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Rebooting or Regressing? Communication Centers and Peer Mentoring in the Introductory Communication Course

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Like many regional public universities in the U.S. struggling to recover from pandemic-generated disruptions, a mid-sized (enrollment = 17,743), minority-serving southeastern research university (Carnegie R2) faced a crisis. This university experienced attrition of 1,000 students annually throughout the COVID-19 pandemic from Fall 2020 through Fall 2022, representing an 11 percent cumulative decline in undergraduate enrollment. Academic performance of students admitted during this time frame also declined, with a 25 percent increase in grades of D, F, or withdrawal from the introductory communication course among these "COVID cohorts" of students enrolling since Fall 2020. These conditions led the university to initiate what administrators branded as a "reboot" of high-enrollment general education courses. A key component of the reboot involved embedding undergraduate staff from the university's communication center as peer guides in the introductory communication course to energize student improvements in three areas: performance and perseverance (i.e., reduce attrition), student satisfaction, and student engagement. Throughout the semester, peer guides assisted students in preparing assignments, gave feedback on drafts and practice sessions, reminded students of upcoming assignments due, tracked down missing work, offered messages of encouragement, helped students interface with their instructors, and assisted in navigating college life.

This study examines the empirical evidence of how embedding undergraduate peer guides from a communication center throughout a 16-week semester can affect student achievement, satisfaction, and engagement in the introductory communication course. The course encompasses public speaking and group communication performances plus less extensive coverage of interpersonal communication and research. All sections reported in this study were taught face-to-face, although out-of-class interactions between peer guides and students could occur face-to-face or via videoconference (Zoom or Google chat), email, messages in the Canvas learning management system (LMS), or texts exchanged through the GroupMe platform. Qualitative feedback on the peer guide experience was obtained from focus groups of peer guides and instructors who participated in the reboot.

Undergraduate students (n = 10) working as paid peer consultants in the communication center were selected as peer guides. All of the student consultants successfully completed the introductory communication course in which they would serve as peer guides. The consultants also completed a semester-long course, taught by the director of the communication center, that

covered procedures of working as a peer consultant. Instructional content focused on primary source, research-based communication literature addressing best practices in communication center consultations. This training regimen was a credit-bearing course (three semester hours) with grades assigned. The course could count as a general elective for non-communication majors or as a major elective for communication majors. In addition to learning about peer consultations, students in the course learned by example, as they were required to shadow experienced consultants. This preparation was supplemented with additional university training in protecting student confidentiality and dealing with students in distress. Finally, throughout the semester the peer guides received approximately five additional hours of training (facilitated by full-time faculty administrators in the communication center) that focused on troubleshooting and improving the amount and quality of interactions between peer guides, students, and instructors.

In keeping with research on communication centers (Ward & Schwartzman, 2009) and on peer tutoring generally (Pirini, 2017), the training prioritized relationship-building between tutors and students as a foundation for building an atmosphere of safety, comfort, and trust that enables learning. The approach to procedural training also was grounded in research on effective peer tutoring. Alongside learning interpersonal skills, peer guides received training in tutoring techniques, including how to foster metacognitive competencies such as focusing on improving the communication process rather than the more short-term, instrumental goal of improving a grade on an assignment. This growth-oriented mindset (Dweck, 2016) has proven crucial for successful peer mentoring (Pirini, 2017), and specifically for student development in communication centers (Schwartzman & Ellis, 2011).

Peer guides included majors from several different departments across the university, a variety also reflected in the diversity of majors among students in a large general education course. Each student was randomly paired with an instructor ($n = 8$) for one or two sections with an enrollment cap of 25 each (25-50 students total per peer guide). All instructors who participated in the reboot were master's level graduate teaching assistants. These instructors were chosen for the reboot because these less experienced instructors could potentially benefit the most from additional support for instruction and student interaction. Furthermore, the test group consisted exclusively of instructors with a similar level of teaching experience (two years or less) and identical instructional training from the same department's basic course director. The equivalent training and experiential level of instructors could reduce confounding variables attributable to educational background that might affect implementation of the reboot.

Peer guides were enlisted to serve two purposes. Their specific objective was to assist students in understanding and navigating the course, which included checking on assignment progress, providing feedback on practice sessions for presentations, and helping students interact productively with the instructor. Peer guides also had a broader objective: to aid students in coping with the demands of a college-level course that had a higher workload, set clearer deadlines, and enforced performance standards more rigorously than many courses they may have taken during the online migration triggered by the COVID-19 pandemic.

