An Enhanced Aphasia Awareness Training Program for Emergency Responders

THESIS

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By

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Abstract

Although communication breakdowns can occur anytime for people who have communication and speech impairments, they will likely be exacerbated in times of increased stress, such as an emergency situation. One communication impairment that is quite prevalent and often misunderstood is aphasia. Aphasia is an acquired communication disorder that affects a person’s language, and can impact their ability to speak, understand spoken language, read, and write. Law enforcement officials are one group likely to come in contact with a person who has aphasia in a variety of situations ranging from traffic stops to emergency situations. For this reason, it is important to train and educate emergency responders about aphasia and how to make communication with persons with aphasia more effective. Health care workers and public safety officials need increased education regarding communication impairments and ways to effectively overcome these barriers with community members. Several studies have shown this method of training to be effective (Ganzfried & Symbolik, 2011; Hopper & Holland, 1998; Welsh & Szabo, 2011).

The present study examined the effects of a training program on a person’s ability to define/describe aphasia, recognize an individual with aphasia, and identify/utilize tips for more effective communication with persons with aphasia. Participants each attended a single training program 120 minute in length, which included a PowerPoint presentation,
video examples, and opportunity for discussion and interaction with a guest speaker with aphasia.

Participants’ knowledge was assessed by administering “The Aphasia Quiz” as a pre- and post-test of knowledge. Participants were asked to independently complete the pre-test before the training session began and complete the same test at the completion of the training session. Participants were also asked to complete an exit survey to rate the quality of the presentation and the information they received. Results indicated a significant increase in knowledge as a result of the training session, and overall satisfaction of the training program from participants. The results of this study may improve future interactions between emergency responders and persons with aphasia, as well as influence the type of training about communication impairments emergency responders receive in the future.
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Chapter 1: Introduction and Literature Review

Communication breakdowns occur frequently and in many everyday situations for people who have communication and speech impairments related to neurogenic communication disorders such as dementia, traumatic brain injury, and aphasia. In times of increased stress, such as medical emergencies or encounters with police, communication breakdowns are likely to be exacerbated, resulting in miscommunications and unsatisfactory outcomes. The general public and persons in service positions may benefit from increased knowledge of variations in communication due to neurogenic disorders and the unnecessary communication breakdowns and negative outcomes could be prevented.

Aphasia is an acquired communication disorder that affects a person’s language, and can impact the ability to speak, understand spoken language, read, and write. While aphasia can alter several aspects of language, it is important to understand that aphasia alone does not affect a person’s intelligence or intellect. Aphasia is caused by damage to the brain, with the most common cause being stroke. A traumatic brain injury can also cause aphasia. More than 80,000 people acquire aphasia each year (Will & Peters, 2004). There are different types of aphasia, which are determined by the part of the brain is damaged and the symptoms or communication difficulties a person is exhibiting. There are two major types of aphasia: nonfluent versus fluent. The most severe type of nonfluent aphasia is global aphasia. People with global aphasia may have few to no
words, and also have impaired comprehension. The most common type of nonfluent aphasia is Broca’s aphasia, which is characterized by short, effortful single words and short phrases. People with Broca’s type aphasia also generally have good comprehension ability. The most common type of fluent aphasia is Wernicke’s aphasia, which is characterized by long, fluent phrases that generally do not make sense or have any real meaning. People with Wernicke’s aphasia often have poor comprehension, and are unaware that they are not conveying any discernable message. Another type of fluent aphasia which is the mildest is anomia. People with anomia generally have good speech production and understanding, but constantly struggle to find specific words. While each type of aphasia effects communication differently, any type of aphasia can hinder a productive communication exchange in some way. An example of a miscommunication that could occur in an emergency situation is police/EMTs mistaking a person with aphasia for having a mental illness or being under the influence of drugs or alcohol.

While understanding these different types can be helpful in treating aphasia, the majority of people with aphasia do not have impairments that fit perfectly into these categories. When people with aphasia are receiving treatment to help them communicate, it is the speech therapist’s job to figure out what are the most functional and practical goals for the individual. Most often people begin by learning how to communicate with people they interact with in their everyday life, such as family and close friends. While speech therapy addresses functional interactions and real-life situations the person with aphasia will likely encounter, it is not possible to prepare for all possibilities and encounters they may have with strangers. As a result, people with aphasia who are
progressing in therapy will still experience communication breakdowns outside of the therapy setting at times, as generalization from therapy is still limited. Since it is impossible for people with aphasia to prepare for every possible communication situation it is important to consider training potential communication partners that they may encounter in a variety of settings.

