PRESENTING IN THE PRESENT: PUBLIC SPEAKING IN ONLINE COURSES

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ABSTRACT

During the 21st century, colleges have increasingly leveraged online-based courses as a means of instruction, and although public speaking ability is among employers' most in-demand skills for college graduates, there exists a scarcity of research measuring students' public speaking skill development in online courses. Even fewer studies measure public speaking skill development in online courses compared to the same skill development in classroom-based versions of the same courses taught by the same instructors.

Given this background, the current study used analysis of variance with repeated measures to determine whether face-to-face Business Communication students' presentation skills improved more than, less than, or the same as those of online Business Communication students. This design enabled measurement of the dependent variable of presentation skill improvement, in groups of students separated by the independent variable of course delivery format—classroom or online—over time. This design also allowed the researcher to control for the variable of instructor; instructor bias was controlled for by only comparing students enrolled with, and therefore taught and evaluated by, the same instructor in both modalities.

Furthermore, to uncover additional findings related to student choice of and success in online courses, two more sets of analyses were conducted. The first computed change scores between the repeated-measures tests for each of the eight assessment criteria, as well as the total across the eight criteria, and correlated these change scores with other student data where this analysis was appropriate (for example, with SAT/ACT

scores). The second set of analyses added blocking variables—sex, race, and other background data—to the analysis of variance with repeated measures.

Evident from these analyses was that the rate at which public speaking sub-skills developed over the ten-week period between repeated-measures assessments was not uniform. Changes in performance varied by assessment criterion, course modality, and student background. Online student performance tended to improve at a marginally greater rate in assessments of Body Language and tended to diminish at a marginally lesser rate in assessments of Quality & Quantity of Information, whereas face-to-face student performance improved at a significantly greater rate in assessments of Audience & Team Engagement. In this latter criterion, the performance of online male students decreased somewhat, whereas the other subgroups—per sex and course modality— showed essentially no difference in the rate of improvement from pre-test to post-test. Additional findings suggested that online students tended to work more employment hours than classroom-based students and that, regardless of course modality, the higher the education level a student's parents have attained, the more likely the student was to make learning gains in the course.

DEDICATION

This dissertation is dedicated to my mother, who may at some point become curious enough (or bored enough) to read some of it. It is also in honor of my grandparents, who I wish could have had the chance to do so.

ACKNOWLEDGEMENTS

Since this was my first time prompted to publish "acknowledgements" regarding a long-term project, I was initially tempted to identify here everyone I have ever known, but doing so would be silly and impractical. Instead, I will limit these acknowledgments to those who were in the immediate orbit of the project.

First, I would like to thank my dissertation committee, a "dream-team" of helpful, knowledgeable, and caring people without whom I could not have completed this project. In addition to helping me with the quotidian review-oriented steps of creating and approving the dissertation itself, you have each directed me in subtler ways, throughout my experience with this doctoral program, to help me reach this point. Dr. DuCette, you taught me how to use and (mostly) understand statistics, at a time when I had not taken a math-related course of any kind in roughly 16 years. Dr. Davis, as my academic advisor, your knowledge and vigor about the program was always an asset. Dr. Paris, when I initially had trouble navigating the EdD application process and needed answers to my questions, you went beyond your allotted responsibilities to help me, and you continued in that helpful capacity whenever I reached out to you about the program thereafter. Dr. Matthew, your good nature and sensibility has influenced me professionally to a tremendous degree, and as such, your encouragement to pursue this doctoral degree— around the time you finished your own—was a great source of encouragement and inspiration.

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CHAPTER 1

INTRODUCTION

Disclaimer

This dissertation was defended in June 2020, in the midst of the COVID-19 pandemic, but it is based on data collected well before the pandemic, during the 2017-2018 academic year. As this pandemic and the accompanying widespread quarantine response may have shifted the ways in which people interact remotely, what remains unclear is the extent to which this dissertation's findings and implications might apply to a post-COVID-19 world.

Background

Due to existing market forces—competition, demand, resource availability, budget dynamics, and technological trends—colleges have increasingly offered online learning options in the 21st century (Allen, Seaman, Poulin & Straut, 2016). Some economists and industry insiders predict that this trend could substantially disrupt the traditional college model. Clayton Christensen (n.d.) describes his influential theory "disruptive innovation" as a "process by which a product or service takes root initially in simple applications at the bottom of a market and then relentlessly moves up market, eventually displacing established competitors." Higher education, like all industries, must be adaptable to changes in the economy, technology, and consumer demand, so theoretically, colleges could also be susceptible to disruption (Christensen & Eyring, 2011). Butler (2014), Selingo (2014), and Rosen (2011) are three industry observers who

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believe that disruptive innovation, via online learning, can play a significant role in higher education.

Butler (2014) argues that no-frills, "unbundled" educational services, like online learning programs that do not include typical campus amenities, have the potential to disrupt the traditional university model because they are often cheaper and more accessible to a growing segment of consumers in the education market. He writes, "Entrepreneurs with new technologies and new business models typically aim first at customers who have traditionally been ignored or underserved by traditional industry leaders" and continues by stating that this neglect leaves "the upstarts to occupy a sector of the market of little interest to industry leaders" (p. 3). He asserts that if traditional four-year universities do not economize tuition prices and begin focusing on and leveraging their distinct value proposition, disruption will occur.

Amid the increase in online course offerings is skepticism from stakeholders who question and scrutinize the quality of pedagogical returns associated with online learning. According to Allen, Seaman, Poulin, and Straut (2016), the year-to-year increase in the enrollment of higher education distance learners was 3.9% in 2015, more than the 3.7% increase in 2014. That is 217,275 more students enrolled in distance learning courses than those enrolled the year prior. Additionally, the same study reported that, despite 28% of 2015 college students being enrolled in at least one distance learning course, and despite 63% of chief academic leaders agreeing that "online learning is critical to their long-term strategy," only 29.1% of faculty accept the "value and legitimacy of online education" ("Key report findings," para. 5-7). Therefore, as the prevalence of online coursework

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grows, it is not without doubt among many of those responsible for teaching using these online instructional modalities.

Considering this confluence of factors in the higher education industry, more research is necessary to assess whether there is a significant difference in student achievement, resulting from instructional differences, in online coursework as opposed to that in traditional classroom coursework. Understanding this potential distinction would help inform higher education administrators as they make choices regarding online course offerings and the best ways to leverage technology for the purposes of teaching and learning.

In terms of pedagogical subject matter, this research should focus on courses that teach and assess highly practical and in-demand skills such as public speaking ability. In 2018, the Association of American Colleges and Universities commissioned a survey of 501 executives and 500 hiring managers in the private and nonprofit sector to gauge—among other things—the college learning outcomes that these groups consider most important for college graduate success in the current economy. According to the survey, among learning objectives that cut across majors, the most highly valued was ability "to effectively communicate orally"; 80% of executives and 90% of hiring managers rated this skill as "very important" among college graduates transitioning to the workforce ("Fulfilling the American Dream: Liberal Education and the Future of Work," 2018).

Problem statement

There is a scarcity of quantitative research measuring students' public speaking skill development in online courses, and even fewer quantitative studies measure public

speaking skill development in online courses as compared to the same skill development in classroom-based versions of the same courses taught by the same instructors. Researchers (Allen & Seaman, 2013; Allen et al., 2016; Brocato, Bonanno, & Ulbig, 2015; Sauers & Walker, 2004) studying online education have frequently relied on survey respondents—students, faculty, and administrators—reporting their own perceptions of course quality and satisfaction. Some of these studies (e.g., Sauers & Walker, 2004) have also attempted to measure student engagement with course material in online versus face-to-face versions of the same course. These types of studies are sometimes precariously designed, as the concept of "engagement," by nature, is medium-specific, meaning that it manifests differently and is therefore measured differently depending on whether a student is enrolled in classroom-based or online-based coursework. There are often similar utilitarian concerns with the studies that rely too heavily on surveys to measure quality and satisfaction associated with online learning, as students' and instructors' pre-existing expectations, comfort, and modal expertise—not to mention software choices and technological support availability—all potentially affect these stakeholder perceptions.

Many researchers (Bentley & Kehrwald, 2017; Byrd, 2016; Cleveland-Innes & Campbell, 2012; Meyer & McNeal; 2011; Minnaar, 2011) have sought to understand what variables and practices contribute to or hinder online learning achievement. These studies are useful for distilling broad, practical implications regarding general online teaching and learning, but they stop short of directly measuring student success in that medium versus success in a face-to-face version of the same course. Without this direct,

demonstrable outcome comparison, researchers can narrow a list of best practices for online teaching and learning, but they cannot vouch for the holistic efficacy of the online medium when weighed against the instructional efficacy of the traditional classroom medium. Studies (Driscoll, Jicha, Hunt, Tichavsky & Thompson, 2012; Summers, Waigandt & Whitaker, 2005) that do create this direct, measurable comparison between online and face-to-face learning achievement, often suffer from methodological limitations preventing reliable and consistent conclusions.

Among the few studies (Clark & Jones, 2001; Linardopoulos, 2013; Shih, 2010) that have related to teaching and learning public speaking skills online, they tend to either focus on measuring students' own potentially biased perception of skill growth related to a course, assessing students' opinions of the learning experience, or examining hybrid courses wherein most of the student speech deliverables are executed in a traditional classroom, thus deviating from the online environment. Given the employer demand for college graduates with oral communication skills ("Fulfilling the American Dream: Liberal Education and the Future of Work," 2018) and the continual increase in colleges offering online courses (Allen et al., 2016), more research is necessary to investigate the quality and consistency of outcomes based on this combination of skill-based learning objective and instructional medium.

Research questions and hypotheses

The current study addresses the following primary research question: Are there significant differences in the public speaking skill development of students in classroom-based Business Communication courses versus the public speaking skill development of

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students in online-based Business Communication courses? In keeping with the literature (Allen & Seaman, 2013; Allen et al., 2016; Archibald & Feldman, 2012), which demonstrates inconsistent confidence in and outcomes from online instruction, the research hypothesis for this question was that online-based courses are less effective in facilitating students' public speaking skills growth than are classroom-based courses.

The following are secondary research questions of this study:

- In what ways, if any, do the students who opt for the online version of a course differ from the students who do not?

- What is the relationship, if any, between learning achievement in an online course and other background characteristics of a student?

Because these latter two research questions are open-ended, there were only broad hypotheses that related to the "if any" clauses; those respective hypotheses are as follows:

- Students who opt for the online version of a course differ from the students who do not.

- There are relationships between learning achievement in an online course and other background characteristics of a student.

Theoretical framework

A relevant framework to use in answering these questions is functional (or functionalism) theory, which identifies the mission of education as instilling practical skills in students that they can later leverage as productive contributors to societal institutions; in doing so, educational institutions can help to balance otherwise imbalanced social and economic opportunities (Russell, 2013). These practical skills can

manifest not only in the content being learned, but also in the media through which that process occurs. First, regarding learning content, focusing on a vocationally pragmatic skill-based learning area—like oral presentation skills for business students—is a logical study focus because these skills build over the duration of a course term, showing measurable learning growth through skill improvement ("Fulfilling the American Dream: Liberal Education and the Future of Work," 2018). Next, regarding media, by students mastering in-person and web-based communication tools to participate in an academic course, they can also master current technology mirrored in industry ("Employed persons," 2019). As Ballantine and Spade (2007) state on the topic of functional theory, "Institutions of higher education are expected to…produce students with up-to-date skills and information required to lead industry and other key institutions in society" (p. 11). Familiarity with current technology—like Web-conferencing platforms—is critical to broadening career options and lessening the propensity of socioeconomic class stratification. Moreover, if online higher education programs can reduce execution costs for universities (Archibald & Feldman, 2012; Butler, 2014), perhaps those savings can be passed on to underrepresented applicants and those less likely to be able to pay otherwise rising tuition costs. For these reasons, further research into how to best leverage online education—specifically regarding practical skills growth—is necessary.

Purpose of the study

This study sought to analyze and document the differences, if any, in learning public speaking skills in an online- versus classroom-based course model. General speculations about effectively learning, in a technology-assisted format, to deliver oral

presentations may be possible based on this study. For example, if there is no significant statistical difference between the two groups, this outcome would reinforce the validity of online education, specifically as it relates to teaching practical "soft skills," such as engaging an audience while delivering information and collaborating with peers to produce satisfactory assignment deliverables. In this case, colleges and especially business schools—which frequently employ team oral presentations—would be encouraged to continue recent trends (Allen et al., 2016) in expanding coursework into online platforms, knowing that the pedagogical product is likely to not diminish due to medium.

Conversely, if there is a statistically significant difference between the skills growth in the two groups, this outcome could have varying implications that may potentially apply broadly to general course design beyond Business Communication courses. If there are significantly more learning gains in the online group than in the classroom group, educators may want to conduct further research to isolate why that is the case and furthermore attempt to build into more courses whatever positive pedagogical agent is revealed. If it turns out that classroom-based students experience significantly more learning gains than do online-based students, this finding may give educators pause about attempting to expand course offerings into the online medium or at least strongly consider which types of coursework are likely to be most effective via that medium.

Beyond instruction and course design, this study also has potential to aid administrators in maximizing support for students. For instance, findings on the

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relationship between student background characteristics (e.g., standardized test scores, household income, sex, and race) and preference or success in online courses can help administrators more adeptly guide students toward or away from online course options, knowing which characteristics correlate with high achievement. Administrators might also be able to target which types of students, should they choose to enroll in online courses, might be considered at-risk in that environment and therefore recommend academic support options to better ensure student success in these courses.

Uniqueness of the study

This study was designed to contribute to the scholarly discussion about ability and success associated with teaching and assessing students in an online course format. Furthermore, this study will look beyond pure pedagogy to consider what types of students are most likely to enroll and thrive in an online course. The results, based on empirical quantitative data and methodological rigor, can produce meaningful implications for college administrators, instructors, and students.

Definitions of key terms

Business Communication course. A for-credit, writing-intensive class that seeks to help students develop and refine their oral communication, written communication, and analytical skills so that they can communicate effectively in practical, professional settings.

Classroom-based course. An institution's organized, for-credit learning opportunity wherein registered students meet regularly, in a physical classroom space,

with other registered students and at least one instructor. Often used interchangeably with "traditional course" and "face-to-face course."

College. An accredited institution of higher education that grants two-year and/or four-year degrees, in the form of associate's or bachelor's degrees, respectively. Often used interchangeably with "institution," "school," and "university."

Learning achievement. Students' demonstrable growth, as measured by an instructor's assessment scores, in knowledge or skills that is the outcome of instructional efficacy. Often interchangeable with "skill development."

Online (or "online-based") course. An institution's organized, for-credit learning opportunity wherein registered students engage with one another, the instructor, and the learning material mostly or exclusively via internet-based platforms. These courses may not require any synchronous meeting elements (i.e. "asynchronous"), may require occasional in-person meetings to supplement online mediation (i.e. "hybrid"), or may require live meetings and other forms of engagement via web-conferencing software (i.e. "synchronous"). Often used interchangeably with "distance learning" and "internet-mediated coursework."

Public speaking. The practice of speaking orally with a particular purpose or goal that relates to a particular audience of at least one other person. Often interchangeable with "oral presentation," "oral communication," and "speech."