Altogether, peer guides logged 317.75 hours of student support throughout the semester. Of that time, 191.5 hours (60.3%) occurred during the first eight weeks of the term. This peer guide support was provided in addition to the required minimum of one communication center consultation (at least 30 minutes) for every student to prepare for their major presentations. Only one visit during the semester was required. To avoid conflicts of interest, each student's communication center consultations were conducted with consultants other than the student's peer guide. Students in the 16 peer guided sections (n = 406) logged 291 communication center visits totaling 145.5 hours, with a mean of .358 hours per student. The 21 control group sections (n = 319) registered 198 visits totaling 99 hours, with a mean of 0.5 hours per student. The discrepancy in mean hours of consultations per student may reflect higher rates of student attrition in peer guide sections, less compliance with (or enforcement of) the consultation requirement in peer guide sections, or outliers of extremely long or brief consultations that skewed means in the groups.

The study sought to answer three questions:

RQ1. How does embedding peer guides from the communication center in the introductory communication course affect student performance?

RQ2. How does embedding peer guides from the communication center in the introductory communication course affect student engagement?

RQ3. How does embedding peer guides from the communication center in the introductory communication course affect student satisfaction with the educational experience?

Method

Several measures were adopted to assess the impact of peer guides. Measures related to student performance, engagement, and satisfaction were applied to students (n = 406) in 16 rebooted sections of the introductory course with peer guides and control groups of students (n = 454) in sections without peer guides. The number of participants in each assessment varied, but the cumulative number of students included (i.e., the universe of students eligible to participate in each assessment) remained constant.

Overall student performance was gauged using anonymized midterm and final course grade data reported by instructors. The study was conducted throughout the first semester the university required instructors to report midterm grades. Although inclusion of midterm grades enabled tracking of progress throughout the term, the novelty of midterm grade reporting introduced two limitations. First, the lack of previous midterm grade data prevented longitudinal tracking for comparisons. Second, instructors were still unaccustomed to entering and reporting midterm grades. Two instructors in the control group did not report midterm grades, which led to some data gaps. Although these gaps affected short-term longitudinal comparisons, final grades

could still provide more long-term longitudinal tracking from semester to semester or from year to year.

The Personal Report of Communication Apprehension survey (PRCA-24), which reports personal perceptions of communication apprehension across a variety of contexts, was selected as an indicator of both communication competence and retention. Lower communication apprehension scores consistently correlate with a wide range of positive communication behaviors (Allen & Bourhis, 1996), supporting the reduction of communication apprehension as foundational for improving communication skills. PRCA-24 scores also provide insight on student retention. Past research has shown that tudents with higher communication apprehension scores are more likely to leave school after their first year (Ericson & Gardner, 1992) or two (McCroskey, Booth-Butterfield, & Payne, 1989). Thus, reducing communication apprehension in the introductory communication course that primarily targets first-year students could improve student retention. PRCA-24 tests were administered online to all students at the beginning and end of the semester. Pre-test and post-test scores were compared to determine changes in perceived communication apprehension.

Student engagement can be defined as the level of student involvement along cognitive, behavioral, and emotional dimensions (Hofkens & Ruzek, 2019). Measurement of student engagement furnishes important information regarding how well interventions are working and whether those interventions should change (Hofkens & Ruzek, 2019). Student engagement was measured by the total activity time for each student as recorded on Canvas. Although a more precise indicator of engagement would include an array of other course-related activities, such as tracking of email correspondence between students and their peer guide or instructor, GroupMe texts between peer guides and students, etc., Canvas usage provides a behavioral indicator of primarily cognitive engagement since all course materials were available via the platform. Canvas usage could qualify as a prerequisite for other types of engagement behaviors, since Canvas housed the most fundamental course information (the syllabus and guidelines for all major assignments). Activity on Canvas provides an observable index of engagement rather than relying on student self-reports, which can provide information on student attitudes that may not align with enactments of engagement (Hofkens & Ruzek, 2019).