Health care and public safety officials would especially benefit from such training, as they will frequently encounter members of the community with neurogenic communication impairments. While little is known about aphasia by the general public, it affects approximately one in every 250 people. Law enforcement officials are more likely to come in contact with a person who has aphasia than people with Parkinson’s disease, cerebral palsy, multiple sclerosis, or muscular dystrophy (Will & Peters, 2004). Health care workers and public safety officials need increased education regarding communication impairments and ways to effectively overcome these barriers with community members. Several programs have been developed to teach healthcare workers and public safety officials about aphasia and the results have been positive (Ganzfried & Symbolik, 2011; Hopper & Holland, 1998; Welsh & Szabo, 2011).

Training People with Acquired Communication Disorders

Typically, people who suffer acquired neurogenic speech impairment receive speech therapy as part of their recovery. There are several different approaches to speech therapy that Speech Language Pathologists use, which depend on factors including the individual’s deficits, areas of strength, and goals. One approach to therapy is situation
specific training, which focuses on teaching a small set of specific responses to a functional situation, such as ordering food in a restaurant (Hopper & Holland, 1998). This approach is usually not the focus of therapy, as it is has very specific goals and will not teach the individual skills they can use to communicate in a wide variety of contexts. However, in a case study of two adults with Broca’s type aphasia, situation specific training focused on conveying important information about an emergency in a 911 call (Hopper & Holland, 1998). In this study, participants were trained using photos of emergency situations, and required to convey information over the phone to unfamiliar listeners. Results demonstrated situation specific training to be effective for trained stimuli, but had variable amounts of generalization to photos of emergencies that were not trained. While this study shows benefits of situation specific training for people with communication impairments, this type of training can be time consuming and the results show somewhat limited generalization. This has important implications for treatment of adults with aphasia because it indicates that not all communication needs for specific situations can be met even with extensive training. However, studies which focused on training communication partners of people with communication impairments how to interact and facilitate communication has also been shown to be beneficial.

Training Communication Partners

Several studies have shown training for people who are likely to encounter and be communication partners for people with communication impairments to be effective as well. In a study by Welsh and Szabo (2011), nursing assistant students were educated
about aphasia and its effects on communication. This is a particularly important population to train because they will likely encounter and care for a patient with aphasia at some point in their careers. In this study, nursing assistant students were provided with a 75 minute education session which included basic information about aphasia, including its definition, characteristics, and causes, as well as firsthand experiences shared by people living with aphasia and communication tips to use with people with aphasia. Speech Language Pathologists taught these sessions and included individuals living with aphasia as co-presenters. Results demonstrated that 64.4% of students improved their post-test score from pre-test score on questions about aphasia. Exit interviews completed by participants revealed that over 90% agreed that they had better understanding of aphasia, were able to identify communication tips, and stated they would incorporate what they had learned into their workplace. In addition, exit interviews obtained from nine of the 12 people with aphasia who participated as co-presenters reported overall satisfaction with the training and felt a sense of personal reward from participating (Welsh & Szabo, 2011). The inclusion of people with aphasia as co-presenters contributed to the positive results, and provides positive support and evidence to include people with aphasia as co-presenters in future communication partner training studies.

While nursing assistants are an important population of potential communication partners to train, emergency responders, including police officers, EMTs and firefighters represent another population likely to encounter individuals with neurogenic communication impairments. Training for emergency responders is particularly important because they will be encountering individuals with communication impairments in times
of stress, which usually contributes to even further communication breakdowns (Ganzfried & Symbolik, 2011), and several studies have shown training this population to be effective. In a randomized control study by Togher and colleagues (2004), police officers were trained to respond to phone inquiries from people with communication impairments resulting from Traumatic Brain Injuries (TBI). Some communication problems that can occur as a result of TBI include aphasia, word finding difficulties, excessive talkativeness, and difficulty staying on topic. In this study, one group of 10 officers was trained on successful communication strategies to support individuals with TBI during service inquiries, including establishing the inquiry, providing a clear answer, and ensuring appropriate turn taking. Another group of 10 officers did not receive training, and served as the control group. The group of officers who were provided training for these interactions was able to employ communication strategies effectively at post-test. This study demonstrates that police officers are a population who will benefit from communication partner training and be able to utilize learned communication strategies in interactions with people who have communication impairments.