CHAPTER 2

LITERATURE REVIEW

Introduction

The influence of technology—as a source of convenience—permeates many facets of 21st century society, but its influence in education has occasionally been the source of controversy. As educators are still weighing the value and legitimacy of internet-mediated coursework (Allen, Seaman, Poulin, & Straut, 2016), it is essential to gain a deeper understanding of this medium's basic pedagogical efficacy, the best practices associated with online instruction, and the existing body of literature on using the internet to specifically teach and learn a highly in-demand skill: public speaking. Therefore, the first section of this literature review will focus on the general efficacy of online instruction, the second section will focus on best practices to maximize online instruction, and the third will focus on instructing public speaking online.

Studies on the general efficacy of online instruction in higher education

Since online education is a still growing and developing instructional model, few quantitative studies assess student learning outcomes in online courses, and the ones that do often suffer from methodological limitations preventing reliable and consistent conclusions. That is, many studies rely on survey respondents—students, faculty, and administrators—reporting their own perceptions of course quality or satisfaction. For example, although Allen and Seaman's (2013) survey results signified apparent increases in quality and favorability of online learning among chief academic officers, these results focus purely on self-reported perception instead of verifiable, objective outcomes. In the

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study, 77.0% of academic leaders rated learning outcomes in online education as "the same or superior to those in face-to-face" instruction, whereas that number was just 57.2% ten years prior. Still, the study notes that 23.0% of academic leaders maintained that online learning outcomes were inferior. The survey sample also included respondents at universities without online course offerings. Finally, less than 50% of survey respondents at schools offering online courses agreed with the statement, "My institution has good tools in place to assess the quality of online education," and chief academic officers were more likely to agree with this statement than were academic technology administrators or teaching faculty. Therefore, many respondents may have had little or no firsthand experience with online courses, thus skewing the data.

On a narrower scale, Brocato, Bonanno, and Ulbig (2015) used a two-stage non-probability sampling design to examine student evaluations of undergraduate faculty members teaching in both the online and traditional classroom formats at a state college. The study's first stage, focusing only on humanities and social science faculty evaluations, found that students' evaluations of instructors in online courses were significantly lower than the scores for instructors in traditional classroom courses. The second stage then expanded the analysis by including evaluations of university-wide faculty members, including 539 classroom instructors and 166 online instructors, over a two-year period not including evaluations from summer sessions. Independent variables consisted of instructors' professional ranking, sex, course levels taught, semester-year of the course evaluation, and type of classroom setting (traditional or online). Control variables were student ratings of six factors regarding instructor performance: "(1)

teaches course fundamentals, (2) inspires/challenges students, (3) introduces stimulating ideas, (4) develops rapport with students, (5) provides sufficient feedback to students, and (6) encourages student involvement in course learning" (p. 43). This second stage of the study again found online course evaluations to be significantly lower than classroom course evaluations. It also found that, in online courses, female instructors scored significantly higher than their male counterparts in all six evaluative criteria, whereas in traditional classroom instructor evaluations, there was only a pronounced sex-based difference in evaluation of one of the six evaluative criteria: "provides timely feedback" (p. 44). Regarding the overall lower evaluation scores of online course instructors, the researchers suspect a selection bias effect, surmising that online students tend to enter online courses with the incorrect presumption that the workload will be less challenging than if they were enrolled in a classroom version of the same course; later finding this presumptive bias to be incorrect, students may be more likely to perceive a course as inappropriately challenging and therefore lash out on their end-of-semester evaluations. To this point, the researchers write:

> Given the lack of physical cues, personal access to the instructor, and communicative interaction with other students regarding the 'fairness' of assigned work, we believe this indicates students begin online courses with a subjective bias in terms of course workload based on a comparison with their prior in-person class work requirements. (p. 50)

Other studies have attempted to measure differences in student engagement with course material in online versus face-to-face learning environments. For example, Sauers

and Walker (2004) collected data from 261 students across nine sections of a Business Communication course—six sections in an online hybrid format and three sections in a face-to-face format. As a basis to gauge active learning, the researchers used student interactions via the Blackboard online learning management system; the results showed that the students in the hybrid sections interacted with Blackboard significantly more— specifically six times more—than did the students in the classroom-based sections. Even so, because these results were tracked using activity from Blackboard, it remains inconclusive as to whether the face-to-face students were interacting with one another and engaging in active learning in other, non-measured ways offline. These "offline" interactions would not be apparent in data collected from the online Blackboard platform. Therefore, applying constructivist theory—with active learning being a key metric—but not measuring online and offline activity in uniform ways is a limitation in the validity of the study's implications. Finally, although this study also included a pre- and post- assessment, in the form of a writing diagnostic, to measure differences in writing skills improvement, validity concerns regarding the experimental design cast doubt on the reliability of the results. The pre- and post-test showed that students in both groups tended to improve their writing skills and that students in the traditional classroom version of the course improved slightly more so than did the students in the hybrid sections. However, two of the six online hybrid sections consisted of notably higher percentages of honors students and English-language learners. To account for these differences, students in these sections were offered additional tutoring support that the

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other sections did not receive. These caveats potentially skewed the results related to learning achievement.

Summers, Waigandt, and Whittaker (2005) compared the performance and satisfaction of students enrolled in either face-to-face or online sections an undergraduate statistics course taught by the same instructor. The study had a limited sample of 38 students across two sections, one face-to-face and one online, and used a reductive measurement method—comparing cumulative final grades—to attempt to assess performance differences in the two sections. Although the results indicated no significant delivery format-related differences in students' final grades, the study did find significant differences between the two groups regarding student satisfaction, which Coda and Silva (2004) explain derives from a hindsight comparison of preliminary student expectation, before the course, versus lived student experience during the course. Despite being taught by the same instructor—who was using the same evaluation criteria—and completing the same assignments, face-to-face students rated course satisfaction consistently higher in all areas, including instructor explanations, enthusiasm, openness and concern for students, and interest in student learning; class discussion; evaluation and grading; and quality of questions and problems. Although student satisfaction can play a key role in driving student motivation and learning (Vieira et al., 2008), this study's resulting distinctions in student satisfaction may have resulted from factors not controlled for, such as the instructor's superior comfort with or preference toward face-to-face teaching, as opposed to online teaching. In addition, because this study took place in 2005, and online technology has advanced substantially in the years since then, if technological limitations

played a role in students' lack of satisfaction with the online course, those same limitations may not be as relevant or generalizable today.

In a similar, but more recent study, Driscoll, Jicha, Hunt, Tichavsky, and Thompson (2012) sought to assess performance and satisfaction among students enrolled in either the face-to-face or online version of an introductory-level undergraduate sociology course. Other than the distinction in delivery format, all course elements— instructor, assessments, and materials—were consistent across the sections involved in the study. With a large sample of 368 students, divided near evenly between the two course formats, these researchers avoided the small sample concerns of the similar study by Summers, Waigandt, and Whitaker (2005). Regarding student satisfaction, Driscoll et al. found no significant differences between those enrolled in the online course versus those enrolled in the face-to-face course. Based on this result alone, they concluded that online courses can be "an equally effective teaching format" to that of face-to-face courses (p. 323). However, this interpretation does not account for measurable learning performance outcomes, which was an area of this study that suffered from experimental design flaws. First, the study did not include pre- and post-assessments to control for preexisting student aptitude. Second, the researchers even acknowledged that the face-to-face students in the study were enrolled in more credit hours and had significantly higher cumulative GPAs than did the online students. Additionally, the university that was the setting of this study had a policy requiring students on academic probation to enroll in online courses instead of face-to-face courses; the presence of this policy also was not controlled for in the experiment and therefore damaged the potential generalizability of

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the results. Therefore, when the study cites significantly better performance among face-to-face students, this result may be at least partially due to a selection bias, making the reliability of the results questionable. Also, again, because the study only compared achievement on two disparate assignments, the results may more represent student aptitude than instructional efficacy. That is, with neither a pre-test and post-test setup nor the inclusion of assignments that build upon one another in a skill-based way, the study falls short of reflecting true teaching and learning ability. Instead, it may simply reflect the differences in the students, regardless of instructional medium.

Likewise suffering from experimental limitations, Phillips (2015) compared the short-term and long-term student learning outcomes and student satisfaction from using online learning modules as opposed to traditional live lectures. This study's sample included 164 students in a required, evidence-based pharmacy course for first-professional-year students in a doctor-of-pharmacy program. Eighty-two of these students used two interactive, scenario-based online learning modules, while the other 82 participants attended traditional classroom lectures on the same material. The former group completed the online modules asynchronously, at their own pace over a five-day period. Regarding short-term instructional effectiveness, students randomized to the online learning module group performed better on a quiz during the following week and covering the relevant material. These students averaged a quiz score of 55%, as opposed to the mean of 48% on the same quiz for students who attended the live lectures instead of using the online learning modules. Regarding long-term learning, on final exam questions pertaining to the material covered in the study, scores were similar in both

groups, with the live lecture students (87% mean score) performing slightly better than the online learning module students (84% mean score). A survey on student satisfaction mostly showed no significant differences in student perception or preference among the two formats. However, 80% of respondents in the online learning module group noted a strong appreciation for the scheduling flexibility of asynchronous learning, and 86% of this group agreed that these types of modules should continue to be used to supplement live lectures, but 56% agreed that these modules should not altogether replace live lectures. Although this study's sample was large enough, and although the treatment group was randomly selected, the potential generalizability of the findings into typical college coursework situations may be in question due to the following factors: 71.5% of participants were female, 84% of participants already had earned a bachelor's degree, and all participants had self-selected into a highly specialized, post-graduate pharmacy practitioner program.

In sum, the pool of research is inconclusive regarding pedagogical advantages associated with online instruction. Archibald and Feldman's (2012) observations reflect this lack of conclusiveness, as they are notably conservative on the subject; they assert that the effectiveness of technology-mediated instruction is not known, saying that online teaching's "impact is controversial and not fully understood" (p. 17).

Studies on best practices to maximize online instruction

Understanding what variables—tangible and intangible—contribute to or hinder online learning achievement may be essential to realizing the practical implications of research on this topic. For instance, if there is a significant difference between student

learning achievement among online students versus classroom students, isolating which specific variables and approaches may have led to those performance differences would be invaluable. Many studies have sought to unveil these elements that influence productive online learning.

Using an autoethnographic case study, Bentley and Kehrwald's (2017) analysis concluded that principles of effective teaching practice are applicable across differing media, but also that the delivery and timing of said practices may need to be radically rethought to successfully adapt to a new medium, like online instruction. The authors also concluded that starting with a successful face-to-face course can enable an instructor to more successfully adapt the same course to an online environment.

Byrd (2016) sought to build on Tinto's (1997) theory that the social and academic interactions in each classroom create a small community, which connects students to the larger, holistic academic community. Tinto asserted that this connection is central to the essence of an institution. However, because Tinto's research took place prior to the rise of online instruction, Byrd's study focused on how the concept of community factors into online education programs. Byrd's analysis found that the following four factors contributed to the sense of community among online doctoral students: "(a) a cohort experience, (b) a face to face, on campus orientation course, (c) faith, prayer, and spirituality, and (d) challenge and tragedy" (p. 111). Because these factors can potentially contribute to a sense of student community, Byrd contends that their presence can positively affect the experience and performance of online doctoral students. However,

focusing exclusively on doctoral students is a significant limitation on the generalizability of Byrd's findings.

Cleveland-Innes and Campbell (2012) found nine common emotional responses to describing and engaging in an online learning environment. They also asserted that emotional presence is not simply a byproduct of "social presence," but rather that it is essential to the broader online experience. Further, they concluded that this emotional presence develops organically as part of the transition to an online community of inquiry, while also acknowledging that the adoption of technology has outpaced broad understanding of the cognitive and emotional competencies students need to be successful learners in the online environment. They encourage further inquiry. Like Byrd's (2016) study on how sense of community impacts online students, Cleveland-Innes and Campbell sought to understand how another intangible quality — emotion — affects this same population.

Two studies that focus on the instructor perspective are those of Meyer and McNeal (2011) and Minnaar (2011). Based on the results of thematic analysis, Meyer and McNeal (2011) concluded that instructors can improve student learning by:

> 1) Increasing student access to content, 2) changing the role of faculty (which had two parts: increasing access to and changing faculty roles), 3) increasing interaction with students, 4) emphasizing student effort (including use of experiential learning, group work, learning to learn, and feedback), 5) connecting to the 'real world,' and 6) focusing on time. (p. 41-41)

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Alternatively, Minnaar (2011) unveiled three key themes regarding supporting online students: technical infrastructure and access, pedagogy, and human factors. Minnaar found that, for learning to be successful, a student must be proficient with the technology mediating an online course, that instructors should exercise engagement theory in their online courses, and that students need consistent access to and communication with their instructors, as well as with tutors, in an online course. Regarding engagement theory, Kearsley and Shneiderman's (1998) seminal work on this topic argues that students must have the ability to interact with other humans during the learning process and not simply interact with an artificial learning program.

Studies on instructing public speaking online

There is a dearth of research literature examining general efficacy or best practices for teaching and assessing public speaking skills online. The studies that do relate to these topics tend to either focus on measuring students' own perception of skill growth related to a course, assessing students' opinions based on the experience of course format, or examining hybrid courses wherein most of the student speech deliverables take place in a traditional classroom, thus deviating from the online environment. The latter scenario—a hybrid format requiring synchronized classroom space—also will likely become continually less sustainable due to the rapid growth of online-based programs that enroll students at a pace faster than universities can keep up with regarding even part-time classroom demand (Allen & Seaman, 2013; Allen et al., 2016).

For example, Linardopoulos (2013) used a post-term survey to assess the students' opinions of their experience while taking a hybrid public speaking course at a

major research institution in the United States. The study included 30 total participants, for an overall response rate of 77%. The survey showed that students generally believed the hybrid format of the course to be worthwhile and that in this format they fulfilled core objectives of the course; that is, more than 80% of respondents said that the course led them to have a good understanding of public speaking best practices, and about 80% of respondents said that the format added to this understanding. However, whereas 61% of survey respondents said they would take a hybrid version of the course again, none of the respondents indicated that they would be willing to retake the course again if it was in a fully online format. This is an important distinction that Linardopoulos recognized:

> A public speaking course presents a unique set of challenges when it comes to offering it in a hybrid or online format. In addition to emphasizing the development of a specific skills set, the assessment of the public speaking course involves great emphasis on the synchronous feedback from the audience during the delivery of the speeches. It is essential to consider how can the audience feedback requirement be best met in the public speaking course. (p. 314)

The implications of this study appear to affirm that oral presentations may be best delivered and assessed during live, synchronous meetings. This suggests that hybrid formats may work well for public speaking courses, but the implications say little about totally online courses, especially those that are totally asynchronous.

In a less recent study, Clark and Jones (2001) compared online sections to face-to-face sections of a public speaking course at a community college. They investigated outcomes resulting from student evaluation of their chosen course format, student self-

assessment of public speaking ability and anxiety, and outside expert assessment of students' performance in their final oral presentation assignment. Like Linardopoulos's (2013) study, Clark and Jones used a hybrid format that required students to meet on campus to deliver all four public speaking assignments. The sample included in the study consisted of just 21 hybrid-format students and 40 face-to-face-format students. The authors noted some selection bias in the sample, as the hybrid sections contained a higher percentage of males, 43%, than did the traditional sections, 28%. The hybrid sections also included students with more credits and with previous experience taking online-mediated courses.