Student satisfaction was measured by the standardized student evaluations of teaching administered throughout the communication studies department. This assessment instrument had been implemented in its current form for more than five years, so any notable deviations from norms would not be attributable to changes in the evaluation form. Although each department at the university implemented its own evaluation form across all its courses, all evaluations throughout the university shared equivalent (sometimes with slight alterations in phrasing) summative questions that ask students to rate the overall quality of instructor, course, and learning. The quantitative component of the evaluation for the communication studies department concludes with three summative assessments, each rated on a scale of 1 (worst) to 5 (best): quality of instructor, quality of course, and quality of learning. The three dimensions provide a more nuanced picture of student satisfaction than a single cumulative rating.

Ordinarily, student evaluation data are reported as means for each section. This method skews outcomes by giving equal weight to means per section without considering the number of students reporting in each section. To correct for this over-representation of data from sections with few respondents, this study weights the means of each section in proportion to the number of students reporting. Data from a section with 20 respondents, for example, would be weighted double compared to a section of 10 respondents.

Finally, supplemental qualitative data was obtained from semi-structured focus groups ($n = 4$) conducted separately with peer guides ($n = 6$) and instructors ($n = 8$) who participated in the reboot. The focus groups were facilitated by an undergraduate communication center management staff member who served as an administrative assistant but not as a peer guide during this study. All focus groups were conducted after the semester ended, allowing reflection on the entire 16-week term of the initial peer guide implementation.

Results and Discussion

Student Performance

The mean midterm grade for students ($n = 391$) in sections with a peer guide was 3.44 (sd = .97) on a scale of 4.0 versus 3.35 (sd = .85) for students ($n = 219$) in sections without a peer guide. Although the absolute mean midterm grades were higher in the peer guide sections, two-sample t-tests revealed this difference was not statistically significant ($p > .05$). Mean final grades for students in the reboot sections were 2.92 (sd = 1.17) compared to 3.04 (sd = 1.13) for the control group. This difference also was not statistically significant ($p > .05$). Midterm grades ordinarily would be higher than final grades, since the introductory course backloads content with higher stakes and more challenging assignments scheduled after students acquire initial performance experience earlier in the term. The results for grades show that whatever benefits accrued from peer guides apparently did not extend to improving overall academic performance in the introductory course. The lack of peer guide impact on grades may stem from confusion about how much and in what ways the peer guides should assist students academically. A productive approach, discussed in the overall analysis section below, may involve concentrating on developing student work habits, note taking skills, and other aids to academic success that transcend the specific course content.

Administration of a pre-test and post-test of the PRCA-24 indicated to what extent students progressed toward reducing their communication apprehension levels. Not only does lower communication apprehension have benefits for student academic achievement and retention (as noted earlier), but boosting confidence in communication can help make the performance aspects of the introductory course seem more achievable. PRCA-24 scores can range from 24 to 120. For respondents in the United States, the mean total score is 65.6. Scores below 59 correspond to low communication apprehension. Scores above 72 indicate higher than average apprehension level, with scores above 80 registering as very high (McCroskey, 2015). Table 1 summarizes the PRCA-24 scores obtained from participants.

Table 1 - *PRCA-24 Results*

	Peer Guide Section Students (n = 406)	Control Group Section Students (n = 319)	Aggregate of All Participants (n = 725)
PRCA-24 Pre-Test Mean Score	70.49 (sd = 18.88)	66.92 (sd = 28.40)	68.92 (sd = 23.61)
PRCA-24 Post-Test Mean Score	63.39 (sd = 17.32)	52.48 (sd = 28.41)	60.10 (sd = 21.85)
Net Change (lower = less apprehension)	-7.1	-14.44	-8.82
Cohen's *d*	.39	.51	.38

Application of Welch's two sample t-tests revealed that for all participants in the course, the PRCA-24 post-test score means were 8.82 points lower than the pre-test means. This reduction was statistically significant ($p < .01^{-8}$). Using updated classifications of Cohen's *d* values for effect size as .15 = small, .36 as moderate, and .65 as large (Lovakov & Agadullina, 2021), the Cohen's *d* value of .38 suggests this difference was at the low end of moderate magnitude. Overall, the mean level of perceived apprehension level decreased by 7.35 percent for students in the course.