**Effects of Recent Studies**

A recent study by the National Aphasia Association (NAA) has found aphasia training for emergency responders to be effective (Ganzfried & Symbolik, 2011). In this study, first responders (police, fire, EMT) in NY, NJ, and CT were provided training with aims to help them recognize, communicate with, and respond more effectively to people with aphasia. The program coordinator delivered 10 training modules, which
ranged from 60-120 minutes in length and had 15-450 participants for each. Information about aphasia was presented through a variety of mediums, including PowerPoint presentations, NAA info brochures, aphasia awareness symbols stickers, aphasia ID cards, and a DVD-Aphasia Education for Emergency Personnel, which was developed in 2008 by the Aphasia Advocacy Foundation of New Hampshire and the University of New Hampshire. The results of this study were measured by administering a multiple choice ‘Aphasia Quiz’ before and after the training session, as well as an exit interview which addressed overall quality of the presentation. Results showed that 87% of participants indicated they had a good level of understanding of aphasia at post-test, 82% said they felt training had prepared them to encounter people with aphasia and respond appropriately, and 62% said they would like annual updates regarding aphasia.

On an exit survey, filled out by 64% of participants, ‘suggestions for improvement’ were solicited. Several themes emerged, including the suggestion to use more video examples and to have a person with aphasia present. Past studies have shown including persons with aphasia as co-presenters to be effective (Welsh & Szabo, 2011), which combined with suggestions from participants of this study reinforces the value of including persons with aphasia in communication partner training programs.

The effects of this study are of particular interest because they suggest that emergency responders can increase their overall knowledge of aphasia in as little as one training session, as well as feel more comfortable identifying and interacting with individuals with aphasia. These results provide support for training all emergency
responders about aphasia, which could improve the overall quality of interactions between emergency responders and individuals with aphasia in need of assistance.

Present Study

Though aphasia education for emergency responders has been proven to be effective, and has become a standard component of training in select areas, the value of including persons with aphasia as guest speakers has not yet been explored. The present study examined the effects of a training program presented by a speech-language pathology graduate student and including a person with aphasia as a guest speaker on the ability of emergency responders to define/describe aphasia, recognize an individual with aphasia, and identify/utilize tips for more effective communication with persons with aphasia. The research question addressed was:

What are the effects on knowledge of aphasia of an enhanced aphasia training program delivered to Police Cadets?
Chapter 2: Methods

Participants

Participants in this study included 47 Police Academy Cadets currently in training at the James G. Jackson Columbus Police Academy, and one Lieutenant who is an instructor for the Police Academy. Six females and 42 males, ages 21-45 participated. The mean age of participants was 28.6 years old, with a standard deviation of 5.12. Ninety percent of participants classified themselves as Caucasian, and the remaining 10% included Hispanic, Pacific Islander, and Caucasian/African American. All participants had at least a high school education. Additionally, most participants reported one or more forms of higher education, including completion of a technical or trade school (19), some college (16), a Bachelors degree (24), Graduate degree (5), or other education not included in choices (5). While the majority of participants had no police experience prior to entering into the Police Academy, 13 had past police, EMT, or military experience, ranging from 1-23 years of service.

Additionally, participants were asked if they had any experience interacting with a person with aphasia prior to the training program. Forty-four participants reported having no experience, one person reported being unsure, and three reported having prior experience. One person indicated he was actually a stroke survivor and had experienced aphasia himself. During a break in the training session, this participant introduced himself, and further explained that he had suffered a stroke when he was only 16 years old.
Training Program:

Participants each attended a single training program that was 120 minutes in length. The program was held in a classroom at the James G. Jackson Police Academy. The sessions included a PowerPoint presentation, video examples, and opportunity for discussion and interaction with a guest speaker with aphasia. The DVD “Aphasia Education for Emergency Personnel” was also shown, and NAA information brochures, aphasia awareness symbol/stickers, and copies of aphasia identification cards were passed around for participants to examine.

