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Treatment

Preparing student clinicians to reveal communication competence in people with aphasia: Are there more effective and efficient modalities for training clinical skills?[1]

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Q What are the effects of a 20-minute lecture targeting communication partner training on the communication behaviors of speech-language pathology students during conversations with individuals living with aphasia?

METHODS

Design: Data from secondary outcome measures were analyzed from a two parallel arm randomized control trial design.

Allocation: Speech-language pathology students were randomly assigned to either a communication partner training group or an untrained group. Once trained and untrained group assignments were allocated, students were again randomly assigned to smaller subgroups of 2–3 students to participate in a 15-minute unstructured conversation with 1–2 persons with aphasia (PWA).

Blinding: The authors used a computer-generated random number allocation system, and student communication partner allocation (trained and untrained) was concealed to the authors though the use of opaque envelopes. Student communication partners from each group were then randomly assigned to a smaller group consisting of 2–3 students each. It was unclear if the authors were blinded for this second randomization procedure. Next, PWA were blinded to which student participants were trained and untrained conversational partners. Conversational video data were transcribed and jointly analyzed by three, trained and blinded, research assistants.

Study duration: All training and data collection activities were conducted in a single morning per the study authors and were subsequently estimated to be completed in less than 4 h.

Setting: Conversations took place in confidential university clinic rooms and were viewed through a closed-circuit television stream not accessible to anyone except the research team.

Participants: Total participants included 38 students (37 female; 1 male) with limited direct experience with PWA. However, all participants were enrolled in a speech-language pathology training program, and all students had some didactic lecture experience on the topic of aphasia. There were 25 undergraduate students in

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their second year of training and 13 first-year graduate students. Conversation partners included 10 PWA (5 male; 5 female) with a mean age of 61 years (SD = 10) and a mean time post-stroke of 48 months (SD = 15). All PWA were diagnosed by a certified SLP prior to the study. The authors did not provide data on aphasia severity, type, or other relevant metrics because they were not available.

Intervention: All intervention activities were completed in a university clinic setting. Students in the trained group received a 20-min face-to-face lecture from a certified speech-language pathologist through Microsoft PowerPoint slides. The lecture targeted effective communication strategies for conversing with a PWA and included explanations of aphasia, impacts of aphasia, and communication strategies to reveal competence in PWA. Additionally, the lecture included video examples depicting the aforementioned concepts. It was unclear if students had an opportunity to practice the techniques outlined in the lecture via role play or if a question and answer period was offered. The content of the lecture was based on a training program by Connect, the communication disability network in the United Kingdom (2007). Treatment integrity of the Connect program was not assessed as part of this article.

Both trained and untrained students participated in one, 15-min conversation with PWA in small groups of 3–5 individuals. Each conversation group was comprised of 2–3 students and 1–2 PWA. All students within each small communication partner group either received the training or were untrained. Topics for the communication exchange were not preselected and students were prompted to have a "general conversation" (p. 4). Props such as maps, calendars, and newspapers were provided in each clinic room to stimulate conversation. All conversation groups with untrained students occurred while the lecture was delivered to the trained group. Students who participated in the training program rotated to the clinic rooms to conduct their conversations immediately following the lecture-based training session. The PWA engaged in a debriefing exercise and offered feedback to both trained and untrained students after the conversations were completed. The debriefing was based on a 12-h conversational skill development training the PWA had received over a 6-week period prior to the onset of the current study. The debriefing used the Connect Feedback Form from the Conversation Partner Toolkit, Tool 1.16 (Connect the Communication Disability Network, 2007), and the recordings of the debriefing sessions were not used in the analysis for this study.

Outcomes: The transcribed conversations were analyzed using the Measure of Skill in Supported Conversation (MSC) and the Measure of Participation in Conversation (MPC) (see Kagan et al., 2004 for scales). The MSC rates the conversational partner using two subscales (Acknowledging Competence and Revealing Competence). The Acknowledging Competence subscale scores how the sensitive the communication partner is to PWA, while the Revealing Competence subscale determines if the partner ensures PWA understand and participate in the conversation Mann–Whitney U Tests were conducted to analyze the difference between the trained and untrained student communication partner groups with respect to the MSC. The MPC analyzes the participation of PWA and their social connection to the conversational partner (Interaction). Additionally, the MPC rates how effectively PWA exchange information with their partner (Exchange). Wilcoxon Signed Rank Tests were conducted to determine if PWA had better Interaction and Exchange scores, per the MPC ratings, with trained student partners when compared to untrained student partners.

Using Cunningham and Ward (2003) technique, conversational analysis was performed to analyze the number of non-verbal communication behaviors (i.e., use

of props, use of gesture, writing, drawing, touch, and other non-verbal behaviors), conversation breakdowns (i.e., blockages to the flow of the conversation classified as major or minor), conversation repairs (i.e., successful or unsuccessful repair), introduction of new ideas into the conversation, and interruption. Each communicative behavior was tallied and analyzed using Mann–Whitney U Tests. Finally, Spearman's rank order correlations were conducted to reveal any significant ($p < .01$) correlations between the outcome measures. Separate correlational analyses were conducted for PWA and the student communication partners. No inter-rater reliability was conducted because the research assistants watched videos and provided their ratings together using a group consensus model.

