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Effects of an Interdisciplinary Communication Partner Training Program on Student Learning

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Effects of an Interdisciplinary Communication Partner Training Program on Student Learning

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BACKGROUND: Communication partner training (CPT) involves educating conversation partners to implement communication strategies that facilitate improved interactions with people with aphasia (PWA). This study aimed to investigate (1) whether a CPT program increased the knowledge and confidence of students with and without a communication disorders background and (2) the differential effects of this training on students from different allied health disciplines. **METHODS:** Quasi-experimental design study with 6 adult volunteers with aphasia and 36 students (18 speech-language pathology [SLP] students and 18 physical therapy/occupational therapy [PT/OT] students). The CPT program was provided twice (in 2015 and 2016) as a single seminar at an American university. **RESULTS:** All students reported increased confidence in communicating with PWA and were able to identify a greater number of appropriate communication strategies after the CPT than they could identify before the training. The SLP students demonstrated greater aphasia knowledge than the PT/OT students prior to training; only the PT/OT students reported increased knowledge about aphasia after training. **DISCUSSION:** Involvement of PWA in CPT programs may be particularly important in enabling students to develop confidence in communicating with PWA. Practice opportunities with PWA can be provided as early as the beginning of didactic coursework through an interdisciplinary CPT program. *J Allied Health* 2022; 51(2):110-115.

COMMUNICATION PARTNER TRAINING (CPT) is a commonly used environmental approach for treating

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aphasia. The purpose of training conversation partners is to implement communication strategies that facilitate improved interactions with people with aphasia (PWA).^[1-3] Based upon our literature review, there are two main approaches to CPT: Those that focus on a dyad's interactional patterns and those that teach general strategies for supporting conversations with PWA.^[4-6] Studies have shown that the latter approach leads conversation partners to increase their knowledge and confidence and to engage in more effective communication behaviors compared to the former approach.^[6-9] The present study adopted the latter approach and investigated the effects of a community-engaged CPT program that trained graduate students who were enrolled in three allied health disciplines about ways to support communication and interaction with PWA.

CPT can lead to improved communication behaviors and beneficial psychosocial adjustments for both PWA and trained conversation partners. In their review of CPT literature, Simmons-Mackie et al. found that, across 43 studies that investigated behavioral changes in PWA, 12 reported improved language outcomes and 38 reported improved outcomes related to communication activities and participation.^[2,3] Although 7 studies reported some improvement in language outcomes, the most common behavioral improvements identified for PWA were observed in communication activities and participation (e.g., strategy use, quality of communication, etc.).^[2,3] Similarly, Simmons-Mackie et al. found that most studies revealed that the communication skills of the conversation partners who participated in the training program also improved.^[2,3]

In addition to improving the communication behaviors of PWA, CPT is effective in improving the knowledge and confidence of aspiring healthcare professionals. Intervention studies have shown that after participating in a CPT program, students from nursing assistant, occupational therapy (OT), and physical therapy (PT) disciplines all demonstrated increased knowledge about aphasia and a better understanding of appropriate communication strategies to use with PWA.^[9,10] This was evidenced by the participants' improved scores on multiple choice questions and their ability to identify a greater number of effective

communication strategies than they were able to identify prior to training.^[9,10] Notably, OT and PT students also have shown significantly increased confidence following CPT.^[9]

In addition to improving students' knowledge and confidence, CPT programs also show promise for improving the knowledge and confidence of current healthcare providers. For example, one program implemented CPT for 52 healthcare providers from a variety of specialist areas in a metropolitan hospital.^[8] Similar to the OT/PT students, the healthcare providers at this hospital increased their confidence in communicating with PWA and were able to identify a greater number of effective communication strategies than they could identify before participating in the program.^[8]