- **PowerPoint:** The PowerPoint that was used was adapted from the original PowerPoint presentation used in the study by Ganzfried & Symbolik (2011). With permission from Stephen Symbolik, some original slides/content were used, with additional information added to fit the needs of this study. In addition, some information used in the original PowerPoint was omitted, such as National Aphasia information regarding current projects.

- **Video Examples:** Video examples retrieved from youtube.com were incorporated into the presentation. Portions of the following videos shown included:
  - [http://www.youtube.com/watch?v=AA2I1scsg2A](http://www.youtube.com/watch?v=AA2I1scsg2A)
    - Streeters- What is Aphasia. This video asks random people on the street to define aphasia, and demonstrates how few people know.
  - [http://www.youtube.com/watch?v=1apITvEQ6ew](http://www.youtube.com/watch?v=1apITvEQ6ew)
    - First video in a series about a 19 year old woman who survived a stroke named Sarah Scott. She had Broca’s aphasia.


- http://www.youtube.com/watch?v=6zNKz7YoUao
  - Sarah Scott update - 16 months after her stroke

- http://www.youtube.com/watch?v=rUTHNS45Qmc
  - Sarah Scott update - 3 years after her stroke

- **DVD:** “Aphasia Education for Emergency Personnel” was created in 2008 by the Aphasia Advocacy Foundation of New Hampshire and the University of New Hampshire. It is approximately 15 minutes in length.

- **Additional information:** The NAA provided information brochures about aphasia, aphasia awareness symbol/stickers for home/car windows, and copies of aphasia identification cards. Participants were able to examine this material during and after the training session.

- **Guest Speaker:** A person with anomic aphasia was present during training sessions. He had the opportunity to introduce himself and tell participants about his stroke and experience with aphasia using previously practiced scripts. Participants then had the opportunity to ask questions to the primary presenter and guest speaker.

**Testing Procedure**

Participants’ knowledge was assessed by administering “The Aphasia Quiz” (National Aphasia Association, 1988) as a pre- and post-test. Participants were asked to independently complete the pre-test before the training session began and complete the
same test at the completion of the training session. The Aphasia Quiz was developed by the NAA and was used in their pilot study to measure pre- and post-training knowledge of participants. The quiz consists of ten questions in true/false format (Appendix A).

Participants were also asked to complete an exit survey (Appendix B) including more open ended questions to test knowledge and to rate the quality of the presentation and the information they received.

**Data Analysis**

Data was recorded in Excel spreadsheets, analyzed and summarized with descriptive statistics, including mean and standard deviation. Data from pre- and post-tests were compared using t-tests for paired samples to determine effectiveness of the training program.

Data obtained from exit surveys was summarized and described qualitatively.
Chapter 3: Results

**Results of Enhanced Training Features**

This training program included some of the modifications (e.g., adding video examples and adding a guest speaker with aphasia) suggested by participants in the Ganzfried and Symbolik study. Anecdotal observations made as the participants viewed videos demonstrated a positive effect. Participants appeared to be very interested in the content presented and asked questions after the videos. The “Streeters” video was used at the beginning of the presentation to put participants at ease and emphasize that like them, most people do not know about or understand aphasia, despite its prevalence. Participants were attentive and enjoyed this video. The Sarah Scott video series was shown to give an example of a young person who was a stroke survivor, and to show her progression with language skills and deficits through the disorder. Participants were again attentive during this presentation and asked thoughtful questions.

The presence of a guest speaker with aphasia appeared to be a positive addition as well through anecdotal observations. The guest speaker introduced himself, and then began asking several participants the same question of “what do you do?” Participants appeared puzzled, as they were all currently Police Cadets. With prompting, the guest speaker was able to tell the participants, using a previously practiced script, about his stroke and what he does in his spare time. When the participants had a chance to ask him questions, his answers were unclear or did not answer the questions at times. This was an
excellent example of the language breakdowns a person with aphasia can experience during times of stress, as speaking publicly to an unfamiliar audience may have been difficult for him.

**Aphasia Quiz Findings**

After the training was complete, demographic information collected revealed that three participants reported having prior knowledge of Aphasia. Pre- and post-tests were analyzed for the group without these individuals (n=45), as a whole group including these individuals (n=48), and separately for the individuals with prior knowledge (n=3).