Clark and Jones (2001) collected all data during the final meeting of the semester. By doing so, they did not control for students' abilities and attitudes at the start of the course, as a repeated-measures study would do. In an attempt to investigate how course format affected learning outcomes, Clark and Jones used a multiple analysis of variance focusing on four measures of public speaking ability: overall, content, delivery, and total. They found no significant differences in student public speaking ability related to chosen course format. However, they noted that the small sample—21 hybrid students and 40 face-to-face students—was a major limitation of the study. Additionally, the assessment means were extremely similar among the two groups, and therefore, power for statistical comparison was low. Ultimately, they concluded that students were generally very satisfied with both versions of the course and that the mean similarities in the outside experts' assessments suggest that both versions of the course were successful in teaching students to be effective public speakers. However, again, it should be noted that there was

only one measure, at the end of the course, and a small sample used to support these conclusions.

Finally, Shih (2010) sought to establish a hybrid, or "blended," model for a course titled English Public Speaking at a four-year university in Taiwan. The sample of students consisted of 44 college seniors majoring in English—84% of whom were female—and the research incorporated both qualitative and quantitative methods: peer and instructor feedback, interviews, self-reflection, and a learning satisfaction survey. Unlike the studies conducted by Linardopoulos (2013) and Clark and Jones (2001), Shih's chosen course model required public speaking assignments delivered both live in classroom and asynchronously online. However, Shih's goal was not to compare the respective experiences of two different cohorts—online versus face-to-face—but instead to validate the hybrid format for public speaking courses in general. That said, the statistical analysis did, for the most part, show students' public speaking skills growth from one speech to the next, in this case comparing a student's first speech recording to a later revision and redelivery of the same speech. Shih noted that 82% of students showed significant progress from the first speech to the next, improving in areas such verbal articulation, grammar, content, camera position, and body language.

Among Shih's conclusions was that the use of asynchronous webcam recordings for the delivery of student speeches was actually a learning advantage not typically available in face-to-face classroom courses. Shih reasoned that when students have to submit a recorded speech, instead of a live speech, that former process enables them to more closely scrutinize their delivery by watching the recording before submitting it; if a

student then decides to re-record a speech, they are essentially receiving extra practice and at the same time are likely to home in on whatever miscues or delivery problems were most evident in the initial recording.

These studies provide implications that, in some cases, tangentially relate to instructing and assessing oral presentations in an online or hybrid course format, but they do not successfully measure learning outcomes—represented by skill development— associated with completely online public speaking courses. This is an area that requires further research.

CHAPTER 3

METHODOLOGY

Introduction

The tension and uncertainty regarding online instruction, as well as the gaps in the literature, raise important questions that can be answered with new research. In the interest of aiding higher education administrators to better understand the benefits and limitations of online teaching and learning, so that they might more strategically make choices regarding course offerings, this quantitative study was designed to answer the following research questions.

Primary research question

1. Are there significant differences in the public speaking skill development of students in classroom-based Business Communication courses versus the public speaking skill development of students in online-based Business Communication courses?

Secondary research questions

2. In what ways, if any, do the students who opt for the online version of a course differ from the students who do not?

3. What is the relationship, if any, between learning achievement in an online course and other background characteristics of a student?

For the first and third questions, "learning achievement" was assumed to be the outcome of instructional efficacy. The primary question produced a comparison between the outcomes of classroom-based and online-based instruction of a course, whereas the

second and third questions attempted to uncover and isolate specific independent variables that may potentially influence the learning achievement outcomes in each instructional setting.

<div align="center">**Participants**</div>

This study primarily involved secondary analysis of assessment data generated during the 2017-2018 academic year. Therefore, student participants' opportunity to learn and instructors' opportunity to assess were not affected in any way by this study. Participants in this study included two groups of students, all of whom enrolled in a 200-level Business Communication course, at a large, public, urban university in the Mid-Atlantic region of the United States. For the purposes of the study, I retroactively divided participants, and their respective assessments, into two groups based on whether they took the course in a traditional classroom format—"Group A"—or in a mostly asynchronous, online format—"Group B." Selection bias was controlled for, in part, by excluding honors sections of the course. "Group A" consisted of 135 students, while "Group B" consisted of 52 students. The volume distinction between the two groups is representative of fewer online sections being offered than classroom sections. At the university in question, at the time of data collection, the student demand for traditional, face-to-face courses far outweighed the demand for online courses. Therefore, during the academic year when these data were collected, the two Business Communication instructors who provided their student assessments for the purposes of this study taught a combined 10 sections, seven of which were classroom sections, and only three of which

were online sections. This is a fairly normal teaching load distribution for this course at this school.

Participant selection was outside of my control, as students had decided, independently of this study, whether to register for the face-to-face or online version of Business Communication while enrolled as undergraduates pursuing bachelor's degrees in Business Administration (BBA). At the time of data collection, most participants had sophomore or junior standing, though some senior-level students were possibly in the study as well. Additionally, some participants were taking the course for the second or third time, due to previous failure. There was no way to prevent or detect this latter possibility in the data. At this university, Business Communication is often cited as one of the most difficult but most useful courses of students' academic careers; this rigor and utility make the course an appropriate setting for the study.

At the time of data collection, the undergraduate population at this university was 29,134 students, 47.3% of whom were male and 52.7% of whom were female. Ninety-one % of these undergraduates attended full-time, and the racial/ethnic breakdown was as follows: 0.1% American Indian or Alaska Native, 11.6% Asian, 0.1% Pacific Islander, 12.6% African American, 6.7% Hispanic/Latino, 56% White, 3.2% two or more races, 3.1% race/ethnicity unknown, and 6.5% international (University Fact Book, 2018).

One reason that this university—and specifically the university's business school—was a relevant environment to conduct this study is that, in recent years, the school had experienced both the rapid growth of online course offerings and accompanying stakeholder skepticism about this growth. In a 2019 periodic program

review compiled by this school's largest department, which also housed the Business Communication course, the primary "weakness" noted in the Strength-Weakness-Opportunity-Threat (SWOT) analysis focuses on the growth of online course offerings:

> [The school] has witnessed huge growth over the past several years, to the extent that classroom availability is scarce, hence almost forcing us to move many course offerings online…While part of our online growth is positive, fueled by student demand, we need to recognize that some of this growth is negative, responding to self-serving requests made by program directors (in addition to the pressure from lack of classrooms). Online education continues to be very controversial among the faculty. (Rosenthal, 2019, p. 8-9)

This same SWOT analysis also identified online course offerings as a potentially positive "opportunity" for the school, noting:

> One opportunity is to broaden and solidify our footprint in the online teaching space. Indeed, while online education was mentioned in the "weaknesses" category above, we can benefit if we find the right mix of classes to offer online. (Rosenthal, 2019, p. 10)

The literature shows (Allen & Seaman, 2013; Allen, Seaman, Poulin & Straut, 2016; Archibald & Feldman, 2012) that this administrative tension coming from strategizing ways to maximize online course offerings, while not sacrificing quality or morale, is common among higher education institutions and is therefore the main reason that this study is timely and important, and also a reason that this study's context and setting are generalizable.

Data collection

This study did not consist of any data collection through intervention and/or interaction with participants. Instead, the study used a secondary analysis of de-identified information collected through normal university channels. That is, to maximize validity, eliminate the potential to adversely affect teaching and learning processes, and adhere to FERPA regulations, this study was based primarily on extant assessment data collected by course instructors via normal educational practices and delivered voluntarily to the researcher months after all courses in question were complete and all assessments final. Other, sample background data—including SAT scores, household income, sex, and race—were collected via the university undergraduate admissions process and New Student Questionnaire (see Appendix A for full questionnaire). These latter data were requested by my dissertation chair, using participants' university ID numbers, from the university's Office of Institutional Research and Assessment.

More specifically, to answer the first research question, the collection of quantitative data involved two experienced Business Communication instructors voluntarily submitting, upon my request, the following information: the evaluation rubrics for two team-based oral presentation assignments in their face-to-face and online sections of Business Communication; the major and total matriculated credits of each student—coded anonymously—at the time of course enrollment. All assessment data were generated in 2017 and 2018. As a core, three-credit BBA course, all Business Communication sections at this university—including online and classroom versions— maintain the same curriculum and are taught by the same instructors. Furthermore, all

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sections use the same evaluation rubric (see Appendix B) for oral presentation assignments.

The scores on the evaluation rubrics—which comprise the dependent, learning achievement variable—assessed oral presentation skills in the following eight areas: vocal delivery, body language, visual aids, eye contact, audience/team engagement, quality/quantity of information, organization, and creativity. These scores reflect both the planning and execution of the assignment deliverables. These data are suitable for a quantitative study measuring student presentation skills improvement over time because the scores represent assessments on a uniform scale, using a common rubric (Appendix A) for both assignments in question.

Procedure

Because this study involved secondary analysis of de-identified information collected through normal university channels, it did not qualify as human-subjects research and therefore received exemption from the university's Institutional Review Board. The study applied a quantitative methodology, specifically focusing on student learning achievement regarding team-based oral presentation skills, to answer the following primary research question: Are there significant differences in the learning achievement of students in classroom-based courses versus those in online-based courses? Participants self-selected into face-to-face or online versions of the Business Communication course being studied, and information on their presentation scores were voluntarily and anonymously submitted by their instructors. Each student's oral presentation skills improvement—or lack thereof—was gleaned through an analysis of

presentation assignment scores over time, and the average improvement by each instructor's face-to-face students was then compared to the average improvement by that instructor's online students.

Rubric data for the eight individual evaluation criteria were gathered, for both groups, based on the first presentation (i.e., Time-1) of the semester—during the fourth week of a 14-week semester—and the final presentation (i.e. Time-2) of the semester, 10 weeks later, to assess skill development over the span of the course. Due to the 10-week difference, these two presentations were treated as pre-test and post-test, respectively, and the "intervention" in this case, was purely the method of instruction: online versus classroom.

The two oral presentation assignments used in this study were both team-based, meaning that students prepared, executed, and were assessed as teams of two or three. Team assignments are appropriate for this study because of functional theory's emphasis on practical learning skills (Ballantine & Spade, 2007)—in this case, business students learning to work together to complete a project—and because prior research (Byrd, 2016; Tinto, 1997) established that a sense of community, including students' ability to interact with one another, is essential to a fully functional academic experience.

Researcher role and positionality

I chose this research topic and sample because it directly relates to my career as an instructor in the BBA program at the participating university. I have taught the classroom version of Business Communication at the participating institution since 2010 and co-developed the inaugural online version of the course in 2013. I have consistently

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wondered, since I teach both online and classroom sections of this course, whether students enrolled in each course platform are in an equal position to achieve high learning returns, and if not, I wondered which specific elements of teaching and learning are maximized and which are limited based simply on how the course is mediated. That said, for validity purposes, this study did not include my own students as participants.

Research design

Data analysis

To answer the first research question, this study used analysis of variance with repeated measures (Pallant, 2010) to determine whether face-to-face Business Communication students' presentation skills improve more than, less than, or the same as those of online Business Communication students. This design is optimal for this study because it enables the researcher to measure the dependent variable of presentation skills' improvement, in groups of students separated by the independent variable of course delivery format—classroom or online—over time. This design also allows the researcher to control for the variable of instructor; instructor bias was controlled for by only comparing students enrolled with, and therefore taught and evaluated by, the same instructor. Furthermore, to answer the subsequent research questions, respectively, two sets of analyses were conducted. The first computed change scores between Time-1 and Time-2 for each of the eight criteria, as well as the total across the eight criteria, and correlated these change scores with data where this analysis was appropriate (for example, with SAT/ACT scores). The second set of analyses added blocking variables— sex, race, and other background data—to the analysis of variance with repeated measures.

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Study variables

The independent between-participant variable (Pallant, 2010) for this study was the format of the course: (1) classroom and (2) online. The independent within-participant variable for this study was time: each student's presentation grade was recorded at Time-1 and Time-2, respectively. The continuous dependent variable for this study was the presentation scores measured at each time period: presentation grades were measured as percentages per rubric criteria, reflecting mastery of the eight evaluation areas on the rubric. Hence, any score advancement that a student makes in an assessment category, comparing performance at Time-1 versus that at Time-2, was considered positive learning achievement.

This study maintained content validity by ensuring that the rubric used to evaluate student work was agreed upon and used by all instructors. To further establish quantitative validity in this study, I obtained data from a large number of face-to-face (135) and online (52) Business Communication students. The variable of time was controlled for by collecting all data from semesters that span only from Fall 2017 to Spring 2018.

Limitations

Because the two presentation assignments in question differ in terms of content, the scoring data may have reflected individual students' knowledge and comfort—or lack thereof—with respective topics and contexts in addition to, or in place of, presentation skill mastery. The first presentation assignment (see Appendix C for full assignment prompt) was primarily informational in nature; it required student teams to research an

assigned nation's communication and business culture, then to deliver a five- to seven-minute oral presentation, with PowerPoint slides, teaching their audience of classmates information from the research. The second presentation assignment (see Appendix D for full assignment prompt) was primarily persuasive in nature, and it involved experiential learning because each team of student presenters assumed the role of small business employees giving a presentation to that business's management team. This latter assignment required each student team to research a charitable organization and execute an oral proposal presentation, with PowerPoint slides, persuading their audience that the researched charity is the optimum choice for the business to partner with for a philanthropic initiative. Teams also had to create the concept(s) for this philanthropic initiative. Therefore, whereas the first presentation is basic—information is researched then presented—the second involves persuasion, creativity, and contextual knowledge about corporate philanthropy and the scenario of working for a small business. So, while the evaluation criteria remained the same for both presentations, the sophistication levels of the assignment deliverables were not consistent with one another, as they would be in a true pre-test/post-test study.

Another potential limitation in comparing the assessment of online students versus classroom students is the fact that students in the online courses did not present directly to a live audience in real time, whereas classroom students did. Due to lack of synchronous meeting time online, oral presentations for online students were submitted as video recordings. This means that online students may have had an advantage in recording themselves multiple times and only submitting the recording of the highest

quality presentation delivery. However, the case could also be made that this practice of an online student recording multiple iterations of the same presentation is not considerably different than classroom students' opportunity to rehearse their own presentation delivery multiple times before executing the graded presentation in the classroom.

Implications

This research design enables isolation of the variable of Business Communication course delivery format to determine whether the delivery format of a course—face-to-face or online—has any bearing on how much students' team presentation skills improve. General speculations about learning to effectively deliver oral presentations in a technology-assisted format may be possible based on this study. For example, a lack of significant statistical difference between the two groups would reinforce the validity of online education, specifically as it relates to teaching practical "soft skills," such as engaging an audience while delivering information and collaborating with peers to produce satisfactory assignment deliverables. In this case, colleges and especially business schools—which frequently employ team oral presentations—would be encouraged to continue recent trends in expanding coursework into online platforms, knowing that the pedagogical product is likely to not diminish due to medium.

Conversely, a statistically significant difference between the skills growth in the two groups could have varying implications that may potentially apply broadly to general course design beyond Business Communication courses. Significantly more learning gains in the online group than in the classroom group may prompt educators to further

research to isolate why that is the case and furthermore attempt to build into more courses whatever positive pedagogical agent is revealed. Alternatively, the classroom group experiencing significantly more learning gains than the online group may give educators pause about attempting to expand course offerings into the online medium or at least strongly consider which types of coursework are likely to be most effective via that medium.

Beyond instruction and course design, this study also has potential implications regarding student access and enrollment. Colleges' ability to effectively leverage distance-learning technology influences the volume of students and types of students who can engage in higher education degree programs and lifelong learning (Worley, 2000). Online, and especially asynchronous, coursework can appeal to a broader spectrum of students, for whom learning would be less bound—as it would be in traditional classroom-based education—by distance and geography. For instance, in online coursework, differing time zones between physical college campuses and students' varying locations would no longer be prohibitive for an enrollee who travels frequently for work, is an active military member, suffers a debilitating ailment, or even is incarcerated. Similarly, physically commuting—which typically incurs monetary and time cost—is less of a concern within online coursework, which consequently creates greater access to students of varying incomes and lifestyle responsibilities.

