CAREGIVER AND BUSINESS OPERATOR PERCEPTION OF COMMUNICATION ACCESSIBILITY

by

Autumn L. Rives

An Abstract
of a thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science
in the Department of Communication Disorders and Social Work
University of Central Missouri

October, 2014
ABSTRACT

by

Autumn L. Rives

The purpose of this study was to answer the primary research question: How do caregivers of persons with aphasia and business operators perceive communication accessibility in community businesses? Participants consisted of five business operators and five individuals who were caregivers to people with aphasia. Caregivers consisted of family members, significant others, or close friends. In-depth, face-to-face interviews focused on participant perceptions of communication accessibility. Interview questions for operators and caregivers consisted of open-ended questions to allow for in-depth, qualitative examination of participant perceptions. The researcher transcribed each interview and input the information for analysis using the NVivo8. The researcher then identified the nature and common themes of responses from caregivers and operators. The current study could not control for biased answers from interviewees.
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TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER 1: INTRODUCTION</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>2</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>2</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>3</td>
</tr>
<tr>
<td>Procedural Overview</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 2: LITERATURE REVIEW</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aphasia</td>
<td>7</td>
</tr>
<tr>
<td>Americans with Disabilities Act of 1990</td>
<td>12</td>
</tr>
<tr>
<td>Communication Accessibility</td>
<td>14</td>
</tr>
<tr>
<td>Conclusion</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 3: METHODOLOGY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Study</td>
<td>17</td>
</tr>
<tr>
<td>Main Study</td>
<td>20</td>
</tr>
<tr>
<td>Evidence of Quality</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER 4: RESULTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composite Themes</td>
<td>24</td>
</tr>
<tr>
<td>Summary of Research Findings</td>
<td>29</td>
</tr>
<tr>
<td>Subquestion One</td>
<td>29</td>
</tr>
<tr>
<td>Subquestion Two</td>
<td>30</td>
</tr>
<tr>
<td>Subquestion Three</td>
<td>30</td>
</tr>
<tr>
<td>Subquestion Four</td>
<td>31</td>
</tr>
</tbody>
</table>
H. Business Operator Interview Questions ................................................................. 55
I. Caregiver Interview Questions ........................................................................ 56
J. Consent for Participant Contact .................................................................... 57
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. <em>Composite Themes</em></td>
<td>24</td>
</tr>
</tbody>
</table>

IX
CHAPTER 1
INTRODUCTION

Persons with aphasia often avoid new places or situations because they fear communication partners will ignore them or make them feel uncomfortable (Johansson, Carlsson, & Sonnander, 2012). These persons with aphasia wish to be active members of society and appreciate the employment of communication strategies from communication partners to increase communicative effectiveness (Johansson et al., 2012). A person’s overall quality of life should not only be measured by health, but by their ability to actively participate in life as well (Mumby & Whitworth, 2012). Because persons with aphasia have feelings of fear and discomfort within society, quality of life may be greatly improved through training of community individuals who may encounter persons with aphasia, including members of the business community (Mumby & Whitworth, 2012). Raising awareness of business personnel may improve communication accessibility of businesses for persons with aphasia.

The American’s with Disabilities Act of 1990 (ADA), designed to increase accessibility of public entities for all persons with disabilities, attempts to increase individuals’ opportunities to actively engage in a variety of settings. In addition to physical accessibility, the ADA also requires businesses to provide communication access which is more difficult to achieve (Rosenblum, 2011). It is assumed (by the researcher); improvement in communication access may enhance the overall accessibility to businesses for persons with aphasia, thus increasing their participation and quality of life. Unfortunately, there is a paucity of research regarding the exact nature of communication access to businesses under ADA or a clear outline of protection under ADA for persons with aphasia. The current problem lies in a lack of research regarding the exact nature of communication access and its relationship to overall accessibility and quality of life for persons with aphasia. The current study addressed these concerns and evaluated the
perceived nature of communication access for persons with aphasia from the perspective of caregivers and business operators.