Figure 1 shows the average pre- and post-test scores for participants without prior aphasia knowledge (n=45). An overall increase in scores was shown from pre- to post-test. A paired-samples t-test was conducted to determine the effect of the training on participants’ knowledge. There was a significant difference between pre-test scores (M=8.16, SD=1.36) and post-test performances after training (M=9.40; SD=.78); t(44), p<.001.

Figure 2 shows the average pre- and post-test scores for all participants included (n=48). An overall increase in scores was again seen from pre-to post-test, with very similar findings to the previous figure. A paired-samples t-test was conducted to determine the effect of the training on participants’ knowledge. There was a significant difference between pre-test scores (M=8.17, SD=1.34) and post-test performances after training (M=9.44; SD=.77); t(47), p<.001.
A two-samples t-test was calculated to determine if the differences between scores on the pre-tests and post-tests between groups (n=48) and (n=45) were significant. There was not a significant difference between pre-test scores for the group with no prior aphasia experience (n=45)(M=8.16, SD=1.36) and the total group (n=48)(M=8.17, SD=1.34); t(44), p=.48. There was not a significant difference between post-test scores for the group with no prior aphasia experience (n=45)(M=9.4, SD=.78) and the total group (n=48)(M=9.44, SD=.77); t(44), p=.41.

Figure 3 shows the individual pre- and post-test scores for the 3 individuals who reported having prior knowledge of aphasia. As shown in the graph, all participants improved their scores from pre- to post-test, with improvements ranging from 1 to 3 points. In addition to improving their scores, all participants with prior knowledge of aphasia received perfect scores on the post-tests.

Figure 4 shows the overall improvement from pre- to post-test for all participants (n=48). The majority of participants improved their scores from pre- to post-tests (71%; n=34). Twenty-one percent (n=10) of participants achieved the same scores from pre- to post-test. It is important to note that of the 21% who scored the same, some of these participants achieved a score of 10 on the pre-test, which did not allow for any room for improvement (60%, n=6). Overall, 92% (n=44) of participants’ scores improved or stayed the same from pre-test to post-test. Only 8% (n=4) of participants scored lower on their post-test as compared to their pre-test.

An item by item analysis of each question was completed, and revealed that some questions may have been easier or more difficult for participants to answer. Figure 5
shows the percent of participants scoring correct on each question of the Aphasia Quiz for pre- and post-test. Of the ten questions on the Aphasia Quiz, seven questions showed improvement from pre- to post-test (numbers 2, 3, 4, 6, 8, 9, 10). For question number 1, all participants answered this question correctly in the pre- and post-test. Questions 5 and 7 showed no improvement from pre- to post-test. While question 7 did not show improvement, 92% of participants answered this question correctly at pre- and post-test. With question number 5, however, only 75% of participants were able to get this question correct at pre- or post-test. All questions with the exception of number 5 had an accuracy level of above 90% at post-test, with participants achieving 100% accuracy on 4 questions (numbers 1, 2, 3, and 10).

Exit Survey Findings

On the exit survey, participants were asked additional questions to further assess the quality of the training program, their knowledge, and additional qualitative information. Participants were asked three questions in true/false format, including 1. Aphasia results from a heart attack (false); 2. Aphasia leads to a loss of intellect (false); 3. Young adults can acquire aphasia (true). One-hundred percent of participants answered all of these questions correctly. When asked about the prevalence of aphasia in America and given four choices, 75% percent of participants correctly identified the answer (1 million).

Participants were then asked to identify “three tools” in their “Communication Tool Box” to use to communicate with a person with aphasia. Figure 6 illustrates what
percentage of participants were able to name three, two, or one correct answer. All of the participants were able to identify at least one tool, with the majority of participants able to provide three tools/tips (81%; n=39), followed by two (13%; n=6) and one (6%; n=3). Correct responses included tips for more successful communication discussed during the presentation and/or actual physical mediums to supplement communication. Possible accepted responses presented during PowerPoint presentation included: getting the person’s attention before you speak, minimize/eliminate background noise, keep communication simple, repeat statements or directions when necessary, check-in to make sure you are both understanding, give the person extra time/be patient, supplement communication with drawings, gestures, facial expressions, use yes/no questions, providing choices, give a clue, or use pointing. Additional answers participants gave that were considered correct included: don’t assume person is impaired by drugs/alcohol, look for the Aphasia decal, ask for Aphasia ID card, or ask the person if they have had a stroke. These tips were discussed during the presentation as specifics for police to consider considered when encountering a person who may have Aphasia, and their mentioning of these tips demonstrates carry-over and understanding.