As Table 1 demonstrates, comparisons between the reboot sections (with peer guides) and the control group sections (without peer guides) reveal differences in PRCA-24 mean pre-test/post-test score reductions. Closer examination of the Cohen's *d* values in Table 1 reveals that the relative size of the reduction in reported communication apprehension among students in peer guide sections (Cohen's *d* = .38) closely aligned with that of students in the course as a whole (Cohen's *d* = .38). Within the control group sections, the reported reduction in communication apprehension surpassed that of the sections with peer guides (by 7.34 points) as well as the course overall (by 5.62 points). Measured by mean PRCA-24 scores, the reduction of apprehension levels in the control group was more than twice that of the reboot sections. The relative magnitude of decline in reported apprehension levels in the control group (Cohen's *d* = .51) was toward the high end of moderate (which spans .36 to .65). In the sections with peer guides, the size of decline in apprehension levels (Cohen's *d* = .39) slightly exceeded the lower threshold for a moderate effect.

Table 2 compares the pre-test and post-test mean PRCA-24 score changes in the peer guide sections with those of the control group sections. Pre-test mean PRCA-24 scores showed no significant difference ($p > .05$) between the reboot sections and the control group despite the

absolute difference of 3.57 points. Any measurable differences between reboot and control group section means on the post-test therefore could not be attributable to initially reported levels of communication apprehension.

Table 2 - *PRCA-24 Comparisons*

	Peer Guide Section Students (n = 406)	Control Group Section Students (n = 319)	Comparative Score (peer guide group mean minus control group mean)	Cohen's d
PRCA-24 Pre-Test Mean Score	70.49 (sd = 18.88)	66.92 (sd = 28.40)	+ 3.57*	n/a
PRCA-24 Post-Test Mean Score	63.39 (sd = 17.32)	52.48 (sd = 28.41)	+10.91**	.46
Net Change (lower = less apprehension)	-7.1	-14.44	-8.82	

*p > .05
**p < 0.00004

The post-test scores show comparatively more progress toward reducing communication apprehension in the control group sections. Students in sections with peer guides registered a post-test PRCA-24 mean score of 63.39 compared to 52.48 for the control group. This post-test mean score difference was statistically significant (p = 0.000036). The Cohen's *d* value of .46 indicates a moderate magnitude of difference. The 10.91 point differential at the end of the course represents a higher level of communication apprehension among students in peer guide sections compared to the sections without a peer guide. Although students in the peer guide sections and students in the control group reported reductions in communication apprehension, the improvement shown by students in the control group represents a notable gain over their counterparts in the reboot sections.

The lag in reducing communication apprehension among students in peer guide sections deserves detailed reflection and additional study. Unfortunately, no prior baseline PRCA-24 data exists for this course because the pre-test and post-test were only initiated with the current project. While more substantial explanations await further study, the introduction of peer guides may have confounded students by introducing an ambiguous communication situation into the

course. The only precedent for peer guides had been in some first-year seminar sections. The first-year seminar course served as a transition and orientation to college, directed especially toward students who might need additional help in adjusting to the demands of university life. In the first-year seminar, the undergraduate peers had clear responsibilities in facilitating discussions and supervising group activities. These peer guides, like those in the communication center, were drawn from various disciplines. Unlike the communication center peer guides, the first-year seminar tutors acquired no academic training in the subject matter, as that course did not rely on a specific disciplinary knowledge base.

In an extensive analysis of the educational and psychological literature supporting peer-assisted learning, Arendale (2014) concludes that course-embedded peer tutors can reduce the stigma of attending a tutoring (or communication) center perceived as a site for remedial learners. Course-embedded peer learning offers intensive, personally tailored assistance that could improve student persistence and academic success. The concept of course-embedded communication center tutors has a long history of endorsement in the communication field (Moreau, 2011). Drawing from literature documenting the success of embedding writing tutors in composition courses, Strawser and colleagues (2019) recommend course-embedded consultations in oral communication courses as a best practice. These researchers, aligning with English composition studies and with prior research, rationalize that "communication fellows" could intensify student involvement with the communication center as well as work closely with faculty to tailor consultations to specific course assignments. Strawser et al. (2020) subsequently note that student consultants trained to work in communication centers are equipped to provide tutoring in most of the communication skills identified by the National Association of Colleges and Employers (NACE) Career Competencies as crucial across all academic disciplines (pp. 99-100).

The peer guides in this study of the introductory communication course occupied ill-defined territory in instructional relationships. Unlike graduate assistants, they graded no student work and bore no responsibility for delivering course content. Unlike peer mentors described in the education literature, these peer guides did not play "a central role in knowledge construction and lesson planning," nor were they "integrated into the delivery of the course" (Kezar, Hallett, Kitchen, & Perez, 2022, p. 35). Unlike instructors, they had no formal authority, and unlike students taking the course, they had no direct stake in the course activities. Instead, peer guides provided an on-demand resource as an ancillary component of the course.

