-test. In order to answer research question two, a post-test only design was utilized. This enabled participants to experience the face-to-face and hybrid
sections of the class before completing the instrument measuring their learning engagement in their respective contexts.

**Instruments**

Researchers selected three separate measures to assess students’ cognitive, behavioral, and affective learning in the current study. The three instruments were chosen for their ability to measure the learning objectives defined by the course directors and university administrators at the institution where the current study took place. In order to measure students’ cognitive learning, the researchers revised the Cognitive Learning Outcome Assessment (Authors, 2011). Behavioral learning was assessed using a revised version of the Interpersonal Communication Competence scale (Cupach & Spitzberg, 1981), while affective learning was measured using the Intercultural Sensitivity Scale (Chen & Starosta, 2000). As a major purpose of the study was to examine the process of student learning, researchers also used the Learning Engagement scale (Frymier & Houser, 2011) to meet this goal.

**Cognitive learning outcome assessment.** The cognitive outcome measure was developed by course directors at the university in the current study (See Appendix A). The research team selected this instrument as it directly measures students’ knowledge of the Five Communication Principles of a Lifetime (Beebe, Beebe, & Ivy, 2013) which is a course objective. The assessment instrument contains 25 multiple-choice questions in which each principle (awareness, effectively using verbal and nonverbal messages, listening and responding, adapting) is assessed using five questions. Each question has four response options, and students’ results were measured dichotomously (correct or incorrect). Cronbach’s alpha for the pre-test in the current study was 0.63, while the reliability estimate for the post-test was 0.78.
**Behavioral learning outcome assessment.** Researchers revised the Interpersonal Communication Competence scale (Cupach & Spitzberg, 1981) to measure students’ behavioral learning in the course (See Appendix B). One of the course objectives focuses on students’ ability to analyze and appropriately manage interpersonal conflict. Thus, the instrument was revised to reflect students’ self-perception of their own communicative competence in actual conflict scenarios. The Likert-type measure consists of 18 items ranging from 1=Strongly Disagree to 5=Strongly Agree. As the original Interpersonal Communication Competence scale has three sub-scales, the current scale has replicated this to include: knowledge of competent conflict behavior, actual communication competence in conflict situations (behavior), and motivation to engage in competent conflict behavior. The scale was combined and used as a uni-dimensional measure of interpersonal conflict competence; reliability estimates of both the pre-test ($\alpha = .89$) and the post-test ($\alpha = .97$) were deemed acceptable.

**Affective learning outcome assessment.** The final instrument used to assess learning outcomes was the Intercultural Sensitivity Scale (Chen & Starosta, 2000). The researchers selected this instrument for its ability to measure the course objective requiring students to identify and describe appropriate adaptive messages and to demonstrate appropriate affective responses in intercultural communication situations. Communication apprehension, as well as intercultural communication apprehension, has been used in previous studies to measure student affect toward the course “as they willingly utilize the course material to alter their communication outside of the classroom with individuals of varying cultures” (Authors, 2011, p. 73). Thus, the intercultural sensitivity scale was selected to measure the affective learning dimension, because it accurately measures the learning objective related to intercultural
communication competence. Furthermore, the scale’s brevity in length helped in the prevention of participant fatigue.

The Intercultural Sensitivity Scale measures an individual’s comfort level and certainty when engaging in intercultural interactions. The scale includes ten Likert-type items with responses ranging from one representing a lower level of agreement and five representing a higher level of agreement; the scores are summed creating a range of 10-50. Scores above 35 are seen as culturally sensitive, scores between 25 and 35 are somewhat comfortable with intercultural interactions, and individuals who score below 25 find intercultural communication challenging or have not been exposed to these interactions. The alpha reliability in the current study for the pre-test was .90, while the alpha reliability for the post-test was .94.

**Learning engagement.** The Learning Engagement scale is a Likert-type instrument consisting of a 26-item assessment which ranges in responses from never to very often and consists of three sub-scales: oral participation, cognitive effort, and attentiveness. Higher scores on the scale indicate a more engaged learner. As the goal of the current study is to examine the differences in the process of student learning in hybrid and face-to-face sections of the basic course, this scale was selected for its ability to measure this construct. The reliability estimate of the uni-dimensional post-test measure in the current study was .92.