Despite the promise of these programs to improve students' knowledge and confidence, limitations are present in previous studies. Researchers have investigated the effectiveness of CPT programs based solely on the participation of homogeneous groups of students with or without previous aphasia education, and most of the programs excluded speech-language pathology (SLP) students altogether.^[7,9,10] Cameron et al. enrolled 21 PT and 7 OT students into their CPT program and excluded those who "previously had frequent interaction with PWA."^[9(p150)] Welsh and Szabo also enrolled students with limited prior knowledge about aphasia into their CPT program which, over the course of 2 years, trained 256 nursing assistant students.^[10] Finch et al. investigated the effects of their CPT program on SLP students in a university setting.^[7] They recruited 38 students who had completed aphasia-related coursework but who had not yet had substantial clinical contact with PWA. Finch et al. then randomly allocated the students to an experimental (training) group or control (no training) group and found that the experimental group of students who attended a 20-minute lecture about strategies for effective communication with PWA scored higher in their ability to provide supported conversations, used more props, and introduced more communication ideas compared to students in the control group who received no training.^[7] However, the Finch et al. study did not report the program's impacts on the SLP students' confidence and knowledge in working with PWA.^[7] Moreover, no study has directly investigated the differential effects of CPT programs on students with and without aphasia-related coursework and training.^[8-10] Following the principles of interdisciplinary education and practice while addressing shortcomings in the literature, this study involved PT, OT, and SLP students who were in the early stages of didactic coursework.

In addition to involving students with and without aphasia-related background knowledge, this study took place over a relatively short time. Indeed, the relatively short time (less than 2 hours) required for training makes CPT program implementation feasible across

different settings (e.g., academic, healthcare, business settings, etc.), but the training of PWA as volunteers can still require significant time (e.g., 12 hours of training across 6 weeks).^[7-10] For the current study, training PWA as volunteers consisted of a 1-hour meeting that was held 1 week prior to their participation in the CPT program. A local aphasia group assisted with identifying and recruiting appropriate candidates (i.e., PWA) to participate in this study's CPT program based on the severity of their symptoms, motivation, and interest.

The purpose of the present study was to (1) determine if a CPT program can increase the knowledge and confidence of students with and without a communication disorders background and (2) investigate the differential effects of CPT on students from different allied health disciplines.

Methods

This study adopted a quasi-experimental research design with no control groups. Participants were invited to complete a survey both before and after participating in the CPT program. Ethical approval was granted by the University of North Carolina at Chapel Hill Institutional Review Board for research that involves human subjects (June 2014, IRB #14-404). Participant informed consent was obtained prior to research activity.

Participants

The authors used convenience sampling for this study and recruited student participants from the PT, OT, and SLP divisions within the university where the authors implemented the CPT program. Program participation was voluntary and held separate from other required courses. Participants could, therefore, leave the program or skip any program activity (including survey completion) at any time.

This CPT program occurred in both 2015 and 2016. In 2015, approximately 30 students participated in all parts of the CPT program; in 2016, approximately 36 students participated. Yet, as it was not required, a total of only 36 students (18 SLP, 14 PT, 4 OT) completed both the pre- and post-program surveys across both years of the program (Year 2015: 15 SLP, 9 PT, 2 OT. Year 2016: 3 SLP, 5 PT, 2 OT). Our greater response from SLP students compared with students from other allied health professions (i.e., PT/OT) may have been the result of these students being more naturally interested in learning about aphasia and communication. As is common in therapy professions, most of the student participants were female (31), with a mean age of 25.4 years. With the exception of one PT student, all participants had heard the word 'aphasia' prior to the training and 22 (61%) students had met someone with aphasia. Across the 2 years of the CPT program, a total

of 6 PWA, who were recruited from a local aphasia group, volunteered to participate. Their involvement allowed the students to practice communication strategies with the PWA as part of the program.

Procedure

The same procedure was followed in both years of the program. The authors invited first-year students from the SLP, PT, and OT divisions to attend a CPT seminar at the start of the students' graduate programs. The authors also encouraged the students to complete a brief survey before and after the one-time training session. One week prior to the CPT program, the authors provided 1-hour training to the PWA volunteers and addressed any of their concerns and questions.