The presence of a peer guide could have introduced a confounding and unresolved communication variable in the course. Questions about how, why, and what students should communicate with the peer guide would persist until the peer guide could be fully integrated into the course. That integration should have happened at the outset, with peer guides incorporated into the course design and their duties outlined on the syllabus. Instead, the university was still embroiled in the mechanics of hiring, preparing, and onboarding peer guides even after the semester had begun.

The findings also may reflect impacts of pandemic-induced educational disruptions. The disruptive effects of layered traumas—most notably lingering impacts from shutdowns of in-person institutional education but also the chronic anxieties attendant to racially targeted violence, accentuated xenophobia, and frequent deadly shootings in schools—may require implementation of more trauma-informed educational practices. Communication centers can play a leading role in this effort. Ladva (2020) argues that communication centers must update their norms for eloquence and communicative practice to address the systemic racism embedded in White Mainstream English. Even purportedly race-neutral suggestions for effective communication may effectively silence racially and culturally distinctive modes of expression (Nguyễn, 2021). The urgency of incorporating more antiracist practices was underlined by the high-profile incidents of anti-Black police violence throughout the pandemic. Prentiss (2021) notes the key role that communication centers can play in acknowledging and foregrounding the diverse voices of students with invisible disabilities (e.g., neurodiversity). This empowerment of students has been identified consistently in education research as a key component of effective peer tutoring (Pirini, 2017). It is therefore not only appropriate but imperative for communication centers to address and redress the inequities and anxieties that the COVID-19 pandemic brought into bold(er) relief.

Faced with multiple post-pandemic traumas, students may benefit from the predictability and certainty of clear structures and guidelines (Lelli, Ballard, & Gentile, 2021). Peer guides, instructors, and the basic course director can collaborate to establish and explicitly inform students about the rules and roles that apply to peer guides. Embedding these definitions and policies in the syllabus, on Canvas, and discussing them openly with students can calm anxieties about communication between students and peer guides.

Student Engagement

Extensive research links student engagement with positive academic outcomes (Hews, McNamara, & Nay, 2022). The precise constituents of engagement, however, remain ill-defined. While engagement operates across behavioral, affective, and cognitive domains, "the mechanisms contributing to the individual student's engagement have not yet been clearly articulated and the term engagement is used differently in various contexts" (Kahu & Nelson, 2018, p. 59). In keeping with the university's preference for behavioral engagement over how students perceive their engagement, this study departed from prior research that measured engagement through student self-reports (Brophy, Adebayo, & Broeckelman-Post, 2021).

Instead, engagement was measured by student time spent on the Canvas LMS for each course section. Total activity time provides a concrete proxy indicator for time on task. This measure has limitations, since time logged in does not necessarily equal duration of involvement with course content. Students could leave a Canvas tab open while they do other things, or they might forget to logoff and the system records that idle time as activity. Even with these caveats, total activity still provides a rough behavioral indicator of involvement.

Students in the peer guide sections (n = 391) logged a mean of 1,359.45 minutes (sd = 225.25), or 22.66 hours of total activity. Students in the control group (n = 287) logged a mean of 1,270.95 minutes (sd = 914.68), or 21.18 hours. A two-sample t-test revealed that the differences in total activity between the groups were not significant ($p > .05$).

What might explain this insignificant difference? Instructors in the peer guide sections were less experienced (teaching 2 years or less) than their control group counterparts (minimum 3 years teaching). These less experienced instructors may not yet have learned how to optimize student usage of Canvas. Also, these newer instructors may place fewer resources on Canvas, which reduces the need for students to login. Given these considerations, peer guides may have induced students to use Canvas more than they otherwise would have, thereby bringing Canvas activity up to par with sections taught by more seasoned instructors. Further research could explore this possibility. If peer guides interact with students via comments on assignments or through motivational messages on Canvas, students may be drawn more toward using the course resources housed there. If students see the LMS as a site for interactivity rather than simply content delivery, they may pay more attention to feedback and improve self-monitoring of their academic status in the course.