**Results**

In order to answer research question one, a difference score was first calculated (for all three assessments—cognitive, behavioral and affective) by subtracting the mean scores on the pre-test from the mean scores on the post-test. Once the three difference scores were computed, three independent samples t-tests were conducted to identify if students enrolled in a hybrid course differ in terms of their cognitive, behavioral, and affective learning from students enrolled
in a traditional, face-to-face section of the same course. The findings were mixed and will be described below.

The \( t \)-test result examining differences in the achievement of behavioral learning outcomes of students enrolled in a hybrid (\( M = 0.26, SD = 0.74 \)) and a traditional (\( M = 0.14, SD = 0.92 \)) section of the basic communication course was not significant, \( t(315) = -1.26, p > .05 \).

There were also no differences found between the two groups in terms of their affective learning: \( t(315) = -.29, p > .05 \). Students registered in the hybrid section of the course (\( M = 0.77, SD = 0.98 \)) did not score significantly higher on the affective learning outcome assessment than students registered in the traditional section (\( M = 0.44, SD = 1.10 \)) of the course. Students did differ in terms of their cognitive learning: \( t(315) = -5.95, p < .001 \), as the mean different scores of hybrid students (\( M = 0.17, SD = 0.16 \)) was significantly higher than the mean different scores of traditional students (\( M = 0.06, SD = 0.17 \)).

Post hoc \( t \)-tests were conducted to further examine research question one. Three paired samples \( t \)-tests were conducted to determine whether student cognitive, affective and behavioral learning improved from the beginning to the end of the semester. Student cognitive learning significantly improved over the course of the semester \( t(317) = -11.78, p < .001 \). The mean difference score for students on the pretest was .46 (\( SD = .15 \)) on the pre-test, while the average difference score for students on the posttest was .58 (\( SD = .18 \)). Student behavioral learning also significantly improved over the course of the semester \( t(317) = -4.37, p < .001 \). Students scored an average of 3.85 (\( SD = .55 \)) on the pre-test and an average of 4.06 (\( SD = .76 \)) on the post-test. Although students’ scores on the affective learning measure changed from the beginning (\( M = 4.11, SD = .66 \)) to the end of the semester (\( M = 4.17, SD = .74 \)), this change was not significant: \( t(317) = -1.09, p > .05 \).
In order to answer research question two, a fourth independent samples $t$-test was conducted to analyze the differences between hybrid and traditional students in terms of their learning engagement. Students in the hybrid course ($M = 3.43, SD = 0.68$) had a higher mean than those in the face-to-face ($M = 3.29, SD = 0.65$) section of the course. However, the $t$-test is not significant: $t(315) = -1.84, p = .07$, suggesting that students did not significantly differ in terms of their learning engagement.

**Discussion**

The first goal of the current study was to examine the similarities and differences in achievement of learning outcomes between students registered in a hybrid and a traditional, face-to-face section of the basic communication course. More specifically, the research team assessed the change in students’ cognitive, affective, and behavioral learning based on course objectives from beginning to end of the semester.

Results indicated that students did not differ based on section enrollment, and thus, had similar difference scores on both the affective and behavioral dimensions of learning. Results also revealed that both student groups increased their behavioral learning over the duration of the course. Therefore, students in the traditional section did not surpass those in the hybrid section in terms of their ability to engage in effective communicative behaviors.

There were also no differences between students enrolled in the face-to-face section and the hybrid section in terms of their affective learning. Interestingly, students in both groups perceived themselves to be slightly more culturally sensitive at the beginning of the semester than after completing the course. This may be due to students becoming more aware of their biases after learning in the course. Although there were slight differences in the mean scores at the beginning and end of the semester, these differences were not significant. This suggests that
students did not improve their affective responses or adaptive messages to various cultural groups after completing the basic communication course.

Finally, findings suggest students registered in the hybrid section of the course scored significantly higher on the cognitive learning outcome assessment than their traditional counterparts. Although both student groups increased their mean scores from the beginning to the end of the semester, hybrid students scores’ significantly surpassed the scores of students enrolled in the traditional section. Post hoc analyses were conducted to examine the effect size or magnitude of this difference ($d = .22$) and indicated that on average, students in the hybrid section of the course scored two-tenths of a standard deviation higher than the average of students in the face-to-face section. These results suggest the difference is small to moderate in magnitude (Cohen, 1977) and may support the no differences hypothesis identified in previous research (Russell, 1999).