Attrition: There was no attrition.

MAIN RESULTS

Significant differences were found between the trained and untrained conversation groups. Specifically, the trained group yielded higher MSC Revealing Competence scores, demonstrated increased prop use during conversation, and accrued a higher number of new ideas introduced in the conversation. No group differences emerged for the MSC Acknowledging Competence scores or for the MPC Interaction or Transaction scores. In addition, there were no group differences in the number of communication breakdowns, interruptions, or use of conversational repair strategies. The trained group also used additional communication facilitation strategies such as gesture and writing but the application of these strategies was not significantly different compared to the untrained group.

Relationships among the subcategories of the rating scale scores and communication behaviors were also examined. There was a large significant correlation between the MSC Revealing Competence and MSC Acknowledging Competence scores for the students. Results also revealed a significant correlation for the PWA between MPC Interaction and MPC Transaction scores. Finally, the authors highlight two other significant correlations: the introduction of new ideas with MSC Revealing Competence and MPC Transaction scores and MSC Acknowledging Competence and MSC Revealing Competence was correlated with gesture use as a facilitation strategy.

AUTHOR'S CONCLUSIONS

The authors state that undergraduate and graduate SLP students may benefit from communication partner training programs, resulting in observable conversational skill improvement during interactions with PWA. Therefore, implementing a structured conversational training program may help students develop and refine clinical skills during their adult clinical placements rather than focusing on development of basic conversational skills.

COMMENTARY

The two parallel arm randomized control trial design was a robust choice to answer the research questions. Non-parametric statistics were also an appropriate choice to analyze the results secondary to the small sample size of student partners. The authors note that the data were skewed and of different data types (i.e., scales = ordinal and conversational analysis communication behaviors = interval). Thus, a z-score transformation was appropriate but not mentioned outside of the table in the results or discussion sections.

While the design was strong, Borrelli (2011) notes that one must operationalize the treatment (i.e., communication

partner training) and map it onto theory. While there are several learning theories, these authors' treatment protocol (i.e., communication partner training) is not operationalized or linked to any theory. With respect to operationalization, the authors provided general constructs to be taught (e.g., "strategies to communicate effectively with PWA"), but the detailed protocol for the communication partner training (e.g., each strategy explained within the PowerPoint lecture) was not provided. Further, the lack of operationalization made it difficult to determine which learning theory informed the authors' instruction. These commentary authors extrapolated from other sections of the paper (e.g., discussion), however, that aspects of Behaviorism (Skinner, 1974) and Constructivism (see Wertsch, 1986 on Vygotskian perspectives) were likely incorporated into the communication partner training. Behaviorism was reflective of the didactic nature of the lecture, with the teacher imparting knowledge upon the learner. Constructivism was observed through the use of videos and discussions with the students during the lecture. However, Constructivism also acknowledges that learning is an active process, and active learning techniques such as problem-based learning, simulation, and role-play are integral to developing a skill. It was not evident if this element of Constructivism was met during the training.

A growing body of research within Communication Sciences and Disorders and other health professions in general is calling for transparency to not only document procedural rigor but to also prevent the dissemination of inadequate treatment protocols (e.g., Borrelli, 2011; Kent-Walsh & Binger, 2018). This means that authors should provide all training content within their appendices for publication online, or at the very least, provide this information to the manuscript reviewers. The authors point to a submitted manuscript that provides additional details of the RCT from which these data were derived. It is possible that elements of study transparency and procedural rigor are detailed in the referenced manuscript. The commentary authors have based their critiques on the content of the current study exclusively. Providing access to the PowerPoint slides would be one way for the authors to provide transparency. Critically, in terms of procedural rigor, it was also unclear how the authors *trained the research assistants* to rate the student partners and the PWA using the MSC and MPC scales. Further, was this training mastered by the research assistants, and if so, what was the criterion for success?

Borrelli (2011) also advocates for intervention delivery data, more commonly referred to as procedural reliability/treatment integrity. In the Finch et al. (2017) work, neither treatment integrity data nor inter-rater reliability data were collected. Treatment integrity data, collected by an objective rater, are important to ensure that the communication partner training protocol was strictly adhered to rule out internal threats to validity (e.g., missing slide or information). Inter-rater reliability data were not collected because the authors used a consensus model where the three research assistants watched and analyzed the videos together. While the consensus model may have allowed for research assistant discourse to correctly code or rate communication behaviors, the model was not operationalized. For example, how were disagreements handled? Can one person

disagree with the other two and sway their rating? Without independent ratings, it is difficult to establish whether the ratings and conversational analysis coding were reliable and accurate.