Peer guides offered students the opportunity to confer in person (face-to-face or via videoconference) outside of class, using the model of personal consultations employed in the communication center. These consultations were optional, provided upon request from the students. In keeping with research showing that students have minimal intrinsic motivation to use communication centers (Stewart, Broeckelman-Post, & Rossheim, 2021), few students chose to interact with peer guides outside of class. A peer guide usage survey administered online to students (n = 141) in reboot sections at the midpoint of the semester revealed that only 21 (14.89%) had met with their peer guide at all. Personal interaction with peer guides offers opportunities for engagement through emotional support and recognition as an individual. Education research reports that peer preceptors play a "validating" role, since students in the class "saw someone who was not much older than them" in a position of responsibility (Kezar, Hallett, Kitchen, & Perez, 2022). More robust results may be obtained from integrating direct interactions with peer guides into required assignments for all students.

Student Satisfaction

Student evaluations of teaching suffer from many limitations, including racial and gender bias against instructors (American Sociological Association, 2019). Amid these drawbacks, however, student evaluations do report the valence of student feelings about their experience with a specific course and instructor. Perceived quality of instruction plays a crucial role in student satisfaction with their educational experience, and student satisfaction rates can predict likelihood of retention (Al Hassani & Wilkins, 2022; Schreiner, 2009).

After adjusting for numbers of respondents in each section, two-value t-tests revealed that summative evaluation scores of reboot versus control group sections did not differ significantly ($p > .05$) for ratings of instructor, course, or learning. The mean ratings on a five-point

Likert-style scale (1 = worst, 5 = best) for peer guide sections were: 4.61 (instructor), 4.23 (course), and 4.32 (learning). The mean ratings in the control group sections were: 4.51 (instructor), 4.25 (course), and 4.30 (learning). All these summative ratings exceeded departmental means of 4.1 for all courses across all three dimensions.

Peer guides had never been employed previously, so students faced considerable uncertainties in adapting to their presence. The lack of significant difference in student evaluations demonstrates that the challenges of adjusting to a peer guide did not damage student ratings of the course, the instructor, or the learning experience. Even as an untested intervention, peer guides can be accepted by students as a legitimate part of a positive instructional experience.

Analysis and Implications for Practice

The results reported herein have significant consequences even when they are not statistically significant. The generally negative results of this study assume particular importance considering the widespread publication bias throughout the social sciences (Malhotra & Zigerell, 2022; Peplow, 2014). Researchers have documented the tendency of scholarly journals to publish studies with large, statistically significant results. Systematic failure to publish a proportionate number of studies with marginal or no significant results has led to frequent overestimations of effects. Furthermore, statistically insignificant results still may have socially significant ramifications (Ziliak & McCloskey, 2008).

Reflections on Results

The cumulative findings conclude that using communication center student tutors as peer guides yields few positive outcomes. That conclusion, however, may prove premature. Absence of clearly positive results may constitute less an indictment of peer guides per se than a reflection of how they were implemented. The lack of positive outcomes may stem from unclear definitions of the roles peer guides should play. When asked in the focus groups about what observations they had about the peer guide process, every peer guide commented about the need to clarify what they should do. Concerns arose about blurred boundaries between peer guides and students, as well as between peer guides and instructors. Several peer guides wanted clearer previews of class activities and how peer guides should participate. Other peer guides felt underutilized as they were not allowed to make comments about student work or often, one peer guide stated, “just sat there” without a definite role in class discussions. Ambiguity surrounding peer guide roles constituted the only point that every peer guide in the focus groups mentioned as a concern.

Other aspects of implementing the peer guide intervention may have affected results. During the preceding semester, the student success office migrated to what administrators announced as a “new-and-improved TracCloud scheduling platform” for students to book appointments with communication center consultants. TracCloud also was used for booking appointments with peer guides. The new system fully launched shortly before this study began.

After several weeks of minimal appointments, communication center administrators discovered that students were not thoroughly oriented to the new system. With insufficient student onboarding, students still struggled several weeks into the semester to navigate the new platform. Not only did inadequate training reduce out-of-class personal interactions between peer guides and students, but it also likely added to student anxieties about communicating with peer guides.