These results must be interpreted within the context of the methodology used in the current study. Students enrolled in the hybrid and traditional sections of the course both attended break-out lab sessions in which trained graduate teaching assistants facilitated experiential activities focusing on the behavioral course objectives. Therefore, students in both groups engaged in the same skill-building activities (such as conflict management) during lab sessions, and consequently, this is considered to be a positive finding as there were no significant differences found on this dimension between the two groups. Additionally, students enrolled in both sections of the course completed the same course assignment focused on their affective responses during intercultural interactions. Students in both the hybrid and traditional course participated in a two-part assignment in which they were required to complete the following: 1) write a research paper from the perspective or role of someone from a unique cultural
background, and 2) engage in a classroom activity in which their lab instructor facilitates discussion about the specific, effective communication and the rationale for being aware and mindful of this during cross-cultural interactions. As students in both groups completed this assignment and focused on the importance of intercultural communication throughout the course, it is not surprising that the groups did not differ in terms of their achievement of affective learning. However, future assessments should be conducted to determine why neither group of students significantly improved their cultural sensitivity over the course of the semester.

In sum, the only difference which emerged between the student groups was their achievement of cognitive learning. Those enrolled in the face-to-face section gained knowledge about course content by attending large lecture classes, while students registered in the hybrid section completed online learning modules. Thus, it was not unexpected for differences to exist between the student groups. These findings provide additional support for previous literature revealing that hybrid students typically score higher on cognitive measures of learning including course exams (Scheines et al., 2005), pre and posttest assessments (Riffel & Sibley, 2005), and final course grades (Zhao et al., 2005) than students enrolled in face-to-face sections of the same course.

A secondary purpose of the current study was to expand on the current literature examining student differences to include an assessment of the actual process of learning. Results suggest that there were no significant differences in learning engagement between students enrolled in the hybrid section of the course and those enrolled in the traditional, face-to-face section. However, students in the hybrid section did report a higher mean than those in the face-to-face section. The $t$-test was conducted on the scale as a whole, but post hoc analyses also examined group differences in terms of the three subscales (attentiveness, cognitive effort, and
participation) and found no differences. These results from the post hoc analyses are a bit surprising as students in the hybrid section were unable to participate orally during the pre-recorded online lectures. Therefore, the authors anticipated students in the traditional section may score higher on this dimension. Further, considering that previous research has found students in hybrid courses were more socially present, and therefore, experienced a higher increase in learning of course content (Richardson & Swan, 2003), the researchers hypothesized that hybrid students would report higher levels of attentiveness and cognitive effort.

Additionally, some scholars argued hybrid courses retain the attention of students more than the traditional course (Young, 2002) as the amount of stimulus variation of the blended classrooms require students to complete “discussion forums, lecture content, quizzes, or interactive animations of concepts” (Tucker & Anderson, 2009, p. 7).

Furthermore, previous research in the instructional communication literature has identified motivation to study as a primary indicator of classroom engagement (Martin, 2010), and some studies suggest that students who enroll in hybrid or online courses tend to have a higher level of intrinsic motivation than their traditional counterparts (Delialioglu, 2005; Twigg, 2003). Thus, motivation may be a mediating variable and should be studied in future research examining the differences in learning engagement among students in these contexts.

**Limitations and Implications for Future Research**

**Limitations.** Results of the current study provide valuable information regarding the assessment of student learning in blended and traditional classrooms. However, the findings must be interpreted within the limitations of the methodology used. First and foremost, the measure used to operationalize student cognitive learning was not deemed reliable during pre-test administration. This is likely due to the dichotomous nature of the measure as students
would receive one point for each correct answer and zero points for each incorrect answer. As students had not received instruction in course content prior to pre-test, it is not surprising that the students were unable to consistently answer the items either correctly or incorrectly. However, the reliability estimate is problematic as the scale is not able to effectively discriminate between student cognitive competency levels especially at the time one measurement ($\alpha = .63$). It is evident that the scale may need to undergo further revisions to enhance its reliability.

Additionally, the current study did not examine students’ actual course grades on assignments such as exams, presentations, or final course grades. This would have been particularly revealing as this may be a more realistic portrayal of students’ cognitive learning. Future research in this area should also include a comparison of the two student groups in terms of their grades on course assignments.

Finally, the current study only provides information about the comparison of large lecture with break-out sections and hybrid sections of the same course which also met in break-out lab sections. Therefore, the authors are unable to make claims about how hybrid courses measure up to small, face-to-face only sections of the same class. Future research should consider examining the differences and similarities between of student achievement of learning outcomes in these various class formats.