Finally, because of employer demand specifically for oral communication skills ("Fulfilling the American Dream: Liberal Education and the Future of Work," 2018), there are employment-related implications to this study as well. With the potential to

reach a broader swath of students, online courses that can maximize oral communication instruction—as well as other in-demand and practical job skills—can increase and diversify the pool of qualified candidates for jobs in the modern American and international economy. Therefore, colleges that can effectively leverage online teaching and learning have the potential to create a democratizing effect both economically and socially.

CHAPTER 4

RESULTS

Introduction

This chapter presents the quantitative results of the analyses discussed in Chapter Three. As such, it contains four sections, the first of which recaps what data were gathered and how they were gathered. The subsequent three sections explain how analyses of these data were used to answer this study's three research questions.

Quantitative data

This study analyzed biographic, demographic, and socioeconomic information regarding 187 undergraduate students enrolled in a Business Communication course, required by a Bachelor of Business Administration degree program, during the 2017-2018 academic year. For the purposes of these analyses, data were collected through the university admissions process and New Student Questionnaire, and anonymized and contributed to the experiment by the university's Office of Institutional Research and Assessment. These data informed the analyses to answer the following two research questions:

- In what ways, if any, do the students who opt for the online version of a course differ from the students who do not?

- What is the relationship, if any, between learning achievement in an online course and other background characteristics of a student?

Of these 187 participants, 112 were included in the part of the study that analyzed learning achievement, in addition to the other analyses. The reason for this distinction

was that one of the two instructors who voluntarily contributed student assessment data

for the study did not record per-criterion scores when evaluating his students. Therefore,

while both instructors used the same evaluation rubric to assess student performance in

the same way on the same assignments, only one of the two instructors recorded and

contributed scoring information for all eight assessment criteria. The other instructor used

the same eight assessment criteria but only recorded, and contributed to the study, the

total scores—sums of the eight criteria—for each student on each assignment. Twelve

additional students—eight from the face-to-face group and four from the online group—

were not included in these analyses because they did not complete either one or both

assignments in the repeated-measures experimental design. Therefore, this smaller

sample of 112 student participants informed the analyses to answer the following,

primary research question: Are there significant differences in the public speaking skill

development of students in classroom-based Business Communication courses versus the

public speaking skill development of students in online-based Business Communication

courses? Table 4.1 shows the breakdown of participants in each group—those in online

versus face-to-face sections of Business Communication—totaling 112 students whose

performance was analyzed.

Table 4.1

Breakdown of participants

Group	N
Group "A" – Face-to-Face Sections	67
Group "B" – Online Sections	45
Total	112

Research question 1: Public speaking skill development in classroom- versus online-based courses

The majority of the analysis results—including ANOVA tables and descriptive statistics—are included in Appendix E. However, the tables below summarize the most important findings. The interactions demonstrated in Table 4.2 directly answer this first research question. The independent between-participant variable (Pallant, 2010) for this analysis was the format of the course: (A) face-to-face and (B) online. The independent within-participant variable for this was time: Each student's presentation grade was recorded as a time (Time-1 and Time-2). The continuous dependent variable for this analysis was the presentation scores measured at each time period: Presentation grades were measured as percentages per rubric criterion (since the two assignments were weighted differently), reflecting the degree of student achievement regarding the eight individual sub-skill categories on the assessment rubric (see Appendix A for full rubric). Hence, any score advancement that a student made in an assessment category, comparing performance at Time-1 versus that at Time-2, was considered positive learning achievement.

A repeated-measures analysis of variance (ANOVA) involves between-subjects and within-subjects factors. For this study, the primary between-subjects factor was type of instruction (face-to-face versus online). The within-subjects factor was time (pre-test versus post-test). A significant main effect for type of instruction would imply that one of the two groups had a significantly higher mean across the pre-test and the post-test. A main effect for time would indicate that the students, as a whole, increased or decreased achievement from pre-test to post-test. Of most interest in the analysis is the interaction. A significant interaction would indicate that the change between the two testing times is different for the two groups. A repeated-measures ANOVA has all of the same assumptions as any other type of ANOVA but with the addition of what is termed the circularity assumption. This assumption is that the correlations across time remain relatively constant across groups. Since this assumption is typically violated, the Greenhouse-Geisser correction is normally applied to the results, a process that was used in this study.

Between-participant analysis of variance with repeated measures

The between-participant analysis yielded some significant and non-uniform results regarding the ways in which each group achieved in the following holistic course learning objective: "Formulate reasoned oral arguments and enhance presentation skills." There were no significant interactions regarding the following assessment criteria, meaning that the distinction between the rate of changed performance was not statistically significant: Voice & Vocal Delivery, Visual Aids, Eye Contact, Organization, and Creativity. That said, interactions for the assessments of Voice & Vocal Delivery (p

= .070) and Body Language (p = .054), both "behavioral" delivery-based traits, and for the content-based trait Organization (p = .053) were near the threshold of what researchers typically consider marginally significant (p = .050). For Voice & Vocal Delivery, the face-to-face student scores improved slightly more than did online student scores, and for Body Language the opposite trend occurred. For Organization, both groups' performance trended negatively, with online students' scores worsening at a slightly more significant rate. Because this is an exploratory study, and because these interactions are close enough to being significant to suggest a real effect occurring, they will be discussed here and again in Chapter Five.

Significant interactions did occur for one content-based trait, Quality & Quantity of Information (p = .039), and one behavioral delivery-based trait, Audience & Team Engagement (p = .033). In the interaction for Audience & Team Engagement, the face-to-face group increased scores at a significantly greater rate than did the online group. In the interaction for Quality & Quantity of Information, the performance scores for both groups decreased from the first assignment to the second, with the online group's scores decreasing significantly less than those of the face-to-face group. Although significant, both interactions had a small effect size; partial eta squared equaled .041 for Audience & Team Engagement and .038 for Quality & Quantity of Information. Partial eta squared (η_p^2) is a measurement of effect size frequently used in educational research, wherein η_p^2 = 0.01 is typically considered small, η_p^2 = 0.06 medium, and η_p^2 = 0.14 large. A larger effect size would suggest a stronger relationship between variables (Richardson, 2011). Table 4.2 demonstrates the interactions for all eight assessment criteria.

Table 4.2

Interaction

Assessment Criterion	p	η_p^2
Voice & Vocal Delivery	.070 (NS)	
Body Language	.054 (NS)	
Visual Aids	NS	
Eye Contact	NS	
Audience & Team Engagement	.033	.041
Quality & Quantity of Information	.039	.038
Organization	.053 (NS)	
Creativity	NS	

Analysis of "Voice & Vocal Delivery" interaction

Although the interaction for this criterion was not statistically significant, it was nearly so ($p = .070$). For Voice & Vocal Delivery, the face-to-face student scores improved slightly more than did online student scores. Figure 4.1 demonstrates this interaction.
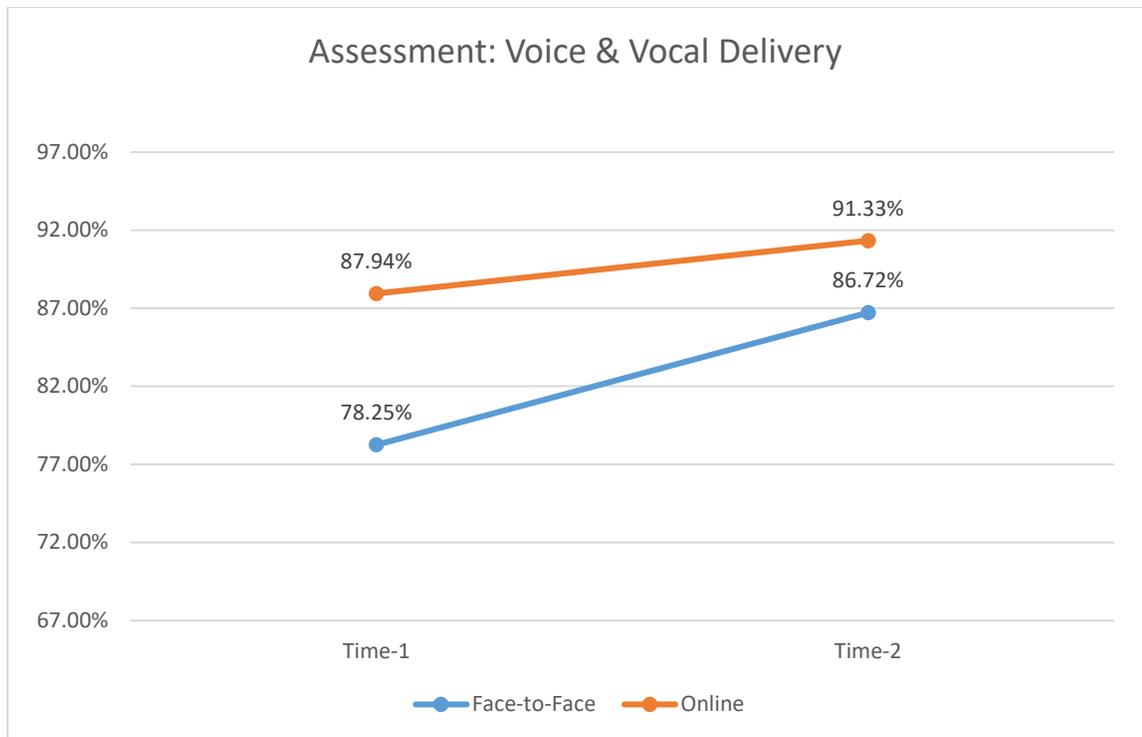
Figure 4.1. "Voice & Vocal Delivery" performance assessment over time

Analysis of "Body Language" interaction

In the assessment of Body Language, online students improved in this behavioral delivery-based trait at a slightly greater rate than did face-to-face students. This interaction was not quite statistically significant ($p = .054$) but nearly so. Figure 4.2 demonstrates this interaction.
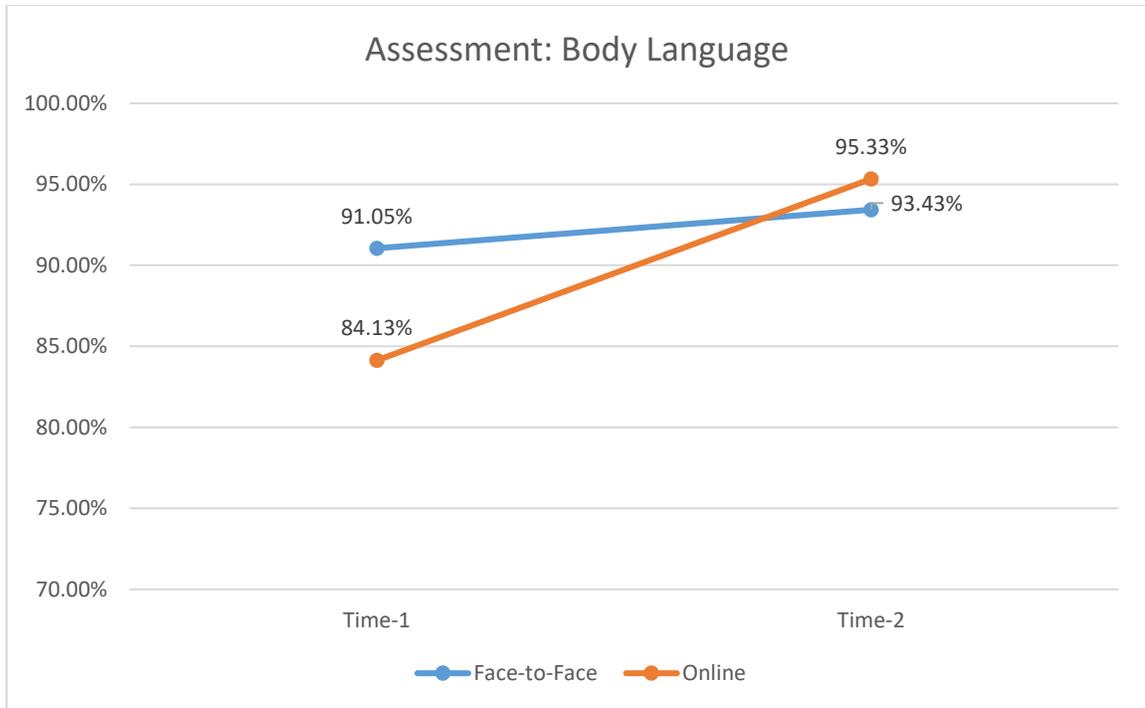
Figure 4.2. "Body Language" performance assessment over time

Analysis of "Audience & Team Engagement" interaction

In the assessment of Audience & Team Engagement, face-to-face students improved in this behavioral delivery-based trait at a significantly greater rate ($p = .033$) than did online students. Figure 4.3 demonstrates this interaction.
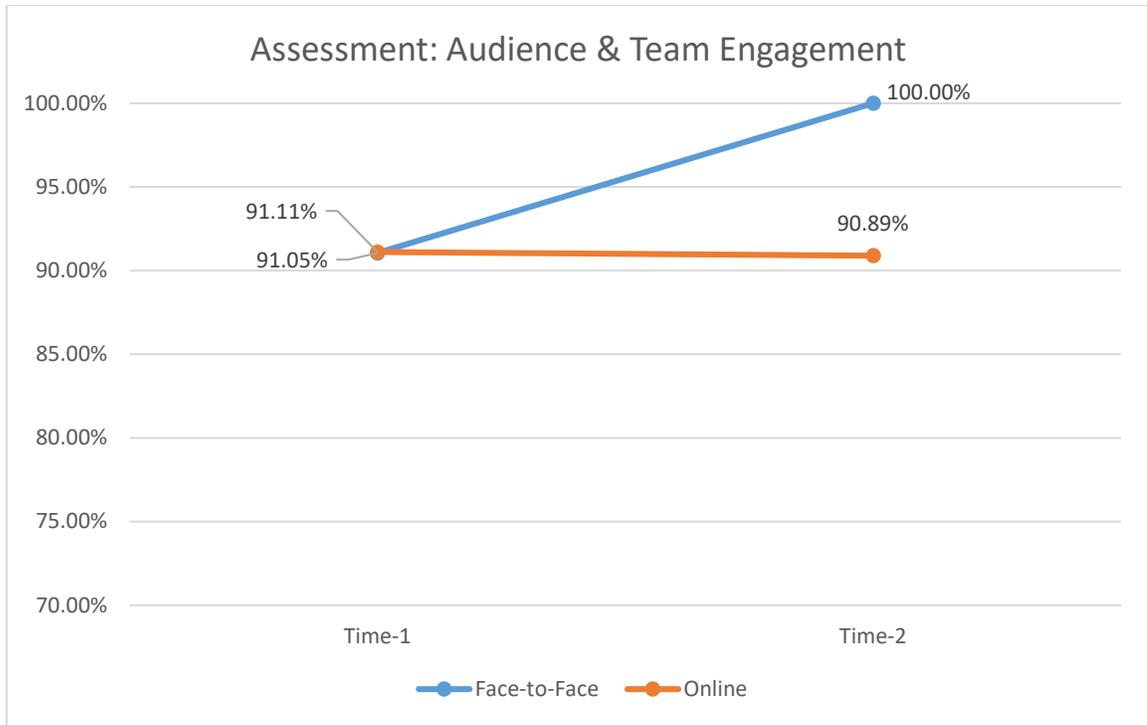
Figure 4.3. "Audience & Team Engagement" performance assessment over time