Besides difficulties attendant to launching a new intervention, the results could stem from instructor characteristics. All the peer guides were placed in sections taught by graduate instructors with less than two years of teaching experience. Some of the confusion about the roles of peer guides may have arisen from the relative inexperience of the instructors. The course evaluation data show that the perceived quality of instruction in these sections did not suffer from the presence of peer guides, but students may still have felt anxiety and uncertainty about using peer guides to their fullest potential. This point is being investigated in a follow-up study, currently in progress, on peer guides in the subsequent semester. In that study, peer guides are paired with experienced full-time faculty—all with five or more years of introductory course instructional experience—as well as with graduate instructors.

Even with the preceding considerations, this study raises deeper concerns about the best ways to employ communication centers in interventions for student success in a pandemic-informed educational landscape. Previous research notes that relationship-building between student users and peer consultants constitutes one of the most important aspects of communication center usage (Ward & Schwartzman, 2009). More recent, pandemic-informed research challenges the assumption that students will seek or feel competent to engage in building academically productive relationships with unfamiliar people who occupy unfamiliar roles. After experiencing the pandemic, college students demonstrate lower empathic social skills (Baiano et al., 2022). Unfamiliar interpersonal situations foreground such gaps. How should students approach peer guides who are neither classmates nor teaching assistants nor instructors? Even the peer guides, extensively trained in relating to student clientele, felt this tension. In the focus groups, the second most frequently expressed concern among peer guides (after confusion about peer guide roles) was how to establish and maintain connections with the students. Anxiety from these uncertainties may help explain why communication apprehension levels in peer guide sections did not improve more. Students encountered a new person (peer guide) to interact closely with and had more means of interacting (text, videoconferencing, etc.), but they did not receive concomitant instruction or practice in initiating or managing this new relationship.

Reconsidering Roles of Peer Guides

The results invite possible reconsideration of the roles peer guides play when embedded in courses. Deeper examination of the literature suggests that positive effects of peer tutoring may stem from the form it takes than from the sheer presence of the tutors in courses. In their recent review of literature on peer tutoring, Morris, Agbonlahor, Winters, and Donelson (2023) observe: “Because the development and implementation of tutoring is dynamic, changes

associated with the form that tutoring take can impact its effectiveness" (p. 222). Dramatic effects from peer tutoring can result from more sustained contact between students and peer tutors that directly addresses course content and requires supplemental instruction with the tutors. For example, students enrolled in a college algebra course with course-embedded peer tutors were three times more likely to pass than students who did not receive this peer tutoring (Morris, Agbonlahor, Winters, & Donelson, 2023). To achieve this result, an additional hour of instruction was added to the course (converting it from three semester hours to four semester hours per week), with that 33 percent of additional student contact devoted to supplemental peer interaction. In an introductory psychology course, peer tutors delivered three supplemental online lessons via Zoom. Completion of the three modules yielded no improvements in student learning outcomes or in assessment (test) results (Salamati et al., 2023).

Studies that document peer instruction having a positive impact on student persistence introduce peer mentors as regular interactants with students in classes, moving instruction more toward small, interactive group workshops and away from passive listening to lectures (Rodriguez et al., 2018). Peer instruction has been documented to have positive effects when the peer mentors are fully integrated into the dynamics of class discussions. For example, first-year student retention can improve when small groups of students regularly meet with an upper-class student to discuss and practice strategies for academic success (Wilton et al., 2021). Further research could explore how peer guides could use instructional immediacy behaviors such as increased active presence in the classroom, posting helpful short videos, or prompting students to participate in online discussions to increase student engagement. Peer guides could improve emotional engagement by regularly communicating microaffirmations (e.g., gratitude for asking questions). These microaffirmations could prove particularly potent in countering racial, gender, class, and ethnic microaggressions that so many students experience (Morales, 2014).

Peer guides could assist students in developing skills associated with academic success or referring students to more formal academic support services, such as writing centers or accessibility resource offices. Incorporating study skills into courses can aid in student retention (Crosling, Thomas, & Heagney, 2007); however, most instructors find it difficult to cover these skills in addition to course content. Outsourcing study skill development and guidance in navigating the institution's resources to peer mentors enables these practical tasks to proceed without competing for scarce course time or overloading students with online content.

Student engagement involves "empowering students to identify, practice, and apply their strengths and values in learning" (Chu, 2022, p. 155). The focus groups revealed that peer guides and instructors needed clearer ways for the peer guides to foster students' senses of self-empowerment. While the peer guides and students interacted via text messages, Canvas comments, emails, video chats, and in personal meetings, sheer interaction does not necessarily translate to engagement. Chu (2022) finds that the quality of engagement enables quantity of interaction to achieve results. Specifically, students who identify and build their strengths, develop a growth mindset that focuses on effort rather than innate ability, and express gratitude tend to reduce anxiety and improve academic performance.