**Implications and future research.** The current study has large implications for both institutions of higher education and departments of communication. Online learning provides a unique opportunity to offer flexibility to students while enabling higher enrollment numbers and limiting the allotment of classroom space (Harasim, 2002). These benefits encourage university administrators to consider redesigning courses to be taught in this online environment. However, current literature examining e-learning suggests many faculty members are still hesitant about
using web-based instruction (Allen & Seaman, 2011). Specifically, faculty concerns center around student achievement of cognitive, affective, and behavioral learning of course objectives. The findings from the current study should ease faculty apprehension about using the blended method as a means of teaching communication in higher education. Results indicate that both student groups are achieving most learning outcomes identified by the course directors and department chair. Additionally, results reveal that in some instances, students enrolled in the hybrid course surpass those enrolled in the traditional section in relation to accomplishing course objectives.

Moreover, the findings of the current study provide important implications for teaching in the communication discipline specifically. The results suggest student groups did not significantly differ in terms of their affective and behavioral learning, but students enrolled in the hybrid section scored significantly higher on cognitive learning measures than their hybrid counterparts. This is explained by the similar methods of instruction students received prior to accomplishing these learning outcomes. This particular finding offers additional support for previous literature that suggests cognitive learning may be better suited for online environments (Parker & Gemino, 2001). As the current study did not engage in skill-based instruction in an online environment, claims about how the delivery method influences student affective and behavioral learning cannot be made based on these findings. As the communication discipline is still deemed a skill-based one, it is important for future research to compare face-to-face and fully online courses to examine differences in the acquisition of these behavioral and affective learning outcomes.

Finally, future research should focus on examining the quality of instruction in addition to the assessment of learning outcomes between blended or online courses and traditional, face-
to-face courses. Although there are still some contradicting studies suggesting that there are no significant differences between online and traditional learning, enough evidence exists to emphasize that students in online and hybrid courses are achieving learning outcomes. Thus, it may be more important to research specific instructional communication behaviors that influence students’ learning engagement, motivation to learn, and actual learning outcomes within this online environment.

Conclusion

Assessing student learning outcomes and the process or means by which students engage in the learning process is imperative to the communication discipline as well as to educational institutions in general. Providing evidence that the method of instruction (hybrid versus traditional) does not influence students in a negative way is also critical as university administrators are consistently examining new channels through which to provide instruction to students. Thus, it is important to continue examining how these channels influence student learning and motivation as these will certainly affect student performance. Assessment of instruction as well as examining the influence of instruction on students should be a primary purpose for educators and university administrators. As budget cuts, enrollment increases, and limited classroom space will most likely continue in the near future, it will be increasingly essential to examine the effects of online learning on our student population.
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http://dx.doi.org/10.2190/F59B-382T-E785-E4J4


http://dx.doi.org/10.1207/s15389286ajde2002_2

Appendix A: Cognitive Learning Outcome Assessment

ASSESSMENT 1: Principles of Human Communication

1. When ineffective communicators mindlessly or thoughtlessly say and do things that they may later regret, they are ignoring which fundamental communication principle?
   1. Effectively use and interpret verbal messages
   2. Effectively use and interpret nonverbal messages
   3. Be aware of your communication with yourself and others
   4. Appropriately adapt messages to others

2. On a recent Caribbean cruise, Cody commented to a friend, “I feel strange talking to the room stewards. They’re all from interesting places and their English is excellent, but there’s nothing we can talk about.” Cody’s use of assuming differences prohibited him from achieving which principle of human communication?
   1. Be aware of your communication with yourself and others
   2. Appropriately adapt messages to others
   3. Effectively use and interpret verbal messages
   4. Effectively use and interpret nonverbal messages

3. Kristen works at Disney World, and is referred to as a “cast member” instead of a “cashier” or “employee”. Due to this use of language, she feels more proud of her job. This reflects the Sapir-Whorf Hypothesis that helps us better explain the importance of which of the fundamental communication principles below?
   1. Be aware of your communication with yourself and others
   2. Effectively use and interpret verbal messages
   3. Listen and respond thoughtfully to others
   4. Appropriately adapt messages to others

4. Marsha prides herself in being other-oriented by being able to tune out internal and external noise when others are talking to her and sharing information. Unfortunately, she realizes that most people she meets are very egocentric and insensitive. Which principle of human communication does Marsha follow and use?
   1. Listen and respond thoughtfully to others
   2. Appropriately adapt to others
   3. Effectively use and interpret nonverbal messages
   4. Effectively use and interpret verbal messages