The CPT program took place in a single 2.5-hour three-part session. First, a SLP volunteer from a local aphasia group provided a 30-minute lecture about aphasia and explained effective communication strategies with PWA.^[11] Examples of communication strategies mentioned during this presentation included those designed to help PWA receive language (e.g., using hand movements and gestures, using simple sentence structure, writing down key words) and those designed to help PWA produce language (e.g., encouraging other modes of expression such as gestures and writing, offering choices, giving the person adequate time). Second, PWA described their experiences of living with aphasia to the entire group over a 45-minute period. Finally, students were divided into five to six interdisciplinary groups (around 3 SLP, 2 PT, and 1 OT per group) and paired with a PWA with whom they could converse and practice communication strategies they had just learned during a 45-minute period. These small groups were facilitated by an individual who had experience with CPT. The remaining 30 minutes of the CPT session were composed of a welcome and orientation period, transition time, and break time.

Prior to and following participation in the session, all students were invited to complete a brief survey. The pre- and post-program survey questions were identical and included (1) five background/demographic questions, (2) three true/false (T/F) questions that assessed basic knowledge about aphasia ("aphasia can affect a person's ability to read and write," "a person with chronic aphasia will stop recovering one year after onset," "a person with aphasia is able to make decisions about healthcare and other important life matters"), (3) one question that asked students to rate their confidence in communicating with PWA on a 100-point scale ("how confident do you think you would be communicating with a person with aphasia?"), and (4) one open-ended question that asked students to list effective communication strategies to employ with PWA ("please describe any strategies or techniques that could be used to communicate with people with aphasia").

Data Analysis

The authors used SPSS (ver. 26) to manage the numeric data and perform statistical analyses. The outcome variables included knowledge about aphasia (*aphasia knowledge*), which was derived from the percentage of true/false (T/F) questions that students answered correctly, and self-rated confidence in communicating with PWA (*confidence*). Given the small sample size found in OT groups and the study purpose on the exploration of program outcomes between students with and without a communication disorders background, PT and OT groups were combined for analysis. Preliminary analyses were performed using non-parametric statistical tests; the results confirmed there was no need to separate OT from PT groups. The authors first analyzed the variables using descriptive statistics. The authors then analyzed the differences in the accuracy of the T/F question responses and confidence ratings before and after the CPT program and between the two student groups (i.e., SLP and PT/OT) at pre- and post-program time points using related samples Wilcoxon signed rank tests and independent-samples Mann-Whitney U tests, respectively.

The authors analyzed the students' text responses to the open-ended question using a three-step process. First, the authors identified and categorized the responses in terms of appropriate or inappropriate communication strategies. For example, responses such as "not being weird," "use commands instead of questions," and "none" were deemed inappropriate and excluded from analysis. Second, the authors individually and consensus-coded all the appropriate responses prior to categorizing the codes by the type of communication strategy each represented.^[12] Finally, the authors summed the number of appropriate communication strategies per category.

Results

Aphasia Knowledge and Communication Confidence Before and After Training

Prior to training, the SLP students differed significantly from the PT/OT students in terms of aphasia knowledge ($M_{\text{SLP}} = 92.61 (18.28)$; $M_{\text{PT/OT}} = 70.41 (25.28)$; $p = 0.01$). Both groups of students, however, perceived the same level of confidence with regards to interacting with PWA ($M_{\text{SLP}} = 54.40 (13.4)$; $M_{\text{PT/OT}} = 54.40 (16.6)$; $p = 1.00$). After training, no statistically significant difference was evident regarding aphasia knowledge ($M_{\text{SLP}} = 98.15 (7.86)$; $M_{\text{PT/OT}} = 94.48 (12.7)$; $p = 0.58$) or perceived confidence ($M_{\text{SLP}} = 84.40 (8.56)$; $M_{\text{PT/OT}} = 76.60 (19.70)$; $p = 0.31$) between the two student groups.