More effective use of peer guides may require that their roles in courses focus specifically on enhancing factors known to increase student engagement and to correlate strongly with improving academic performance, especially for nontraditional students or those from marginalized populations. These factors include: a sense of self-efficacy, fostering positive pro-social emotions such as empathy and gratitude, feelings of belonging, and managing stress (Kahu & Nelson, 2018). The COVID-19 pandemic directly counteracted all these components. Students faced a health crisis that had spun out of control (contra self-efficacy), experienced extended social isolation (contra pro-social emotions and belonging), while enduring intensive stress from drastic and often questionably implemented technological changes as well as from the pandemic itself (Schwartzman, 2020).

Recommendations for Further Study

While this study focused on aggregate effects of using peer guides from a communication center, future research could obtain more granular results by differentiating impacts on specific demographic and academic groups. For example, might peer guide effects become more pronounced among student populations identified as having greater risk of low performance or attrition? Do effects concentrate among students with low, middle, or high grade point averages?

Further studies should address communication center interventions in online courses, especially since they have long shown higher attrition rates than their face-to-face counterparts (Bawa, 2016). The authors are currently conducting a follow-up study comparing peer guide effects in online and in-person sections of the introductory communication course. Online courses offer robust means of documenting student engagement, as student participation is often more easily observable throughout each online content unit.

Additional research also could compare communication center peer guides with peer guides who have other types of training, such as working in writing centers or academic success centers for specific subjects such as mathematics. This comparison could distinguish characteristics of the peer guide system per se from the influence of how communication center peer guides are prepared. While communication center tutors seem optimally positioned to become peer guides, other types of preparation may also prove useful or render peer guides more effective.

Further research could investigate relationships between the impacts of peer guides and instructor characteristics, especially the instructor's prior teaching experience. Might more experienced instructors bring deeper knowledge of how peer guides could productively affect student performance? Or would newer instructors, less bound by prior pedagogical habits, develop more imaginative ways to involve peer guides?

Future studies also should explore more robust, nuanced behavioral measures of student engagement. These measures should track the multimodal ways that peer guides and students interact across various communication media (text, email, video chats, etc.). When coupled with self-reports, student perceptions and intentions regarding engagement can be compared with the extent that they were manifested through concrete (in)actions.

While this study was in progress, OpenAI launched ChatGPT as an easily available AI tool. Within only a year, various types of artificial intelligence tools have become widespread. It will be vital for future research regarding communication centers to consider how AI might impact all aspects of communication center operations. For example, a fruitful line of research could investigate how text-generative AI tools such as ChatGPT, Claude, Bard, etc. could improve the speed, quantity and precision of feedback exchanged between peer guides, students, and instructors and thereby improve student engagement in ways suggested by the present study.

Conclusion

While many of the findings in this study lacked statistical significance, they nonetheless can prove consequential. The absence of positive effects from course-embedded peer guides from the communication center may simply reflect the early stage of this pilot project. Clearer outcomes could emerge as instructors, students, and peer guides develop clearer procedures for systematically and more deeply involving peer guides in task-specific roles related to course content. Since this intervention will continue in the subsequent semester, additional research can determine whether more of the potential benefits from this type of peer mentoring will materialize.

The overall findings, therefore, are mixed. As to whether peer guides affect student performance (RQ1), their presence as implemented in this project appeared to reduce communication apprehension slightly, but to a lesser degree than in the same course without the peer guides. Regarding student engagement (RQ2) and student satisfaction with the course (R3), no significant differences were found when peer guides were embedded in the introductory communication course. A key extension of this study would involve more varied and robust measures of student performance, engagement, and satisfaction. Additional means of assessment could generate more nuanced results that could generalize the impact of involving communication center peer guides in other courses, within the communication field and beyond.

Although this research reported on the preliminary rollout of peer guides, the follow-up study already in progress at the same university should provide some initial longitudinal data. Having already experienced and engineered around many difficulties with the initial launch of peer guides, the new research may offer a more realistic assessment of how peer guides function. Much remains to discover regarding the impact communication center peer guides might have on student performance, retention, engagement, and satisfaction.

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