**Purpose**

The purpose of this study was to answer the central research question: How do caregivers of persons with aphasia and business operators perceive communication accessibility in community businesses? The researcher divided the central research question into the following sub-questions: 1) How do caregivers define communication accessibility?; 2) How do business operators define communication accessibility?; 3) What are the lived experiences regarding communication access of caregivers?; 4) What are the lived experiences regarding communication access of business operators?; 5) What is the nature of caregivers’ attitudes regarding communication access?; 6) What is the nature of the business operators’ attitudes regarding communication access? The initial assumption, based on review of current literature, was a discrepancy of perceptions between caregivers and business operators on the topic of communication accessibility would emerge. Current literature suggests an overall lack of aphasia awareness and communication accessibility in businesses. One may conclude an overall lack of knowledge regarding aphasia and communication accessibility could result in insufficient or improper communication accommodations.

**Statement of the Problem**

Current research suggests the need for public education regarding communication disorders in persons who have aphasia. This may include education and training of businesses to assist in following ADA by increasing communication access. Unfortunately, there is a paucity of research regarding the exact nature of communication access in businesses under ADA or a clear outline of protection under ADA for persons with aphasia. The overall lack of research
regarding communication accessibility for persons with aphasia has created difficulty in determining the effectiveness of communication accessibility and its implications on activities of daily living and quality of life. The current study seeks to address these concerns and assess the perceived nature of communication access for persons with aphasia through qualitative research methods.

**Definition of Terms**

Following review of the current literature, the researcher discovered inconsistent use of, and unclear definitions of the terms *accessibility* and *communication accessibility*. In addition the terms *American’s with Disabilities Act of 1990*, *aphasia*, *caregiver*, *business operator*, *activities of daily living*, and *aphasia awareness* are used throughout the study. Because a clear understanding of these terms is necessary, the terms are defined below:


*Aphasia:* An acquired communication disorder which is caused by brain damage and characterized by an impairment of language modalities (Chapey, 2008).

*Accessibility:* Defined as “an object or place’s capability of being seen or used (Merriam-Webster, 2013).”

*Caregiver:* Defined for the purpose of this study by the researcher as: 1) A family member, significant other, or close friend of a person with aphasia; 2) Someone who interacts with the person with aphasia on a weekly basis; 3) Someone who has accompanied the person with aphasia to a local business.
Business Operator: Throughout this study, business operator refers to a person working in a local business who is an owner/operator or member of upper management and works in direct contact with customers.

Activities of Daily Living: Defined by the researcher to include activities a person typically completes throughout a day. This may include activities such as eating, grooming, homemaking, communicating, reading, and leisure.

Aphasia Awareness: Throughout the study, the term aphasia awareness is used to indicate any basic knowledge of the term aphasia or the existence of persons with aphasia. This may include previous knowledge of the disorder, its symptoms, or its implications. It may also include being aware of the presence of a person who has aphasia.

Procedural Overview

For the purpose of this study, a qualitative paradigm and a phenomenology tradition of inquiry was chosen. A phenomenological approach is one that seeks to find the nature of the participants’ lived experiences (Patton, 2002). This makes understanding the participants’ views, using observation and in-depth interviews essential (Patton, 2002). Based on the nature of the research questions, for this study, a phenomenological approach was best suited to answer these questions.

Two theoretical frameworks informed the design and implementation of this study. The Propositional Language Framework and the Multi-Dimensional Framework describe ways to conceptualize aphasia. The Propositional Language Framework suggests aphasia is an impairment of the ability to convey communication intent (Chapey, 2008). The person may know the words they wish to say, but have difficulty using them correctly or communicating their specific meaning (Chapey, 2008). The second theoretical framework taken into
consideration was the Multi-Dimensional Framework. This framework views aphasia as taking several forms, each of which corresponds to a specific site of lesion and manifests with characteristic features (Chapey, 2008). These frameworks were selected based on consistency with the researcher's education, training, clinical experiences, and personal experiences with persons who have aphasia. The frameworks of aphasia informed the study in two ways. Both frameworks aided brief explanation of aphasia to business operators prior to interviews. Additionally, these frameworks explained the nature and factors of aphasia which may necessitate adequate communication access under ADA for a person with aphasia.