5. Principle 3: Effectively use and interpret nonverbal messages relates to which of the following concepts?
   1. Self-image
   2. Haptics
   3. Neologism
   4. Information overload

6. Principle 4: Listen and respond thoughtfully to others relates directly to all of the concepts below EXCEPT:
   1. Information overload
   2. Paraphrasing
   3. Attending
   4. Reframing

7. Understanding which of the following concepts will allow you to become more effective at Principle 5: Appropriately adapting messages to others?
   1. Ethnocentrism
   2. Neologism
   3. Immediacy
   4. Emotional noise

8. Marissa remains an incredibly shy person when she is around other people, especially when meeting them for the first time. She realizes that some people misperceive her shyness as being “stuck up,” “aloof,” and/or “arrogant”. To correct this perception, she constantly reminds herself to talk more with others when meeting them for the first time. This example most accurately represents which principle of human communication?
   1. Be aware of your communication with yourself and others
   2. Effectively use and interpret verbal messages
   3. Effectively use and interpret nonverbal messages
   4. Listen and respond thoughtfully to others
9. When effective communicators select appropriate language to communicate with others, they are following which of the fundamental communication principles?
1. Effectively use and interpret verbal messages
2. Effectively use and interpret nonverbal messages
3. Appropriately adapt messages to others
4. Listen and respond thoughtfully to others

10. Jen and Lisa are tubing down the Guadalupe River. Jen sees a group of good-looking guys floating their way. As they near, Jen and Lisa suck in their stomachs, tense up their muscles, and try not to look at the guys as they are approaching. Their use of courtship readiness cues are examples of which principle of human communication?
1. Be aware of your communication with yourself and others
2. Effectively use and interpret verbal messages
3. Effectively use and interpret nonverbal messages
4. Listen thoughtfully to others

11. Theresa knew that her audience would be skeptical of some of the ideas in her speech, so she decided to present the ideas she figured the audience would agree with first. Which of the principles of communication is Theresa attempting to use when organizing and outlining her presentation?
1. Be aware of your communication with yourself and others
2. Effectively use and interpret verbal messages
3. Appropriately adapt messages to others
4. Listen and respond thoughtfully to others

12. Which of the following two symptoms of groupthink is a result of group members failing to follow Principle 1: Be aware of your communication with yourself and others?
1. Not evaluating ideas and encouraging everyone to participate
2. Feeling apathetic about a task and failing to challenge ideas
3. Prematurely evaluating ideas while including all group members
4. Feeling motivated about the task and challenging ideas as they are presented

13. To comfort his upset friend Hunter, Austin says, “I am so sorry that you lost your job this week. I can imagine that you are feeling very upset about it. Is there anything I can do to help you to feel better?” Austin’s use of empathic language represents which principle of human communication?
1. Be aware of your communication with yourself and others
2. Effectively use and interpret verbal messages
3. Effectively use and interpret nonverbal messages
4. Appropriately adapt messages to others

14. Effective communicators examine others’ behavior for facial expressions, eye contact, gestures, and posture in order to interpret their messages. These communicators are using which principle of human communication?
1. Be aware of your communication with yourself and others
2. Effectively use and interpret verbal messages
3. Effectively use and interpret nonverbal messages
4. Appropriately adapt messages to others

15. Principle 1: Being aware of your communication with yourself and others is related to all of the following concepts EXCEPT:
1. Self-concept
2. Self-esteem
3. Perceptions
4. Neologism

16. Which of the following concepts will be impacted by Principle 2: effectively use and interpret verbal messages?
1. Bypassing
2. Ethnocentrism
3. Perception checking
4. Territoriality

17. While listening to Savannah talk about her job, Connor notices that she has animated facial expressions, is smiling a lot, is making eye contact, and is speaking with a raised pitch. When Savannah is done speaking, Connor says, “So you’re feeling pretty good about this job. It’s clear that you’re really excited.” Connor’s use of paraphrasing shows that he is adept in which of principle of human communication?
1. Effectively use and interpret nonverbal messages
2. Effectively use and interpret verbal messages
3. Listen and respond thoughtfully to others
4. Appropriately adapt messages to others
18. The dictionary defines apartment as “a room or suite of rooms used as a residence”. However, Sally feels the word apartment means a comfortable place to relax at the end of the day. This difference between denotative and connotative language reflects which principle of human communication?
   1. Be aware of your communication with yourself and others
   2. Effectively use and interpret verbal messages
   3. Effectively use and interpret nonverbal messages
   4. Appropriately adapt messages to others