Analysis of "Quality & Quantity of Information" interaction

In the assessment of Quality & Quantity of Information, online students' performance diminished at a significantly lesser rate ($p = .039$) than did that of face-to-face students in this content-based trait. Figure 4.4 demonstrates this interaction.
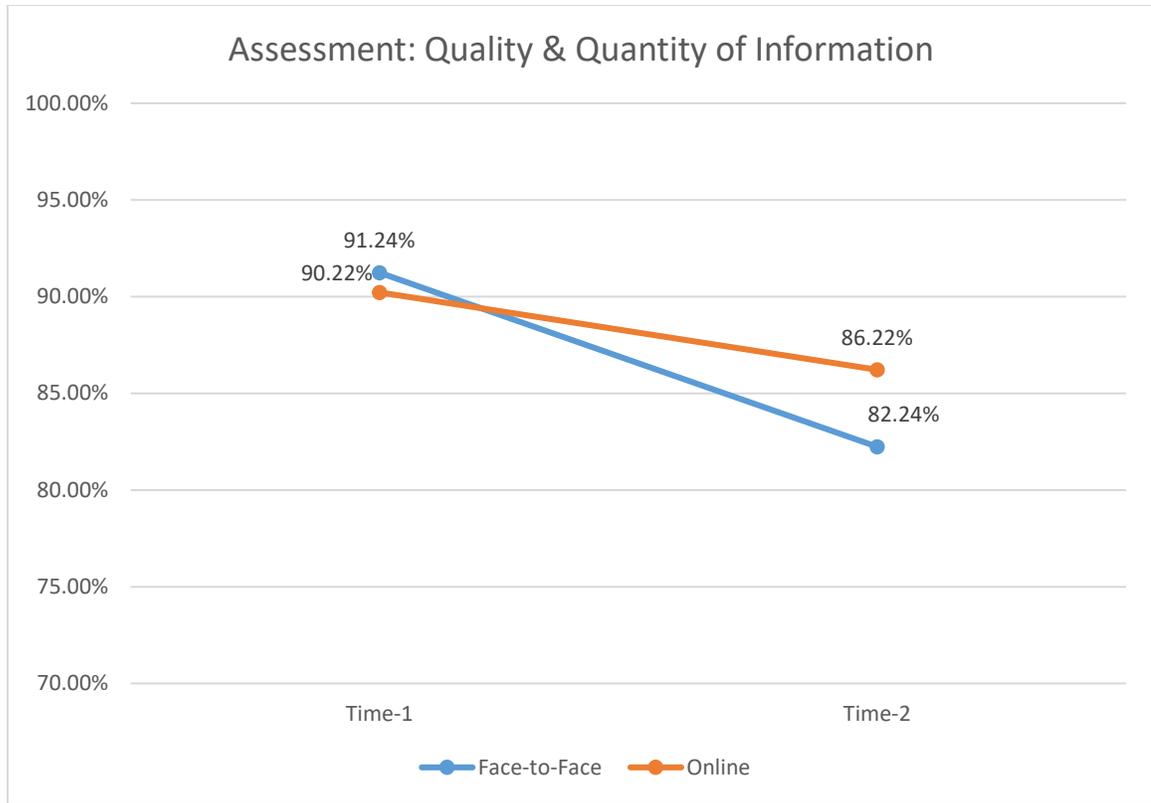
Figure 4.4. "Quality & Quantity of Information" performance assessment over time

Analysis of "Organization" interaction

In the assessment of Organization, face-to-face students' performance diminished at a marginally lesser rate ($p = .053$) than did that of online students in this content-based trait. Figure 4.5 demonstrates this interaction.
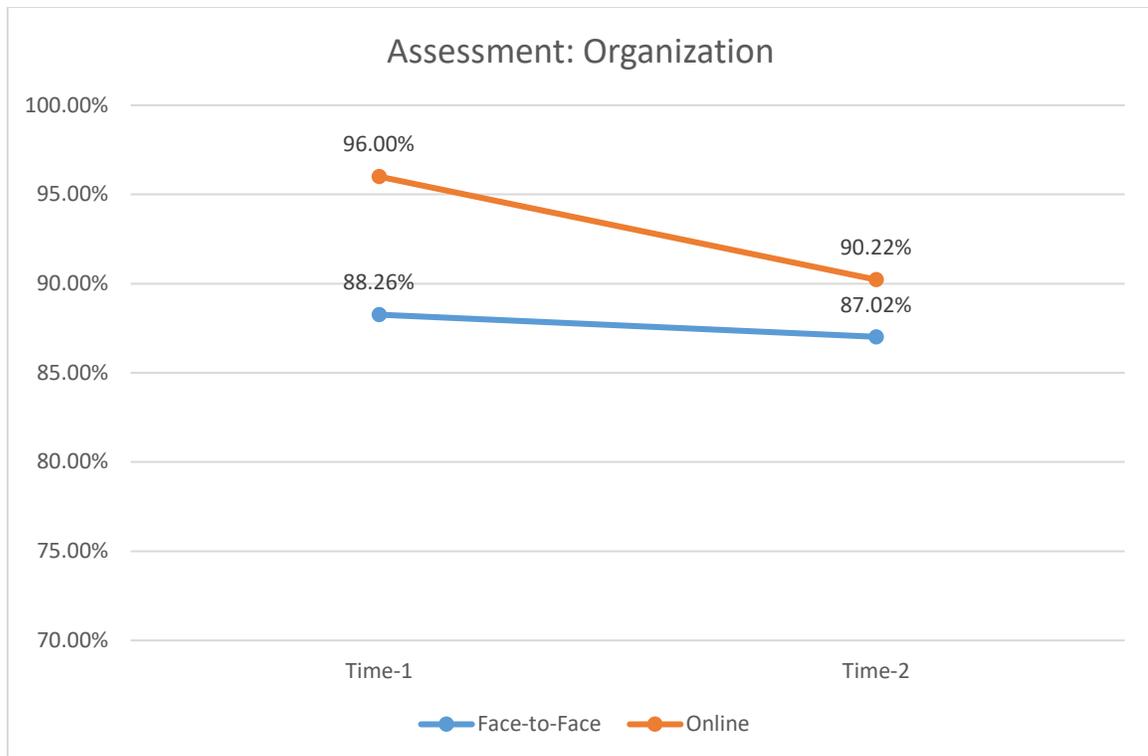
Figure 4.5. "Organization" performance assessment over time

Within-participant analysis of variance with repeated measures

While not directly related to Research Question 1, Table 4.3 and Table 4.4 summarize the main effects for time and group, respectively. These results—most of which are significant—relate tangentially to understanding the observed effects regarding student performance.

Table 4.3 demonstrates change in performance over time in each of the eight assessment categories. These criteria represent the degree of measurable success in achieving the following Business Communication course learning objective: "Formulate reasoned oral arguments and enhance presentation skills." There was significant main-effect improvement from Time-1 to Time-2 in five of the eight assessment categories:

Voice & Vocal Delivery, Body Language, Eye Contact, Audience & Team Engagement, and Creativity. Two other significant effects—relating to Quality & Quantity of Information and Organization—showed negative trends; scores significantly diminished in these areas on the second assessment. Finally, performance in one assessment category, Visual Aids, stayed roughly the same over time. The effect sizes of these were large for Voice & Vocal Delivery, Eye Contact, Quality & Quantity of Information, and Creativity.

Table 4.4 sums scores across time, providing each group's mean score, which encompasses both pre-test and post-test. Significant main effects for group occurred regarding Voice & Vocal Delivery, Eye Contact, Audience & Team Engagement, Organization, and Creativity. The effect size was large for Voice & Vocal Delivery and Organization.

Table 4.3

Main effect for time

Assessment Criterion	Mean Pre-test	Mean Post-Test	p	η_p^2
Voice & Vocal Delivery	82.14%	88.57%	.000	.143
Body Language	88.27%	94.19%	.003	.076
Visual Aids	85.59%	85.63%	NS	
Eye Contact	80.23%	94.19%	.000	.237
Audience & Team Engagement	91.07%	96.52%	.042	.037
Quality & Quantity of Information	90.83%	83.84%	.000	.211
Organization	91.37%	88.30%	.003	.077
Creativity	73.21%	82.05%	.000	.141

Table 4.4

Main effect for group

Assessment Criterion	Mean Online	Mean Face-to-Face	p	η_p^2
Voice & Vocal Delivery	89.6%	82.5%	.000	.148
Body Language	89.7%	92.2%	NS	
Visual Aids	86.4%	85.1%	NS	
Eye Contact	83.6%	89.6%	.025	.045
Audience & Team Engagement	91.0%	95.7%	.040	.038
Quality & Quantity of Information	88.2%	86.7%	NS	
Organization	93.1%	87.6%	.000	.161
Creativity	81.4%	75.1%	.002	.085

Research question 2: Relationship between student background and choice to enroll in online learning

To discover what types of students tended to opt for enrolling in the online version of this course, data about all 187 participants were gathered from the University Admissions Office and the New Student Questionnaire (see Appendix B for the entire questionnaire). Data from the admissions process included each student's sex, race, and SAT/ACT score. Data from the New Student Questionnaire included each student's responses to the 14 questions and prompts identified in Table 4.7.

Relationship between sex and choice to enroll in online learning

Results indicated no statistically significant difference in the choice of online versus face-to-face course modality as a function of a students' sex. Table 4.5 shows the descriptive statistics involving student sex and course enrollment.

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Table 4.5

Group by sex crosstabulation

Group	Calculation	Sex		
		Female	Male	Total
Group "A" – Face-to-Face Sections	n	60	75	135
	% within Group	44.4%	55.6%	100.0%
Group "B" – Online Sections	n	23	29	52
	% within Group	44.2%	55.8%	100.0%
Total	n	83	104	187
	% within Group	44.4%	55.6%	100.0%

Note: Chi square = .001, NS

Relationship between race and choice to enroll in online learning

Results indicated no statistically significant difference as a function of a students' race. Table 4.13 shows the descriptive statistics involving student race and course enrollment. Because many of the cells in Table 4.13 were small, a dichotomous variable was created comparing white students to all others. This chi square was also not significant.

Table 4.6

Group by race crosstabulation

Group		African American	Asian	Hispanic/ Latino	Pacific Islander	White	Multiple	Unknown	Total
Group "A" – Face-to-Face Sections	n	11	19	3	1	80	5	16	135
	% within Group	8.1%	14.1%	2.2%	0.7%	59.3%	3.7%	11.9%	100.0%
Group "B" – Online Sections	n	5	3	5	0	32	1	6	52
	% within Group	9.6%	5.8%	9.6%	0.0%	61.5%	1.9%	11.5%	100.0%
Total	n	16	22	8	1	112	6	112	187
	% within Group	8.6%	11.8%	4.3%	0.5%	59.9%	3.2%	59.9%	100.0%

Note: Chi square = 7.883, NS

Relationship between SAT/ACT score and choice to enroll in online learning

Separate sample t-tests were used to compare the SAT/ACT scores of students in the two types of instruction modality. None of the analyses were significant.

Relationship between New Student Questionnaire responses and choice to enroll in online learning

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Table 4.7 demonstrates the 14 questions and prompts from the New Student Questionnaire, the student responses to which were analyzed by chi squares or correlations, depending on the nature of the data. Of these 14 variables, there were two significant results: residency and hours worked per week. Table 4.8 shows that students in the face-to-face version of the course more typically lived in university-owned housing, whereas students in online courses more typically lived in their own homes. Table 4.9 shows that students in the online version of the course worked more hours per week than students in the face-to-face course. In both Table 4.8 and Table 4.9, despite chi-square results indicating significant relationships between variables, in each case, the calculation of Cramer's V indicates that the effect size of the relationship is small. In this analysis, typically an effect size equal to or greater than .07 would be considered medium, and an effect size equal to or greater than .35 would be considered large (Zaiontz, 2014).

Table 4.7

Questions and prompts included in this study from the New Student Questionnaire

Item #	Question or prompt
1	Is English your dominant language?
2	During the school year, on the average, how many hours do you plan to work (for money) per week?
3	In what kind of residence will you be living during your first semester at Temple?
5	What is your best estimate of the total income of your PARENTAL FAMILY during the past year?
10	What is the highest level of formal education completed by your father?
11	What is the highest level of formal education completed by your mother?
69	Most of my teachers considered me one of the harder workers in their class. (Likert scale response)
70	I find it difficult to keep to a plan of action in my school work. (Likert scale response)
71	I enjoy studying and reading about things on which I am working. (Likert scale response)
72	I know how to manage my time well. (Likert scale response)
73	I am self confident. (Likert scale response)
74	My plans have frequently seemed so full of difficulties that I have had to give them up. (Likert scale response)
75	I am organized and have good study habits. (Likert scale response)
76	I prefer to be independent of others in deciding what I want to do. (Likert scale response)

Table 4.8

Student responses to question about residence: "In what kind of residence will you be living during your first semester at Temple?"

Residence type	Face-to-Face	Online
University-owned housing	65 (48.9%)	12 (27.9%)
Home of parents/relatives	27 (20.3%)	12 (27.9%)
Your own home or apartment	33 (24.8%)	19 (44.2%)
With other family members	3 (2.3%)	0
Other	5 (3.8%)	0

Note: Chi square = 10.828, *p* = .029, V = .046

Table 4.9

Student responses to question about employment activity: "During the school year, on the average, how many hours do you plan to work (for money) per week?"

Group		None	1-15 Hours	16-20 Hours	21-25 Hours	More than 25 Hours	Total
Group "A" – Face-to-Face Sections	n	21	55	32	14	12	134
	% within Group	15.7%	41.0%	23.9%	10.4%	9.0%	100.0%
Group "B" – Online Sections	n	8	9	8	3	13	41
	% within Group	19.5%	22.0%	19.5%	7.3%	31.7%	100.0%

Note: Chi square = 15.36, *p* = .004, V = .082

Research question 3: Relationship between online learning achievement and student background

To discover which student background traits—discussed above regarding "Research Question 2"—tend to correlate with online learning achievement, two sets of analyses were conducted. First, a change score was computed (Time-2 minus Time-1) for each of the eight components of the scoring criteria as well as a total across these eight. These change scores were then correlated with the all of the variables where this analysis is appropriate (specifically, where the variable was intervally scaled). A significant positive correlation for this analysis would indicate that students who improved more between Time-1 and Time-2 had higher scores on the variable. The second set of analyses added nominal variables as blocking variables to the analysis of variance with repeated measures, for each of the 112 participants for whom complete assessment data were available.

Results from the correlations

There were only two significant correlations between student background variables and the change scores—father's education level and mother's education level—and total score improvement from Time-1 to Time-2. Table 4.10 demonstrates these results, which show that students whose parents had higher levels of education improved more from Time-1 to Time-2. While significant, these correlations are small.

Table 4.10

Relationship between parental education and student achievement

Parental education	n	Pearson correlation	Two-tailed significance
Father's education level	112	.158*	.044
Mother's education level	111	.234**	.003

Results from the repeated measures ANOVAs

There was only one significant result when the nominal variables were added to the repeated measures ANOVA. That variable was sex. The three-way analysis of variance yielded a significant interaction between group, sex, and the "Audience & Team Interaction" criteria on the grading rubric. Table 4.18, Table 4.19, and Figure 4.4 document the statistical performance and interaction related to the assessment of Audience & Team Engagement per sex and course modality. These results indicate that although there was essentially no difference in the rate of improvement for other sub-groups, the performance of males in the online course format decreased somewhat from pre-test to post-test.