**Methodology.** An evaluation regarding the nature of communication accessibility was conducted using qualitative methods. Initially a pilot study, consisting of two caregivers and two business operators, was conducted as a means to evaluate the design of the study. Necessary changes, identified during the pilot study, were applied during the main study. For the main study, a total of 10 participants completed in-depth interviews which were analyzed in order to find common themes regarding the research questions. Participants consisted of five business operators and five individuals who were caregivers to people with aphasia. Caregivers could consist of family members, significant others, or close friends. Caregivers were limited to family members, significant others, or close friends (not professional persons hired for care giving) to allow the researcher to gather opinions of persons who are emotionally close to the person with aphasia. Business operators (to include upper management or owner/operators who work in direct contact with customers) were interviewed to gather information regarding daily business personnel’s perceptions of communication accessibility. To provide information based on experience from interaction with customers and other employees, business operators were limited to be members of upper management who work in direct contact with the customers.
Business operators were interviewed regarding perception of communication accessibility for customers with aphasia and their caregivers. Caregivers were interviewed with a focus on the caregivers’ perceptions of communication accessibility as they had experienced it with their loved-ones. The researcher gathered information regarding caregivers’ perceptions of businesses providing overall communication accessibility for the caregivers and their loved-ones. Interview questions for operators and caregivers consisted of open-ended questions to allow for in-depth, qualitative examination of participant perceptions. Following interview transcription, the data were analyzed using the QSR International’s NVivo8 software (NVivo8). Common core themes were then extracted from the responses the caregivers and business operators provided.
CHAPTER 2
LITERATURE REVIEW

A review of current literature began with the assumption there is an overall lack of information regarding aphasia awareness and ways in which the ADA relates to aphasia. This lack of awareness may result in persons who have aphasia not receiving appropriate communication accessibility within different businesses. It was also assumed this may cause a reduction in participation of public activities of daily living and, therefore, overall quality of life for persons with aphasia and their caregivers. The perceived problem was an overall lack of research regarding ADA and aphasia. A review on the topics of aphasia, ADA, and communication accessibility was completed to build a base for the researcher’s personal understanding of ADA regarding aphasia and design of the current study.

Aphasia

Aphasia is not a disorder which is caused by a cognitive deficit, confusion, or motor difficulties (Chapey, 2008). It is, rather, an acquired disorder of formulation and comprehension of language (Damasio, 1992). Although aphasia is not a cognitive deficit, Damasio suggested it does result in difficulty using internal imagery when listening or reading. In addition, aphasia may result in communication difficulties such as speaking, listening, reading, and writing (Chapey, 2008). These difficulties often compromise a person with aphasia’s syntactic skills, semantics, and morphological skills (Damasio, 1992). Chapey outlined four primary facts about aphasia: a) it is neurogenic and results from damage to the brain; b) an individual is not born with aphasia, it is acquired; c) aphasia results in language problems; d) aphasia is not caused by, and does not result in problems of cognition, motor functioning, or sensation (p. 3).

A number of frameworks currently exist which describe aphasia in more detail. Some of these frameworks include: propositional language framework, concrete-abstract framework,
thought process framework, unidimensional framework, microgenic view, and multidimensional frameworks (Chapey, 2008). Following a review of these different frameworks, the researcher selected two which were held under consideration during the design, implementation, and analysis of the current study. The first of these was the propositional language framework. This framework suggests aphasia as impairment in ability to convey communication intent; the person may know the words, but have difficulty using them correctly or communicating meaning (Chapey, 2008). The second framework chosen was the multi-dimensional framework. This framework views aphasia as taking several forms; each form corresponding to a specific site of lesion and manifestations with characteristic features (Chapey, 2008).