With respect the training protocol procedure, the authors indicated that prior to this study, PWA were engaged in 12 hours of intervention over a 6 week period using the *Running A Conversation Partner Scheme'* program (Connect the communication disability network, 2011). In one aspect of the training for PWA, the authors demonstrated Borrelli's (2011) enactment principle by having PWA engage in a conversation with a health professional to provide feedback about the communication partner's skill. This training and subsequent conversation with a healthcare professional demonstrates that PWA can take the authors' training and apply that to a real-word setting. However, it is unclear if the conversation skills demonstrated by the PWA in the interaction with a healthcare professional were generalized to the conversations with students in training. Additionally, the authors did not report if that the same level of rigor for enactment was applied to the student training aspect of the current study.

Another area of internal validity concern relates to how the authors randomly assigned students into groups of 2–3 for their conversation with PWA. This was done to reduce student anxiety, however, it also introduced communication partner effects. That is, one partner may be an exceptional communicator, and in turn would prime the weaker communication partners to use appropriate strategies learned in the training. Frequency and duration of conversational turn data for each communication partner could rule out or mitigate this potential effect. Along a similar line, some student communication partners were paired with two PWA, one with mild aphasia and the other with a severe aphasia. This could be problematic because it is possible that the individual with mild aphasia led the conversation in comparison to the person with severe aphasia. It was also possible that fewer communication strategies may have been used with individual with mild aphasia, resulting in a more productive conversation. Finally, there was no control for conversational topics. Therefore, it is possible that communication partners and PWA had more or less experience with a topic, resulting in conversational topic effects. Specifically, conversations that are practiced/scripted by PWA may not require as many communication strategies while unfamiliar topics could influence the need for more strategies. In turn, the type of conversation (e.g., scripted, biographical, topical [weather]), could have influenced the three raters.

The clinical outcomes of this study offer an initial look at a model of conversational training for SLP students who will be providing clinical services for PWA. Prior work by the study authors (Finch et al., 2013) highlights students' lack of confidence and knowledge of strategies for communicating with PWA. The results from this study underscore a 20-min lecture may boost student confidence and offer instruction for specific strategies students can use to facilitate conversational interactions with PWA. It is not clear, however, exactly what skills were fostered via the training itself or if those skills will generalize beyond a brief, unstructured conversation about non-healthcare-related topics in a small group setting. Providing access to the PowerPoint slides would increase study

transparency (Borrelli, 2011) and help the reader to contextualize how each strategy was introduced and exemplified during the training lecture. Given the small student training dose, layering in active learning strategies and role play into the curriculum with an opportunity for students to receive feedback could allow students to demonstrate competency of strategy learning and intervention receipt (Borrelli, 2011).

The overall feasibility of conducting this study is robust and its design offers easy replicability. Minimal preparation was needed for student training execution. Data collection was practical and reasonable, especially in a university clinic setting. Data coding procedures and analyses were also well matched to the study design. While the commentary authors have outlined some challenges to both the rigor of the internal validity and the reliability training procedures for the research assistants, fine tuning these elements would still support feasibility of study execution and replicability.

A few challenges highlighted by the commentary authors for the methods and study design limit the generalization of the study results. Operationalizing the treatment approach and ensuring it is rooted in learning theory would enhance fidelity based on Borrelli's updated treatment fidelity framework (2011). In addition, conducting and documenting procedural reliability emphasizing the training procedures and mastery criterion for the rating assignments of the research assistants is essential for study replication (Kent-Walsh & Binger, 2018).

There are additional study factors related to the intervention itself that reduce the generalization of the results. First, there is a potential mismatch between the content and delivery of the training materials and the group dynamics that were established for the conversational samples. For example, it is unclear if the training materials were geared toward small group conversations with more than one PWA or if the facilitation strategies in the lecture and video examples had a different combination of communication partners (i.e. conversational dyad between one PWA and a communication partner). Additionally, the extensive training the PWA received prior to the recorded conversations for the current study introduces a barrier to generalization. The PWA in this study may have additional or enhanced conversational strategies and self-advocacy skills compared to other groups of PWA who have not received a 12-h intervention program (Connect the communication disability network, 2011). Finally, the heterogeneity of conversational topics, likely contribution of communication partner effects, and reduced attention to treatment fidelity principles (Borrelli, 2011) are all also potential limiting factors for generalization.

In conclusion, the Finch et al. study offers a robust study design and highly feasible implementation methods. The use of reliable and valid measurement scales and application of non-parametric statistics were additional strengths of the investigation. Developing student skills to enhance conversational strategies for interactions with PWA will likely boost student confidence and facilitate student application of communication strategies. Suggestions to enhance this line of inquiry and the potential for generalization of the study results offered by the commentary authors emphasize heightened procedural rigor and adherence to a treatment fidelity framework (e.g., Borrelli, 2011).

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author(s).

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