Table 4.11

Descriptive statistics for "Audience & Team Engagement" assessment

Test	Group	Sex	Mean	Standard Deviation	n
Time-1	Face-to-Face	Female	95.71%	.669	27
		Male	87.86%	.975	40
		Total	91%	.902	67
	Online	Female	91%	.955	19
		Male	91.14%	.941	26
		Total	91.14%	.936	45
	Total	Female	93.86%	.807	46
		Male	89.14%	.962	66
		Total	91%	.912	112
Time-2	Face-to-Face	Female	96.3%	.792	27
		Male	98.6%	2.090	40
		Total	97.45%	1.714	67
	Online	Female	97.9%	.535	19
		Male	85.8%	2.686	26
		Total	91.85%	2.141	45

Table 4.11, continued

	Female	97%	.695	46
Total	Male	96.2%	2.473	66
	Total	96.6%	1.944	112

Table 4.12

Significant interaction between sex, group, and "Audience & Team Engagement" assessment criterion

Interaction	Mean Square	F	p	η_p^2
Interaction of Modality, Pre-Post and Sex	.179	7.277	.008	.063
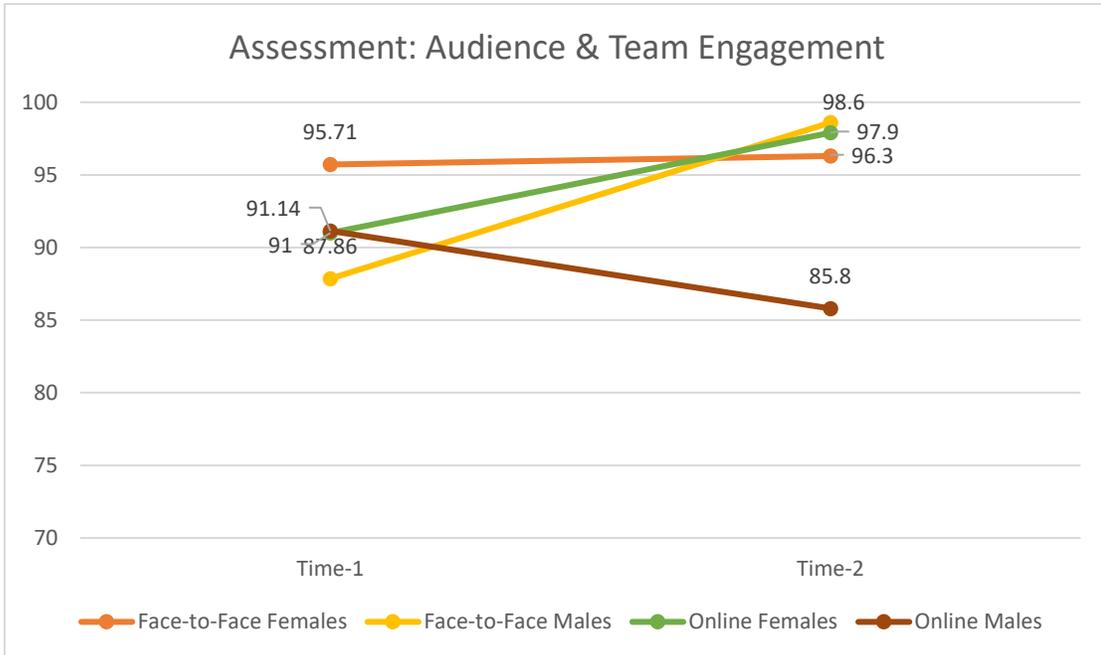
Figure 4.6. "Audience & Team Engagement" performance assessment by sex over time

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Conclusion

Evident in these analyses is that the rate at which public speaking sub-skills developed over the ten-week period between repeated-measures assessments was not uniform. Changes in performance varied by assessment criterion, course modality, and student background. Online student performance tended to improve at a marginally greater rate in assessments of Body Language and tended to diminish at a marginally lesser rate in assessments of Quality & Quantity of Information, whereas face-to-face student performance improved at a significantly greater rate in assessments of Audience & Team Engagement. In this latter criterion, the performance of online male students decreased somewhat, whereas the other subgroups—per sex and course modality— showed essentially no difference in the rate of improvement from pre-test to post-test. Additional findings suggested that online students tend to work more employment hours and that the higher the education level a students' parents have attained, the more likely they were to make learning gains in the course.

CHAPTER 5

DISCUSSION OF RESULTS

Interpretation of results

This study consisted of analysis of variance tests, with repeated measures, to identify if there are significant differences in how students learn public speaking skills in face-to-face versus online course modalities. These tests applied to the performance of 112 undergraduate students enrolled in 10 sections of a Business Communication course during the 2017-2018 academic year. Despite areas of differentiation in performance, the results overwhelmingly indicated cross-platform consistency.

Main effect for time

The results of the within-participant analysis of variance with repeated measures demonstrated significant student improvement in five of the eight assessment categories: Voice & Vocal Delivery, Body Language, Eye Contact, Audience & Team Engagement, and Creativity. Two other significant effects—relating to Quality & Quantity of Information and Organization—showed negative trends; scores significantly diminished in these areas on the second assessment. Finally, performance in one assessment category, Visual Aids, stayed roughly the same over time. These outcomes applied holistically to the 112 participants for whom these granular rubric data were available, regardless of whether they were enrolled in face-to-face or online learning.

Students significantly improving in four of the five "behavioral delivery" assessment categories suggests the success of the course in teaching students to effectively leverage essential delivery-based public speaking skills. Overall performance

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in the fifth "behavioral delivery" category, Visual Aids, stayed remarkably similar in both assignments, suggesting that perhaps this should be an area of greater teaching focus during the ten weeks between assignments. Effective use of visual aids may also be a sub-skill that students take longer to develop or understand; the instructor providing students more in-depth qualitative feedback on this category, in response to the first assignment, may have been helpful for students to understand how to maximize their performance in this area on the second assignment.

Regarding the two categories—Quality & Quantity of Information and Organization—wherein student performance actually diminished over time, these trends may have more to do with the difference in assignments than in the students' ability to learn or instructors' ability to teach the nuances of these sub-skills. That is, the first presentation assignment was primarily informational in nature; it required student teams to research teach their audience of classmates fact-based information from research. Thus, regarding presentation content, this first assignment merely demanded the lower-order thinking skills of understanding and remembering (Krathwohl & Anderson, 2009). Conversely, the second presentation assignment was primarily persuasive in nature, and it involved experiential learning because each team of student presenters assumed the role of small business employees giving a presentation—on a newly created philanthropic initiative—to that business's management team. Therefore, whereas the first presentation was basic—information was researched then presented—the second involved the higher order thinking skills of creating, evaluating, and analyzing (Krathwohl & Anderson, 2009), in addition to contextual knowledge about corporate philanthropy and the

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experience of working for a small business. So, while the evaluation criteria remained the same for both presentations, the sophistication levels of the assignment deliverables varied.

All that said, the significantly diminished performance on these two most substantive, heavily content-based assessment categories may represent as much of a learning gap in critical thinking ability as it does in public speaking ability. Whereas all of the other sub-skills assessed relate purely to the delivery of information, the required criteria related to Quality & Quantity of Information and Organization are the most directly tied to assessing the information itself—students' substantive ideas. Perhaps more robust instructional guidance and/or scaffolded deliverables—with feedback on students' ideas—in the weeks leading up to the second assignment would help student performance to trend in a positive direction in these areas, rather than in a negative one.

Effect size

Among the significant main effects for time, aside from one small effect size for Audience & Team Engagement, all other changes in performance had either a medium or large effect size. Large effect sizes applied to the positive change in mean scores related to Voice & Vocal Delivery ($\eta_p^2 = .143$), Eye Contact ($\eta_p^2 = .237$), and Creativity ($\eta_p^2 = .141$). One other large effect size applied to changing performance in Quality & Quantity of Information ($\eta_p^2 = .211$). However, unlike the former large effect size categories, this latter effect trended negatively over time, again suggesting that this may be an area to focus more on instructionally in future iterations of the course, particularly in the 10 weeks between the two assignments analyzed for this study.

Differences between classroom and online students' oral presentation skill improvement

The between-participant analysis yielded three significant and non-uniform results regarding the ways in which each group achieved the following holistic course learning objective: "formulate reasoned oral arguments and enhance your presentation skills." There were no significant interactions regarding the following assessment criteria, meaning that the distinction between the rate of changed performance was not statistically significant: Visual Aids, Eye Contact, and Creativity. The rate of improvement did differ at least marginally significantly—or close to it—between the two groups regarding the following rubric criteria: Voice & Vocal Delivery, Body Language, Audience & Team Engagement, Quality & Quality of Information, and Organization. Two of these interactions favored online instruction, whereas the other three favored face-to-face instruction.

Criteria where online instruction excelled

At least marginally significant interactions occurred for assessments of one behavioral delivery-based trait, Body Language ($p = .054$), and one content-based trait, Quality & Quantity of Information ($p = .039$). In both cases, the changes in performance favored the online group more so than the face-to-face group. Regarding Body Language scores, worth noting is that the online group had significantly more "room" to improve, based on the assessments in the first of the repeated measures, than did the face-to-face group. That is, whereas the face-to-face group earned 91% of available points in this category during the Time-1 assignment, the online group earned just 84.14%. Still, the

online group actually finished with a higher Body Language mean in the second assignment. The limitations of the assessment rubric—discussed later—may have factored into these outcomes.

Criterion where classroom instruction excelled

At least marginally significant interactions occurred for assessments of one content-based trait, Organization, and two behavioral delivery-based traits, Voice & Vocal Delivery and Audience & Team Engagement. In the assessment of Organization, face-to-face students' performance diminished at a marginally lesser rate ($p = .053$) than did that of online students. For Voice & Vocal Delivery, the face-to-face student scores improved slightly more than did online student scores ($p = .070$). However, it should be noted that the mean pre-test score for each group was vastly different in these categories; for Organization, the online group's mean Time-1 score was 7.74% higher than that of the face-to-face group, whereas for Voice & Vocal Delivery, the online group's mean Time-1 score was 9.69% higher than that of the face-to-face group. Thus, the group whose Time-2 mean score changed most—a face-to-face increase for Voice & Vocal Delivery and an online decrease in Organization—may be more a result of basic regression to the mean than any meaningful modality-based teaching and learning implication.

The most significant interaction ($p = .033$) occurred in assessments of a behavioral delivery-based trait, Audience & Team Engagement, wherein the face-to-face group increased scores at a significantly greater rate than did the online group. This sub-skill, more than any other assessed in this study, is dependent on comfort and willingness in

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committing to real-time interpersonal interaction. With the online presentations being recorded asynchronously, and with the online sections maintaining just a third of the weekly contact hours as their face-to-face counterparts, here is where additional instructional or administrative capacity may be necessary to transcend the web-based artifice and to incentivize and facilitate a richer community experience, wherein humans interact with other humans during the learning process (Byrd, 2016; Cleveland-Innes & Campbell, 2012; Kearsley & Shneiderman, 1998; McNeal, 2011; Minnaar, 2011; Tinto, 1997). Additionally, as with the results regarding Body Language, discussion of the results regarding Audience & Team Engagement necessitates scrutinizing the limitations and biases of the assessment instrument, which regarding these categories seems primarily designed to assess live classroom presentations instead of recorded online presentations. These biases will be discussed further in the subsequent "Limitations" section.

Relationship between student background and enrollment in online learning

To discover what types of students tended to opt for enrolling in the online version of this course, data about all 187 participants were gathered from the University Admissions Office and the New Student Questionnaire (see Appendix B for the entire questionnaire). Data from the admissions process included each student's sex, race, and SAT/ACT score.

There were two significant results from analyzing questions from the New Student Questionnaire: "In what kind of residence will you be living during your first semester at Temple?" and, "During the school year, on the average, how many hours do

you plan to work (for money) per week?" Students in the face-to-face version of the course more typically lived in university-owned housing and indicated that they planned on working fewer hours per week, whereas students in online courses more typically lived in their own home and were planning on working more hours per week. These findings seem consistent with a university's goals in leveraging online education— sometimes referred to as "distance learning"—to appeal to a different segment of would-be students who may not find traditional campus-based learning convenient or accessible (Butler, 2014; Rosen, 2011; Selingo, 2014).

Relationship between online learning achievement and student background

To discover which student background traits tended to correlate with online learning achievement, each of these conditions—sex, race, SAT/ACT score, and survey response information—was either computed as a correlation with students' score change or added as a blocking variable to the analysis of variance with repeated measures, for each of the 112 participants for whom complete assessment data was available. This three-way analysis of variance yielded a significant interaction ($p = .000$) related to the assessment of "Audience & Team Engagement" per sex and course modality. Specifically, although there was essentially no difference in the rate of improvement for other sub-groups, males in the online format improved significantly less in this criterion than did their counterparts. One can speculate why male students in online sections may have more difficulty improving in Audience & Team Engagement requirements, but perhaps the more useful result is the uniformly non-significant interactions in all other tests. Though perhaps less intriguing, this latter result seems to reinforce the equity and

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inclusiveness with which this Business Communication course is administered and instructed.

Limitations

Limited sample size

Because during the 2017-2018 academic year, the participating university's traditional, classroom sections of Business Communication far outnumbered online sections of the same course, and because the experimental design sought to maximize internal validity by only comparing groups of students taught by the same instructor, the sample was limited to just 187 participants—135 face-to-face students and 52 online students—all of whom were receiving instruction from one of two experienced Business Communication instructors. These factors limit the extent to which findings are generalizable to the population.

Moreover, of this 187-student sample, only 112—taught by only one of the instructors—were included in the parts of the study that analyzed learning achievement. The reason for this distinction was that one of the two instructors, who voluntarily contributed student assessment data for the study, did not record per-criterion scores when evaluating his students. Therefore, while both instructors used the same evaluation rubric to assess student performance in the same way on the same assignments, only one of the two instructors recorded and contributed scoring information for all eight assessment criteria. The other instructor used the same eight assessment criteria but only recorded, and contributed to the study, the total scores—sums of the eight criteria—for each student on each assignment. Therefore, this smaller sample of 112 student

participants informed the analyses to answer the following, primary research question: Are there significant differences in the public speaking skill development of students in classroom-based Business Communication courses versus the public speaking skill development of students in online-based Business Communication courses?

Assessment tool bias

Although the study design—which measured improvement rather than simply achievement—mitigates the effects of the latter's potentially confounding variables, the grading rubric used to provide all assessment data for this study was biased toward the classroom version of the course. This bias may have affected the ways in which students delivered and instructors assessed the online presentation assignments. Consequently, the data—particularly regarding the assessment of "Body Language" and "Audience & Team Engagement"—may have been skewed. For example, the description of the desired "Body Language" criteria included the following language: "used presentation space effectively as a 'stage.'" This description neglects that the online presenters would have been occupying non-uniform spaces, and most likely would have been sitting in front of a webcam, therefore minimizing practical or useful variability in the way of using "stage" space. Furthermore, the description of the desired criteria for "Audience & Team Engagement" incudes the following language: "Responds to all questions clearly and accurately. Audience responds well to speaker." With a student delivering and an instructor assessing an asynchronously recorded presentation—wherein the student presenters are the only ones interacting—these desired criteria would seem to impossible to achieve.