Additionally, the exit survey asked participants to rate how comfortable they felt with their understanding of aphasia on a scale of 1 to 5 (1- not at all, 2- not very, 3-neutral, 4- somewhat, 5- very). Fifty-eight percent indicated they felt very comfortable, 40% somewhat, and only 2% reported they were neutral. No participants reported ratings of 1 (not at all) or 2 (not very). They were then asked, with the same 1-5 rating scale, how well the training session prepared them to communicate with a person with Aphasia.
Sixty-nine percent indicated they felt very prepared, 29% somewhat prepared, and only 2% neutrally prepared. Again, no participants reported ratings of 1 (not at all) or 2 (not very).

Participants were then asked open-ended questions about the quality of the training program and materials presented, including suggestions of areas to improve, areas to add more detail, or for any other general feedback. Of the 48 total participants, 27 either reported no additional information was needed, or did not respond to additional questions. Eighteen participants provided general positive comments regarding the effectiveness of training, with one participant noting “I didn’t know it existed.” One participant made a positive comment regarding the guest speaker with aphasia, reporting “having a guest speaker was good for a total understanding.”

Three participants provided suggestions for ways to improve the program. One participant suggested including signs of stroke in the presentation. Two had similar suggestions of providing an opportunity for participants to role-play an emergency scenario with a person with aphasia. These additional suggestions could be incorporated into improving the training program for future use.
Chapter 4: Discussion

The aim of this study was to determine the effectiveness of an aphasia training program including a guest speaker with aphasia for emergency responders on participants’ ability to define/describe aphasia, recognize an individual with aphasia, and identify/utilize tips for more effective communication with persons with aphasia. Suggestions from participants in the Ganzfried and Symbolik study (2011) to include more video examples and a person with aphasia into the training program were considered when designing the program used for this study. As a result, the training program used for this study included several video examples of people with aphasia speaking and a guest speaker, who was an individual living with aphasia. Results from pre- and post-tests and exit surveys indicated that a training program with these additions was effective in increasing participants’ knowledge about aphasia. The results of this study are similar to those of Ganzfried and Symbolik (2011) who found through their exit survey that 87% of 420 participants indicated they had a good level of understanding of aphasia at post-test, 82% said they felt training had prepared them to encounter people with aphasia and respond appropriately.

While this study was similar in design to the study by Ganzfried and Symbolik (2011), results cannot be directly compared study due to differences in population size, population trained (police, fire and EMTs), differences in the training program used, and different versions of exit surveys used. While a direct comparison cannot be made due to
aforementioned differences, it can be concluded that the program modifications showed positive effects for the current population trained. These positive results, in addition to anecdotal observations made, show further support for including persons with aphasia into aphasia training programs, as this study and others have shown their inclusion to be effective (Welsh & Szabo, 2011). Additionally, positive comments from participants regarding the inclusion of a person with aphasia in the training provide further support.

When analyzing data, participants who had prior experience with aphasia were excluded from the analysis to ensure they were not skewing the results. Mean scores from the pre- and post-tests for the group without these individuals (n=45) and the total group including these individuals (n=48) showed no significant differences. Additionally, all three participants who had prior aphasia experience improved their scores from pre- to post-test. The participant who previously had a stroke and had experienced aphasia also reported to presenters that he found the training informative and beneficial. This indicates that content in the training program is still beneficial to emergency responders who have had prior encounters with persons with aphasia.

Exit surveys completed by participants revealed additional information about content learned during the program and overall satisfaction. One of the goals of this study was for participants to be able to identify communication tips to use in a situation with persons with aphasia. All participants were able to name at least one to two, with the majority of participants able to name three tips/tools for successful communication (81%). This demonstrates that the training program was successful in meeting this objective.
When participants were asked for suggestions to improve the training program, two participants suggested the opportunity to role-play an interaction with a person with aphasia. Due to time constraints, this would not have been possible to complete in this session. However, this gives a valuable suggestion for the design of future training programs.