Overall, after participating in the CPT program, all students demonstrated significantly greater knowledge ($p < 0.01$) and confidence ($p < 0.01$) with regard to PWA. Dis-

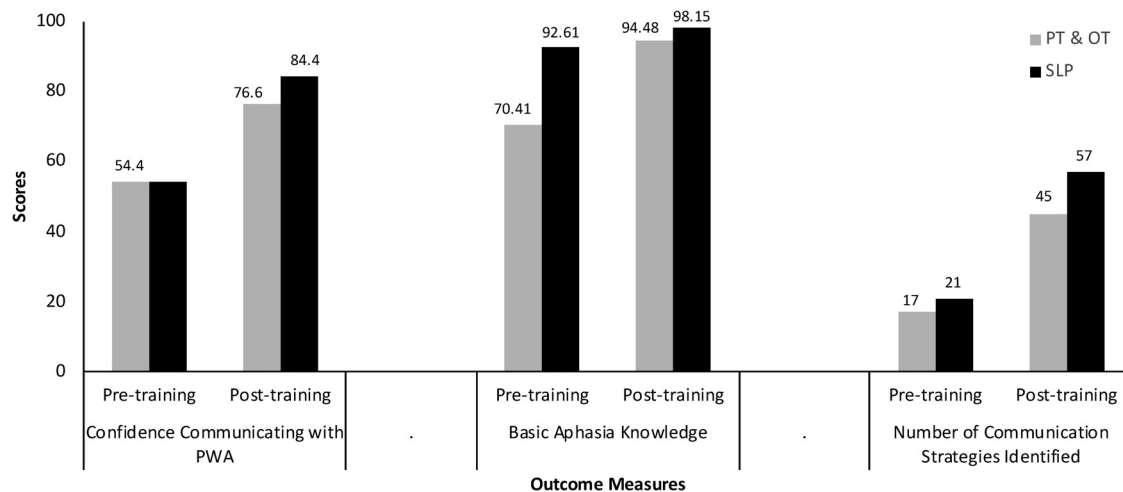


FIGURE 1. Changes in knowledge, confidence, and communication strategies before and after participation in CPT program. Gray bars, PT/OT students; black bars, SLP students.

cipline-specific results showed that the PT/OT students demonstrated significantly greater aphasia knowledge ($p = 0.01$) and perceived themselves as more confident when interacting with PWA ($p < 0.01$) than they did prior to training. The SLP students reported significantly greater confidence when interacting with PWA ($p < 0.01$) than they did prior to training but showed no statistically significant change in aphasia knowledge (Figure 1).

Appropriate Communication Strategies Identified by Student Groups

Four categories emerged during the coding process of the participants' text responses to the open-ended question: (1) verbal communication strategies (e.g., using key words, verbal cuing, rephrasing), (2) nonverbal communication strategies (e.g., gestures, sign language, positive/listening attitude), (3) instrumental support strategies (e.g., writing/drawing board, pictures/visuals, and technology such as mobile applications), and (4) others (e.g., music). The number of appropriate strategies identified by SLP students increased by 271% and the number of appropriate strategies identified by PT/OT students increased by 265% (see Figure 1). Table 1 lists the number of appropriate communication strategies by category and student group.

TABLE 1. Appropriate Communication Strategies Reported by Participants

Category	SLP Students		PT/OT Students	
	Pre-Training	Post-Training	Pre-Training	Post-Training
Verbal	7	24	5	7
Nonverbal	7	9	4	8
Instrumental	7	24	8	30
Total	21	57	17	45

Discussion

This study involved PWA as volunteers in a CPT program held in a university setting that allowed students from three academic disciplines to practice communication strategies learned during the program. The findings indicate that all student participants reported increased confidence in communicating with PWA and could identify more appropriate communication strategies after the training than they could identify before the training. Only the PT/OT students increased their accuracy on T/F questions that were designed to test basic knowledge about aphasia.