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Because of the nature of online presentations—at least as required in the Business Communication course at this university—wherein they are exclusively recorded asynchronously instead of delivered in real time to a "live" audience, certain variables are taught, learned, and assessed differently than they would be in a classroom version of the same course. For instance, in these online recordings, there would have been no uncontrolled for or live stimuli to interact with. That is, students would not have needed to "read the room" and adapt to or interact with an audience. Similarly, in these online presentations, there would have been no opportunity for real-time question-and-answer follow-up between speaker and audience. Like "reading the room" while delivering the presentation itself, a post-facto question-answer segment also involves live interaction and in-moment thinking. The assessment rubric did not account for these differing medium-specific nuances. Consequently, this study's findings regarding differences in the improvement between online and classroom students' physical performance and audience engagement ability may lack validity.

Sample selection bias

Because the study's sample was drawn from the Canvas pages of completed courses, the data collection setup did not account for students who officially withdrew from the course during the semesters studied. Therefore, the results of the analyses may not provide an accurate representation of the baseline skill level for all students enrolled in the sections studied in this experiment. Similarly, these results may not accurately represent the spectrum of skills growth for all students in the sections in question. Finally, because students who withdrew from the course were not included in the data, this study

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did not analyze or control for which course medium—online or classroom—may have experienced more or fewer withdrawals, thus potentially affecting the results.

Limited scope

Although this study focused on teaching and learning public speaking skills—which can apply to myriad circumstances—the data were limited to one course, Business Communication, and one self-selecting group of participants: students who were matriculating in a bachelor's degree in Business Administration. These limitations make the implications of the results less generalizable to the population.

Implications

Implications for faculty

Business Communication instructors—regardless of the default course medium—should seek ways to teach and assess oral communication both online and in person (or as close a proxy to in-person as possible). This recommendation is based on both the statistical results of this study—which suggest that the different modalities yield slightly different proficiencies—and on the societal, technological, environmental, and economic demand for the type of dexterous and versatile communication modes that 21st century employment requires. According to the U.S. Bureau of Labor Statistics, 36.8% of all U.S. based workers with a bachelor's degree or higher spent time working from home on an average day in 2018; the proportion was even higher—41.7%—for employees with an advanced degree ("Employed Persons," 2019). This was well before the surge in remote work in 2020 due to COVID-19, a surge that could be an aberration or an indication regarding how companies and employees operate in the future. Larson, Vroman, and

Makarius (2020) suggest that rich communication technology, like video conferencing, is a major asset to the remote labor process. In particular, the accompanying visual and audible cues are helpful to combat the feeling of worker isolation because they emulate face-to-face interaction and provide a greater sense of mutual knowledge. These tools are especially effective—more so than less rich communication media like email and instant messages—for communicating sensitive or complex ideas.

Hence, the necessity of college students learning to orally communicate both in person and online directly relates to the "functional theory" of higher education, which emphasizes the construction of practical skills (Ballantine & Spade, 2007). By mastering a vocationally pragmatic skill-based learning area—like oral presentation skills for business students—and doing so both in-person and via web-based communication tools, students can become better prepared for the functionality of their future jobs ("Fulfilling the American Dream: Liberal Education and the Future of Work," 2018).

If instructors do require online assignments, they should update instructions and assessment tools accordingly to adapt to practices and requirements associated with the difference in each assignment deliverable. As Bentley and Kehrwald (2017) concluded, principles of effective teaching practice are applicable across differing media, but the delivery and timing of said practices may need to be radically rethought to successfully adapt to a new medium, like online instruction. The practice of executing an oral presentation online is inherently different than that of an oral presentation in front of a live audience, so, recognizing this fact, instructors should be nuanced in the ways that they teach and evaluate presentation skills in each medium. For example, using a pre-

existing classroom-based evaluation rubric to evaluate online student presentations is less than ideal, given that some of those criteria—in this study's case, evaluating non-existent question-and-answer opportunities and non-applicable body language expectations—may be confusing at best and at worst cause grade deductions for unachievable and inappropriate evaluation criteria.

Additionally, there may actually be a teaching-and-learning incentive to encouraging asynchronously recorded oral presentations: these opportunities may more encourage students to seek excellence in their work, as the ability to revise and re-record may encourage students to maximize the effectiveness of their deliverables. In some ways, this process would not be much different than students' opportunity to rehearse their presentation delivery multiple times before executing a graded presentation in a "live" classroom setting. However, whereas a classroom presentation traditionally occurs once in live-time—resulting in less incentive for scrutinizing and correcting flaws—asynchronously recorded presentations incentivize students to produce their best possible work through critical reflection and diligent revision of the desired deliverable.

The fact that one of the two instructors involved in this study was willing but not able to provide all desired assessment data is perhaps suggestive of faculty's own "learning curve" or resistance to embracing online teaching, learning, and assessment tools (Bentley & Kehrwald, 2017). That is, one instructor used electronic rubrics—facilitated through the Canvas LMS—that provided greater transparency and posterity for students, faculty, administrators, and researchers alike, while the other instructor chose not to leverage this capability. The latter approach resulted in significantly less robust

data for this study, but even in the immediate sense, this approach would result in a more cumbersome communication process between the instructor and student; furthermore, it would make the data less accessible for administrative purposes, such as assurance-of-learning and accreditation programs.

Implications for administrators

The main-effect results of this study, showing that students in both course modalities significantly improved in a highly marketable and in-demand skill area, oral communication ability ("Fulfilling the American Dream: Liberal Education and the Future of Work," 2018), suggest that business schools should require undergraduate business majors to pass a Business Communication course. This implication relates back to functional theory; as Ballantine and Spade (2007) state on the topic, "Institutions of higher education are expected to…produce students with up-to-date skills and information required to lead industry and other key institutions in society" (p. 11). The public speaking skills measured in this study have implications beyond an academic setting; once mastered, they can positively influence a person's ability to interview, lead meetings, sell products and services, train and motivate others, discuss critical and nuanced issues, and function well in team environments (Doyle, 2019). Therefore, students who excel in developing these skills will likely be better positioned to contribute to society in various functional ways.

Similarly, because this study showed significant skill development—this study's main effect regarding time—in most assessment categories over the course of the semester when evaluated on two similar assignments, Business Communication courses

at other universities should also require this same kind of curriculum that builds incrementally throughout a semester to develop skills. Surveys suggest that most American business schools already do require some version of Business Communication in their undergraduate programs (Sharp & Brumberger, 2013) and that most of these courses consist of assignments that build upon one another to enable students to build skills over time (Moshiri & Cardon, 2014). The findings of the current study reinforce the validity of these trends.

The results of this study suggested little significant statistical difference between the improvement of online and classroom students. This outcome reinforces the validity of online education, specifically as it relates to teaching practical "soft skills," such as engaging an audience while delivering information and collaborating with peers to produce satisfactory assignment deliverables. In this case, colleges and especially business schools—which frequently employ team oral presentations—should continue recent trends in expanding coursework into online platforms, knowing that the pedagogical product is likely to not diminish due to medium.

Furthermore, this outcome has implications regarding student access and enrollment. Colleges' ability to effectively leverage distance-learning technology influences the volume of students and types of students who can engage in higher education degree programs and lifelong learning (Worley, 2000). Online, and especially asynchronous, coursework can appeal to a broader spectrum of students, for whom learning would be less bound—as it would be in traditional classroom-based education— by geography. For instance, in online coursework, differing time zones between physical

college campuses and students' varying locations would not prohibit an enrollee who travels frequently for work, is an active military member, suffers a debilitating ailment, or is incarcerated. Similarly, means of physically commuting—which typically incurs monetary and time cost—is less of a concern within online coursework, which consequently creates greater access to students of varying incomes and lifestyle responsibilities.

Implications for society

With the potential to reach a broader swath of students, online courses that can maximize oral communication instruction—as well as other in-demand and practical job skills—can increase and diversify the pool of qualified candidates for jobs in the modern American and global economy. Therefore, colleges that can effectively leverage online teaching and learning have the potential to create a democratizing effect both economically and socially. Familiarity with current technology—like web-conferencing platforms—is critical to broadening career options and lessening the propensity of socioeconomic class stratification. Moreover, if online higher education programs can reduce execution costs for universities (Archibald & Feldman, 2012; Butler, 2014), perhaps those savings can be passed on to underrepresented applicants and those less likely to be able to pay otherwise rising tuition costs.

Implications for students

Whether engaging in a face-to-face or online communication setting, students should recognize that each medium has essential rhetorical elements that differentiate it from other communication media. Students, and people in general, should seek to

recognize and maximize these inherent differentiating qualities. Applied to the communication assignments in this study, that means that students would be wise to plan accordingly based on the parts of the communication that they can control. For instance, students presenting asynchronously in an online recording should, in theory, be able to maximize the arrangement of their own physical space and, if allowed via respective course policy, to take advantage of the ability to review and potentially re-record the deliverable before submitting. Alternatively, students presenting in a "live" classroom setting should take advantage of the feedback loop that occurs when speaking to an audience and gauging their real-time reactions, either via implicit body language or explicit vocal participation; these reactions should allow speakers to similarly adapt in real time based on their audience's reactions. For instance, an audience filled with furrowed brows or shaking heads may imply disagreement or misunderstanding; in these cases, the speakers may want to alter their approach accordingly to regain audience comprehension and/or rhetorical agreement. Conversely, an audience that is smiling and nodding along may suggest the desired comprehension and rhetorical agreement and therefore positively reinforce in-process presentation techniques.

Implications for researchers

Given the limitations of this current study, more research is needed to explore differences in the student experience when learning public speaking skills in an online course versus those learning the same skills in a face-to-face course. In addition to more quantitative research—ideally with a larger and more randomized sample—that measures differences in skill assessment, qualitative research may also be warranted to investigate

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the reasons behind those potential differences. For instance, the current study suggests that face-to-face students tend to improve at a significantly greater rate than do online students when being assessed on "Audience & Team Engagement." There could be varying reasons for why this may be the case, but without qualitative investigation into the nuances of such a statistical finding, administrators and instructors can only speculate.

Conclusion

Though striking and significant findings make for exciting research manuscript fodder, more mundane findings that fail to reject the null hypothesis have a value unto themselves as well. Many of the findings of this study suggest that, in the analyzed course and topic, things are generally working well in terms of teaching and learning, regardless of whether those processes are occurring in a classroom or in cyberspace. The few significant findings suggest marginal ways to improve course instruction, while the near uniform similarity of the results for the two types of teaching modality may suggest even more important implications: that the existing investment of time, energy, and money into building out an online option as a viable alternative to an existing classroom course is working.

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APPENDIX A

NEW STUDENT QUESTIONNAIRE

New Student Questionnaire 2019

1. Is English your dominant language?

   a. Yes
   b. No

2. During the school year, on the average, how many hours do you plan to work (for money) per week?

   a. None
   b. 1 to 15 hours
   c. 16 to 20 hours
   d. 21 to 25 hours
   e. 26 to 34 hours
   f. 35+ (full-time)

3. In what kind of residence will you be living during your first semester at Temple?

   a. University-owned housing (including residence halls)
   b. Home of parents/relatives
   c. Your own home or apartment
   d. With other family members
   e. Other

4. Please indicate your affiliation with the U.S. Military:

   a. None
   b. Active Duty or Reserves
   c. Veteran or Retired
   d. Child of a servicemember
   e. Spouse of a servicemember

5. What is your best estimate of the total income of your PARENTAL FAMILY during the past year?

   a. Less than $20,000
   b. $20,000 to $39,999
   c. $40,000 to $59,999
   d. $60,000 to $79,999
   e. $80,000 to $99,999
   f. $100,000 to $124,999
   g. $125,000 to $149,999
   h. $150,000+

6. What is your best estimate of YOUR OWN total income during the past year?

   a. Less than $2,000
   b. $2,000 to $3,999
   c. $4,000 to $5,999
   d. $6,000 to $7,999
   e. $8,000 or more

7. If you received financial aid, how did the amount awarded from Temple compare to aid offers from other schools to which you were admitted?

   a. Higher than most
   b. About the same
   c. Lower than most
   d. Applied for aid only at Temple
   e. Did not apply for financial aid

8. Do you have any concern about your ability to finance your college education?

   a. None (I am confident that I will have sufficient funds)
   b. Some concern (but I will probably have enough funds)
   c. Major concern (not sure I will have enough funds to complete college)

9. What was your rating of Temple at the time you applied for admission.

   a. Temple was my first choice
   b. Temple was my second choice
   c. Temple was my third or lower choice

10. What is the highest level of formal education completed by your father or guardian 1?

   a. Did not graduate from high school
   b. Graduated from high school
   c. Some college education
   d. Graduated from college (a bachelor's degree)
   e. Postgraduate or professional degree

11. What is the highest level of formal education completed by your mother or guardian 2?

   a. Did not graduate from high school
   b. Graduated from high school
   c. Some college education
   d. Graduated from college (a bachelor's degree)
   e. Postgraduate or professional degree

12. What is the highest level of formal education completed by any of your college age (18 years of age or older) siblings?

   a. Did not graduate from high school
   b. Graduated from high school
   c. Some college education, but did not graduate
   d. Currently enrolled in college
   e. Graduated from college (a bachelor's degree or higher)
   f. I do not have any college age siblings

13. Are you a person who would identify as someone who was or currently is in the care of a public child welfare agency (e.g., foster care, kinship care, dependent or ward of the court, emancipated minor, unaccompanied youth, etc.) and/or someone who was or currently is homeless and/or transient (e.g., moving from one temporary housing arrangement provided by friends, family, or strangers to another, couch surfing, etc.)?
   [Please note that answer choices A and C apply even if you are no longer eligible for, or opted out of special services]

   a. Yes, I identify as someone who was or currently is in the care of a public welfare agency
   b. Yes, I identify as someone who was or currently is homeless and/or transient
   c. Yes, I identify as someone who was or currently is in the care of a public welfare agency AND as someone who was or currently is homeless and/or transient
   d. No, I do not identify as someone who was or currently is either in the care of a public welfare agency, or homeless and/or transient
   e. I identify as someone who is at risk for becoming homeless and/or transient
   f. Don't Know
   g. Prefer not to answer
   h. Other

14. In the last 30 days, has the availability of food for you or your household been threatened or disrupted due to lack of finances?
    a. Yes
    b. No
    c. I'm not sure
    d. I prefer not to answer

15. What scholastic average do you expect to obtain in college?

    a. A
    b. B+
    c. B
    d. B-
    e. C+ or lower

16. In general, how well do you feel that your high school prepared you to do college work?

    a. Very well
    b. Fairly well
    c. Uncertain
    d. Poorly
    e. Very poorly

17. Do you consider yourself to be a person who has a disability and/or chronic condition?

    a. Yes, my disability/chronic condition is a primary part of my identity
    b. Yes, but I do not consider my disability/chronic condition to be part of my identity
    c. No, I do not have a disability/chronic condition
    d. I'm unsure

18. During the school year, on the average, how many hours do you plan to study per week?

    a. None
    b. 1 to 15 hours
    c. 16 to 20 hours
    d. 21 to 25 hours
    e. More than 25 hours

Questions 19 - 22

During high school (grades 9 - 12), how many years did you study each of the following subjects?
For questions 19 through 22 use the following responses:
    a. None
    b. One
    c. Two
    d. Three
    e. Four

19. English

20. Mathematics

21. Foreign Language

22. Natural Sciences

Questions 23 - 26 During high school (grades 9 - 12), on average, what was your grade in the following subjects?