Limitations

While the results of the training program used yielded positive results, it is important to note that there were limitations to the study. This study only had a group size of 48 participants; other studies have included more participants. The population who received this training was Police Cadets currently in training to become Police Officers for the City of Columbus. It would have been beneficial to have a more diverse population trained, including current Police, Fire, and EMTs with a broader range of experiences. Additionally, to truly measure the effectiveness of the addition of a guest speaker with aphasia, it would have been beneficial to include a control group who only received the training without this addition.
Chapter 5: Summary and Conclusions

The purpose of this study was to examine the effects of a training program presented by a speech-language pathology graduate student and including a person with aphasia as a guest speaker on the ability of emergency responders to define/describe aphasia, recognize an individual with aphasia, and identify/utilize tips for more effective communication with persons with aphasia. Results indicated that there was a significant improvement in participants’ knowledge gained through the training. This suggests that aphasia training for emergency responders can be effective in as little as one training session, and the inclusion of a guest speaker with aphasia can be beneficial.

Participants shared positive comments about the training through an exit survey, with one stating “Thank you, I learned a lot. This will help me be a better officer.” This training established a positive relationship with the Columbus Police Training Academy, and they have already expressed interest in training for future Police Cadet classes. The positive relationship and positive results of this study may improve future interactions between emergency responders and persons with aphasia, as well as influence the type of training about communication impairments emergency responders receive in the future.
References


Appendix A: Figures
Figure 1: Average Scores for Pre- and Post-tests for Participants Without Aphasia Experience (n=45)

Figure 2: Average Scores for Pre- and Post-tests for all Participants (n=48)
Figure 3: Individual Pre- and Post-test Scores for Participants with Prior Aphasia Experience

![Bar chart showing pre-test and post-test scores for participants with prior knowledge.]

Figure 4: Results of Improvement from Pre-to Post-test (all participants)

![Pie chart showing the percentage of improvement, same, and decrease.]

- Improve: 71%
- Same: 21%
- Decrease: 8%
Figure 5: Percent Correct by Question, Pre- and Post-test

Figure 6: Percent of Participants able to Name 1 to 3 Tools to Use to Communicate with Persons with Aphasia
Appendix B: Aphasia Quiz
the aphasia quiz

Do you know the facts?

1. Most people are familiar with aphasia.
   - True  - False

2. Aphasia means a person has difficulty retrieving words for speech and usually has some problems reading, writing, and understanding spoken language.
   - True  - False

3. The cause of aphasia is usually due to a heart attack.
   - True  - False

4. If people have aphasia they will always have significant memory loss as well.
   - True  - False

5. Aphasia is more prevalent than Parkinson's Disease or Muscular Dystrophy.
   - True  - False

6. A person with aphasia may have no noticeable physical impairment.
   - True  - False

7. All individuals with aphasia have very similar symptoms of the same approximate severity.
   - True  - False

8. Although most people with aphasia are older than 50 years of age, it is not unusual for younger people to acquire this disability.
   - True  - False

9. Some individuals with aphasia return to work, however, most are forced to retire or change jobs and work in a modified capacity.
   - True  - False

10. Recovery from aphasia is usually complete within six months of treatment.
     - True  - False
Appendix C: Exit Survey
NATIONAL APHASIA ASSOCIATION
350 Seventh Avenue, Suite 902
New York, NY 10001  www.aphasia.org  (800) 922-4622

Date: __________________ Location of Training: __________________
City: _________________ State: _________________
Name of Instructor: _______________________

Test your knowledge!
Aphasia results from heart attack: True False
Aphasia leads to loss of intellect: True False
Young adults can acquire aphasia: True False
How many Americans struggle with aphasia? 100,000 200,000 500,000 1 million
Name 3 tools in your Communication Tool Box:
1. _______________________
2. _______________________
3. _______________________

We appreciate your feedback!
1. Before the training, did you know about aphasia?
   Yes No
2. On a scale of 1-5, how comfortable do you feel now with your understanding of aphasia?
   1 2 3 4 5
   Not at all Not very Neutral Somewhat Very
3. On a scale of 1-5, how well has this training prepared you to communicate with people with aphasia?
   1 2 3 4 5
   Not at all Not very Neutral Somewhat Very
4. Is there anything that could have been explained better or in more detail during the training session? Do you have any recommendations on how the training could be improved?

___________________________________________________________

5. Do you have any other comments, questions or suggestions?

___________________________________________________________

If you would like to receive our quarterly electronic newsletter, please provide your email address:

___________________________________________________________