19. Katrina is giving an informative presentation about mountain biking. During her speech, she makes sure to do the following things: speak loudly enough to be heard easily by all members of the audience, vary the volume of her voice to emphasize ideas and sustain the audience’s interest, and also vary her speaking rate to add interest to her delivery and emphasize key ideas. With all of these behaviors, which of the principles of human communication is Katrina attempting to incorporate into her presentation?
   1. Effectively use and interpret nonverbal messages
   2. Effectively use and interpret verbal messages
   3. Be aware of your communication with yourself and others
   4. Appropriately adapt your messages to others

20. Kellan emailed his professor at the end of the semester to see if there was any way that he could get a better grade in the course. However, Kellan was unprofessional in his email and spoke to his professor in the same manner as he would speak to his friends. Kellan failed to recognize the importance of which principle of human communication?
   1. Appropriately adapt messages to others
   2. Effectively use and interpret verbal messages
   3. Effectively use and interpret nonverbal messages
   4. Be aware of your communication with yourself and others

21. Many believe that the burden of achieving successful communication relies on the person sending the message. Which of the following principles of human communication contradicts this belief and suggests that the receiver is responsible for achieving successful communication?
   1. Be aware of your communication with yourself and others
   2. Effectively use and interpret nonverbal messages
   3. Effectively use and interpret verbal messages
   4. Listen and respond thoughtfully to others

22. Intrapersonal communication deals primarily with which fundamental communication principle?
   1. Effectively use and interpret verbal messages
   2. Effectively use and interpret nonverbal messages
   3. Appropriately adapt messages to others
   4. Be aware of your communication with yourself and others

23. When Jacob walked into his job interview, the potential employer was surprised by his multiple piercings and tattoos. Which principle of human communication did Jacob disregard?
   1. Listen and respond thoughtfully to others
   2. Appropriately adapt messages to others
   3. Effectively use and interpret verbal messages
   4. Effectively use and interpret nonverbal messages

24. Effective communicators consider who the listeners are when deciding what to say and how best to say it. These communicators are successful at which of the following principles of human communication?
   1. Effectively use and interpret nonverbal messages
   2. Effectively use and interpret verbal messages
   3. Listen and respond thoughtfully to others
   4. Appropriately adapt messages to others

25. When Erin expressed her concern about slow progress on a monthly sales report to her coworker, Colin, he stopped what he was doing and patiently waited for her to finish before responding. Which of the principles of communication is Colin using?
   1. Listen and respond thoughtfully to others
   2. Appropriately adapt messages to others
   3. Effectively use and interpret verbal messages
   4. Be aware of your communication with yourself and others
Appendix B: Behavioral Learning Outcome Assessment

ASSESSMENT 2: Interpersonal Conflict Competence

INSTRUCTIONS: Answer each item honestly as it currently applies to you in typical conflict situations with others. Use the following scale:

1 = strongly disagree, 2 = slightly disagree, 3 = unsure, 4 = slightly agree, 5 = strongly agree

1. I want to use a collaborative approach to managing conflict in my relationships.
2. I have enough knowledge and experiences to effectively resolve conflict in my relationships.
3. I use a wide range of behaviors, including using “I” messages, monitoring emotions, and identifying common goals to adapt during conflict situations.
4. I want to be involved in brainstorming solutions to problems and conflicts that arise in my relationships.
5. I know how to respond to my relational partner during conflict, because I am perceptive and attentive to others’ behaviors.
6. I show my involvement in finding a solution both nonverbally and verbally.
7. I want to make conflict resolutions with my relational partners go smoothly.
8. I know how to describe the problem, achieve understanding, reach common goals, brainstorm solutions, and select the best solution during conflict situations.
9. It is easy for me to manage conflict situations.
10. I want to understand other people’s viewpoints and emotions during conflict situations.
11. I know that empathy is a fundamental component of resolving conflict and that it means to try and see it through others’ eyes and feel what they feel.
12. I show my understanding of others during conflict by reflecting and paraphrasing their thoughts and feelings to them.
13. I am motivated to reach common goals with my relational partners during conflict.
14. When resolving conflict, I know the steps to take to achieve an acceptable solution for both parties involved.
15. I achieve successful conflict resolutions.
16. I want to effectively and appropriately communicate during conflict situations.
17. I am aware of the principles of the collaborative approach to managing conflicts.
18. I act appropriately during conflict situations.