For questions 23 through 26 use the following responses:

    a. A
    b. B+
    c. B
    d. B-
    e. C+ or lower

23. English

24. Mathematics

25. Foreign Language

26. Natural Sciences

Questions 27 - 31

How important were the following in your decision to go to college?
For questions 27 through 31 use the following responses:

    a. Very important
    b. Somewhat important
    c. Not important

27. My family wanted me to go.

28. I wanted to get away from home.

29. I wanted to be able to get a better job.

30. I wanted to learn more about things that interest me.

31. I wanted to prepare myself for graduate or professional school.

Questions 32 - 39
How important were the following in your finding out about or selecting Temple?

For questions 32 through 39 use the following responses:

    a. Very important
    b. Somewhat important
    c. Not important
    d. Does not apply / did not attend

32. Personal call from Temple student

33. Temple social media channels (Facebook, Twitter, Instagram, etc.)

34. Temple brochures or mailings

35. E-mail communication from Temple

36. Temple's web site

37. Temple open house or reception

38. Regular campus visit

39. High school visit by Temple representative or college fair

Questions 40 - 54

Below are some reasons that might have influenced your decision to attend Temple. How important was each reason in your decision to come here?

For questions 40 through 54 use the following responses:

    a. Very important positive factor
    b. Somewhat important positive factor
    c. Not a positive factor

40. Affordable tuition

41. Temple's student body size

42. Social atmosphere

43. Closeness to home

44. Urban location

45. Variety of academic programs available

46. Variety of co-curricular programs available

47. Reputation of Temple

48. Reputation of your specific major at Temple

49. Advice and experience of family

50. Advice and experience of friends

51. Meeting students with backgrounds and interests similar to yours

52. Meeting students with backgrounds and interests different from yours

53. Availability of financial aid

54. Temple's commitment to environmental sustainability

Questions 55 - 67

What is the chance that you will do the following while you are at Temple?

For questions 55 through 67 use the following responses:

    a. Very good chance   c. Very little chance
    b. Some chance   d. No chance

55. Change your major field of study

56. Be a student leader

57. Join a social organization or club

58. Need more than 4 years to complete degree requirements

59. Make close friends

60. Work with a professor on a research project

61. Receive encouragement from family while you're in college

62. Get tutoring help in specific courses

63. Transfer to another college/university before graduating

64. Take an on-line course

65. Participate in volunteer or community service work

What is the chance that you will do the following while you are at Temple? *continued*

For questions 66 through 67 use the following responses:

    a. Very good chance   c. Very little chance
    b. Some chance   d. No chance

66. Study abroad/away

67. Utilize University mental health/counseling services

Questions 68 - 76   Please indicate your level of agreement with each of the following statements:

For questions 68 through 76 use the following responses:

    a. Definitely agree   d. Somewhat disagree
    b. Somewhat agree   e. Definitely disagree
    c. Neither agree nor disagree

68. I want to live and work in Philadelphia after graduation.

69. Most of my teachers considered me one of the harder workers in their class.

70. I find it difficult to keep to a plan of action in my school work.

71. I enjoy studying and reading about things on which I am working.

72. I know how to manage my time well.

73. I am self confident.

74. My plans have frequently seemed so full of difficulties that I have had to give them up.

75. I am organized and have good study habits.

76. I prefer to be independent of others in deciding what I want to do.

If you applied for admission to other colleges or universities for the upcoming semester, please enter them below, then select whether you were admitted or not admitted.
Up to three institutions may be entered.

Thank you for answering these questions.

ORAL PRESENTATION ASSESSMENT RUBRIC

Objective	Trait	Apprentice (0-69%)	Proficient (70-89%)	Distinguished (90-100%)
BEHAVIORAL DELIVERY	Voice & Vocal Delivery	Speaker may speak quickly or have a noticeable use of filler words (ums, likes) or odd pauses.	Speaker sounds somewhat polished; Volume is good, speaker generally enunciates well. Minor use of filler words (ums, likes).	Voice is strong and clear. Enunciation is precise. Speaker is polished, expressive and uses voice effectively with minimal use of filler words.
	Body Language	Looks somewhat uncomfortable or occasionally has distracting movements.	Looks mostly comfortable; body language is generally strong and confident.	Looks very comfortable, strong and confident, used presentation space effectively as a 'stage.'
	Visual Aids	Visual aids are marginally prepared (slides too wordy or lack visual information); do not support the presentation well.	Visual aids are generally effective, not too text-heavy, and use visual information generally well.	Visual aids are strong, professional, polished, and use the right amount of text and visuals.
	Eye contact	Makes occasional eye contact, but too frequently looks at notes, screen or computer or at back wall.	Mostly maintains eye contact, but returns to notes or looks at screen or computer occasionally.	Maintains eye contact throughout presentation; seldom looks at screen except to reference material on it.
	Audience & Team Engagement	Often answers questions superficially or long-windedly. Rarely engages the audience. Team is disjointed with no intra-team dynamics; awkward transitions between presenters and more than one person speaking at a time (if applicable).	Responds to most questions clearly and accurately. Audience gets involved. Works cohesively as a team; adequate transitions between presenters with one person speaking at a time (if applicable).	Responds to all questions clearly and accurately. Audience responds well to speaker. Team dynamics present and team is well rehearsed; seamless transitions and team is conscientious of each other's speaking turns (if applicable).

Objective	Trait	Apprentice (0-69%)	Proficient (70-89%)	Distinguished (90-100%)
CONTENT	**Quality & Quantity of Information**	Information is confusing in places; too much or too little information; listener gains a few insights.	Sufficient information; many good points made; some areas lacking; listener gains adequate insight.	Abundance of material; points clearly made; evidence supports; listeners gain insight.
	Organization	Presentation takes some effort to follow, is confusing and disorganized in a number of places; disconnected or choppy. Pacing is awkward and unsteady; ends either much before or after specified parameters.	Presentation flows smoothly with occasional confusion or rough patches between ideas. Pacing is adequate; presentation ends within, or very close to, specified parameters.	Presentation is smooth, polished and organized; flows well. Pacing is steady throughout; presentation ends within specified parameters.
		Apprentice (0-69%)	**Proficient (70-89%)**	**Distinguished (90-100%)**
	Creativity	Mostly presented information with little imagination; audience frequently bored.	Some interesting twists; held attention most of the time.	Involved audience; made points in a creative way; held attention throughout.

"TIME-1" ASSIGNMENT INSTRUCTIONS

Cross Cultural Communication Presentation
70 points

In business, you'll often be asked to inform, train, or teach your colleagues about something you know (or have learned) that they don't. For this assignment, you will work in teams of two. Each team will teach the rest of the class about the business culture and nonverbal communications of a different country. You should also explain the cultural dimensions of your chosen country and what each means in terms of business and culture. Teams may choose from the countries listed on the next page. NOTE: You must choose a country with which both team members have no prior experience.

Instructions:

- Find and evaluate information on your topic, providing the pertinent information your audience will need. Some helpful web sites include:
    - https://globaledge.msu.edu/reference-desk/online-course-modules/doing-business-in
    - https://www.cia.gov/library/publications/the-world-factbook
    - http://www.commisceo-global.com/country-guides
    - http://businessculture.org/
        - Note: this site only has resources on European countries.
    - http://geert-hofstede.com/national-culture.html and https://geert-hofstede.com/countries.html
        - Note: This last site will help you understand the cultural dimensions of your chosen country.
- Include topics such as: cultural dimensions, how to make appointments, business attire, typical nonverbal communication gestures, addressing others, negotiation, business meetings, dining etiquette, how age and/or sex can affect communication, religion (holidays & customs), etc.
- Communicate powerfully, succinctly, and in a captivating way – keep your audience interested. Present the information with energy.
- Make your presentation interactive (with games, role plays, etc.). Part of your grade will be on how creatively and interestingly you've presented your topic. You must engage the class with some kind of hands on activity. Don't just quiz your peers – find a creative way to engage them in the learning process.
- Make sure the class learns something about intercultural communications that they will be able to apply in class and at work.
- You MUST use PowerPoint and turn in a hard copy of your PowerPoint and any handouts you will use on the day of your presentation. Your slides must adhere to the 6x6

guideline (no more than six bullets on a slide and no more than six words in a bullet). Any slides for your activity can include more text if necessary. Your presentation (activity included) should be approximately 7-10 minutes long.

IMPORTANT NOTE: Make sure you are not stereotyping or telling anyone of another culture what behavior you expect from them. The point of this assignment is for us all to learn things we can apply in global business from your research. This ties directly to the idea of knowing who your audience is, which we'll talk about a lot this semester.

"TIME-2" ASSIGNMENT INSTRUCTIONS

Philanthropic Proposal Presentation

100 points

Learning objective:

How to formulate reasoned oral arguments and enhance your presentation skills

Your team will present your ideas to your boss and the executive team. In this presentation, you will briefly address all aspects of the task noted in the proposal assignment instructions.

Focus on providing a dynamic vision of the mission alignment between the charity and your business and make sure you present your data/specifics effectively.

Before you begin your official pitch, you will read a one-paragraph description of the company for which you work, giving enough detail that your audience can see why your company and choice of charity can work well together. You can use notes for this and it will not count against your time.

Outline:

1) **Start with a "teaser."** This could be a statement or a question that makes your listener imagine what the situation would be like if this major problem – what charity to support and how – was solved.

2) **Make your clear, concise, and specific recommendation** that acts as a 'road map' to your entire pitch. This will frame your presentation.

3) Give the body of your presentation, including **powerful detail, data, and specifics** supporting the following:

- why this charity is a best fit for the company's mission, vision and values (why the charity and the company work well together)
- why this charity is a good financial investment
- why your ideas for specific ways to support the charity are best
- why the budget is realistic and sound
- why the benefits to the company are real, effective, and useful

4) **Use charts, graphs, and images as needed to empower your pitch**. Bullets on a slide don't energize a pitch. Remember, you will be giving the CEO a written proposal.

5) **Demonstrate that you have done research** and have thoughtfully tailored the choice of charity and choice of activities to the company.

6) **Summarize and close**. Reiterate how your choice can solve the company's problem (what charity to support) and provide the company the **greatest value**. Add a closing sentence where you ask directly for the CEO's support for this choice.

Requirements:

- No notes
- Ten minutes MAXIMUM (most of you will need less than this)
- Use as many slides as you like, but follow the 6x6 rule

APPENDIX E

DESCRIPTIVE STATISTICS AND ANOVA TABLES

Quantitative analysis of "Voice & Vocal Delivery" performance

Descriptive statistics for "Voice & Vocal Delivery" interaction

Test	Group	Mean	SD	N
	Face-to-Face	78.25%	11.2206	67
Time-1	Online	87.94%	12.9060	45
	Total	82.14%	12.7919	112
	Face-to-Face	86.72%	10.2081	67
Time-2	Online	91.33%	10.3573	45
	Total	88.57%	10.4715	112

ANOVA results for "Voice & Vocal Delivery" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.275	19.115	.000	.148
Error	110	.014			
Within Subjects					
Pre-Post	1.000	.189	18.284	.000	.143
Instructional Format by Pre-Post	1.000	.035	3.338	.070	.029
Error	110.000	.010			

Quantitative analysis of "Body Language" performance

Descriptive statistics for "Body Language" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	91.05%	.128826	67
	Online	84.13%	.316846	45
	Total	88.27%	.225440	112
Time-2	Face-to-Face	93.43%	.094632	67
	Online	95.33%	.089443	45
	Total	94.20%	.092647	112

ANOVA results for "Body Language" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.034	1.091	.298	.010
Error	110	.031			
Within Subjects					
Pre-Post	1	.249	8.998	.003	.076
Instructional Format by Pre-Post	1	.105	3.786	.054	.033
Error	110	.028			

Quantitative analysis of "Visual Aids" performance

Descriptive statistics for "Visual Aids" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	84.22%	13.6514	67
	Online	87.62%	13.8237	45
	Total	85.59%	13.7607	112
Time-2	Face-to-Face	85.97%	09.2211	67
	Online	85.11%	20.9569	45
	Total	85.63%	14.9944	112

ANOVA results for "Visual Aids" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.009	.400	.528	.004
Error	110	.022			
Within Subjects					
Pre-Post	1.000	.001	.039	.843	.000
Instructional Format by Pre-Post	1.000	.024	1.230	.270	.011
Error	110.000	.020			

Quantitative analysis of "Eye Contact" performance

Descriptive statistics for "Eye Contact" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	84.22%	13.4229	67
	Online	74.29%	29.7796	45
	Total	80.23%	21.9684	112
Time-2	Face-to-Face	95.08%	19.2569	67
	Online	92.89%	09.6818	45
	Total	94.20%	16.0875	112

ANOVA results for "Eye Contact" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.198	5.193	.025	.045
Error	110	.038			
Within Subjects					
Pre-Post	1.000	1.168	34.148	.000	.237
Instructional Format by Pre-Post	1.000	.081	2.364	.127	.021
Error	110.000	.034			

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Quantitative analysis of "Audience & Team Engagement" performance

Descriptive statistics for "Audience & Team Engagement" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	91.05%	12.8826	67
	Online	91.11%	13.3766	45
	Total	91.07%	13.0234	112
Time-2	Face-to-Face	100.00%	17.1420	67
	Online	90.89%	21.4075	45
	Total	96.52%	19.4385	112

ANOVA results for "Audience & Team Engagement" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.118	4.327	.040	.038
Error	110	.027			
Within Subjects					
Pre-Post	1.000	.110	4.235	.042	.037
Instructional Format by Pre-Post	1.000	.121	4.662	.033	.041
Error	110.000	.026			

Quantitative analysis of "Quality & Quantity of Information" performance

Descriptive statistics for "Quality & Quantity of Information" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	91.24%	08.9299	67
	Online	90.22%	09.7026	45
	Total	90.83%	09.2187	112
Time-2	Face-to-Face	82.24%	10.4911	67
	Online	86.22%	08.1293	45
	Total	83.84%	09.7718	112

ANOVA results for "Quality & Quantity of Information" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.012	1.177	.280	.011
Error	110	.010			
Within Subjects					
Pre-Post	1.000	.228	29.331	.000	.211
Instructional Format by Pre-Post	1.000	.034	4.344	.039	.038
Error	110.000	.008			

Quantitative analysis of "Organization" performance

Descriptive statistics for "Organization" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	88.26%	07.6179	67
	Online	96.00%	03.3029	45
	Total	91.37%	07.3051	112
Time-2	Face-to-Face	87.02%	09.2548	67
	Online	90.22%	12.0111	45
	Total	88.30%	10.5171	112

ANOVA results for "Organization" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.161	21.178	.000	.161
Error	110	.008			
Within Subjects					
Pre-Post	1.000	.066	9.205	.003	.077
Instructional Format by Pre-Post	1.000	.028	3.838	.053	.034
Error	110.000	.007			

Quantitative analysis of "Creativity" performance

Descriptive statistics for "Creativity" assessment

Test	Group	Mean	SD	N
Time-1	Face-to-Face	69.55%	17.1829	67
	Online	78.67%	19.7254	45
	Total	73.21%	18.7066	112
Time-2	Face-to-Face	80.60%	03.4292	67
	Online	84.22%	14.2205	45
	Total	82.05%	09.5047	112

ANOVA results for "Creativity" interaction

Source	df	Mean Squares	F	p	η_p^2
Between Subjects					
Instructional Format	1	.218	10.177	.002	.085
Error	110	.021			
Within Subjects					
Pre-Post	1.000	.371	17.998	.000	.141
Instructional Format by Pre-Post	1.000	.041	1.968	.163	.018
Error	110.000	.021			