The effectiveness of the study's CPT program in terms of increasing the aphasia knowledge and communication confidence of PT/OT students is in line with previous findings.^[9-10] Uniquely, the current study discovered that after program participation, the SLP students reported more confidence in working with PWA and identified more effective communication strategies than they identified before the program. Yet, the change in SLP students' answers to the T/F questions that tested aphasia knowledge was not statistically significant. This finding supports the argument that, even if students demonstrate a high level of knowledge about aphasia, they may require face-to-face communication practices with PWA to increase their perceived confidence in interacting with PWA.

Differential Effects Between PT/OT and SLP Students

The SLP students demonstrated greater aphasia knowledge prior to training and no statistically significant knowledge increase after training compared to the PT/OT students. The reason for this outcome may be

that the study's CPT program covered information that SLP students already had learned prior to applying for the SLP graduate program. Another explanation may be the ceiling effect of the current survey, which demonstrated poor test sensitivity. Thus, the identification of appropriate communication strategies, which increased significantly for both groups, may be a more sensitive measure of aphasia knowledge than the T/F measure developed by the authors.

No difference was evident between the PT/OT and SLP students' confidence in interacting with PWA prior to training. After training, both student groups reported increased confidence in interacting with PWA, with SLP students' ratings slightly higher than those of the PT/OT students. This finding suggests that involvement of PWA in CPT programs may be particularly important for students to develop confidence in communicating with PWA. Allied health professionals frequently encounter PWA in everyday practice. Therefore, practice opportunities with PWA can be provided as early as the beginning of didactic coursework through a CPT program or other interprofessional education opportunities.

Limitations and Future Directions

Study limitations include: (1) a small sample size; (2) only three allied health disciplines involved; (3) the CPT program was implemented in one research-intensive university setting in the United States. Future research should investigate student outcomes following CPT that (a) does and does not include PWA, (b) adopts a different format (e.g., more training sessions with PWA who have different aphasia profiles, online versus in-person training), and (c) incorporates methodologically sound outcome measures. Follow-up assessments also are recommended to explore sustained training effects after longer periods of time because of the short time window between the pre- and post-session survey in this study.

Based on our findings, we recommend future CPT programs consider the following. First, the current CPT program can be expanded to incorporate learning objectives that are specific to interprofessional education practices. For example, an introduction to each allied health discipline and the interprofessional education team-forming process as well as a reflection assignment could be added to the CPT program to facilitate interactions with and learning from each discipline. Accordingly, a question such as 'How much have you learned from other professions?' could be added as a student outcome measure. Second, the current training schedule is recommended for PWA with mild to moderate aphasia. However, having multiple shorter sessions (e.g., three 1-hour sessions over 3 days) or more breaks during the one 2.5-hour training session would be more appropriate for PWA with severe aphasia, fatigue,

and/or motor disabilities. Third, an interdisciplinary team that is composed of discipline-specific student liaisons, faculty mentors, and community partners is recommended to develop and implement a doctoral student-led CPT program in a university setting. Finally, the current CPT program encompasses substantial potentials to be transformed into an online format. The lecture on the introduction of aphasia and the communication strategies that can be used in interacting with PWA can certainly be delivered through available video conferencing platforms. With careful and thoughtful planning, collaboration, and problem-solving, the virtual communication practice between allied health students and PWA could be as feasible and effective as the face-to-face format.

Conclusion

The CPT program described herein was able to provide meaningful learning experiences to allied health students who participated in the training. Regardless of their academic discipline, the students increased their perceived confidence in communicating with PWA and identified a greater number of appropriate communication strategies than they had known prior to the training. Similar CPT programs that involve PWA in educating prospective allied health professionals about aphasia have the potential not only to benefit student learning but also to improve the subjective well-being of PWA.^[13]

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