Aphasia is a result of damage to the brain. The most common cause of brain damage being cerebrovascular accident (CVA), also known as stroke (Damasio, 1992). Approximately 21-38% of persons who have a CVA suffer from resulting aphasia (Engelter et al., 2006). Although CVA is the most common cause of aphasia, many other etiologies such as traumatic brain injury, infection, or surgery may result in brain damage which causes aphasia (Chapey, 2008). Much like the concepts discussed in multi-dimensional framework, a patient’s symptoms may correspond to specific sites of lesion, possibly assisting in the medical diagnosis and identification of specific site of lesion (Engelter et al., 2006). A person’s likelihood of acquiring aphasia rises with the presence of certain risk factors. The primary risk factors are those that put a person at high risk for CVA such as hypertension, heart disease, and diabetes (Chapey, 2008). Prevention of CVA and resulting aphasia may be improved by exercising, proper nutrition, and being aware of the signs and symptoms of CVA in order to receive prompt and efficient treatment (Chapey, 2008).
**Signs and symptoms.** Aphasia may present itself in many different forms, with many different signs and symptoms (Damasio, 1992). Aphasia can be classified as one of two umbrella types, including fluent and nonfluent aphasias (Chapey, 2008). Fluent aphasias may include Wernicke’s aphasia and anomic aphasia (Penderen et al., 2004). Persons who have these types of aphasia often have fluent speech which is well articulated; however, they may struggle with aspects of language to include word repetition, reading, writing, and auditory comprehension (Chapey, 2008). One can conclude these symptoms may affect a person within local businesses when attempting to read flyers or menus, writing checks, filling out paperwork, or comprehending and answering questions. Nonfluent aphasias may consist of Broca’s aphasia, transcortical motor aphasia, isolation aphasia, and global aphasia (Pendersen et al., 2004). Persons who have these types of aphasias often have difficulty with articulation, word finding, organizing responses, and overall expressive abilities (Chapey, 2008). Persons with nonfluent aphasia often have intact abilities for auditory and reading comprehension (Chapey, 2008). Other symptoms of aphasia may include: a) presence of anomia (word retrieval difficulty); b) degeneration of language abilities; c) alexia (a deficit in use of numbers); and d) agraphia (a deficit in the ability to write) (Chapey, 2008). It can be assumed, these symptoms may cause difficulty accessing businesses when expressing wants, needs, and questions to business operators.

Although Broca’s aphasia and Wernicke’s aphasia are commonly thought of as the primary types of aphasia, one study found these two types of aphasia exist in approximately one fourth of patients who have aphasia (Pedersen, Vinter, & Olsen, 2004). A previous study found aphasia occurred in approximately one fourth of patients who had suffered a stroke and had intact consciousness (Wade, Hewer, David, & Enderby, 1986). Regardless of symptoms, the
primary factor in possible improvement of aphasia is the severity of the initial CVA (Pedersen et al., 2004).

**Activities of daily living.** Immediately following the onset of aphasia, a person’s life changes drastically (Chapey, 2008). Wade et al. (1986) found 11% of persons with aphasia reported no loss or severe change in activities of daily living. This finding implies 89% of people with aphasia have experienced a decrease in their activities of daily living. Changes in communicative abilities and activities of daily living result in patients with aphasia reporting less participation in social activities (Wade et al., 1986). These changes may significantly impact the person and the family’s daily living and reduce the opportunities for communication participation.

The subject of role reversal in the family and the affect it has on daily living is discussed by Malone (as cited by Luterman, 2008). For example, following a stroke, the wife may become responsible for home maintenance for the first time, or children may become financially responsible for their parents (Luterman, 2008). These changes in role reversal often result in daily stress and frustration for the person with aphasia and their loved one (Luterman, 2008).

The affects of aphasia on daily living often cause persons with aphasia to avoid new places or situations, because they fear communication partners will ignore them or make them feel uncomfortable (Johansson et al., 2012). This avoidance behavior likely extended to most businesses. Persons with aphasia wish to be active members of society and appreciate the employment of communication strategies (asking yes/no questions, noting key words, or demonstrating interest) from communication partners to increase communicative success (Johansson et al., 2012). Employing communication strategies when interacting with a person with aphasia may be difficult without a general knowledge or awareness of the disorder. Because
fear of people’s reactions often cause persons with aphasia to avoid new places (Johansson et al., 2012), public awareness and knowledge of aphasia may be required to increase accommodations for persons with aphasia.

**Aphasia awareness.** Overall public awareness of the nature and challenges of people with aphasia to communicate is minimal. Internationally, only 13.6% of the public have heard of the word *aphasia* (Sherratt, 2011, p.1132). Moreover, only 5.4% have a basic knowledge of the disorder (Sherratt, 2011). In concurrence with these statistics, Hinckley, Hasselkus, and Ganzfried (2013) found persons with aphasia and their caregivers believe the public knows very little regarding aphasia. In addition, people who have aphasia feel people in the community and restaurants do not take the time needed to communicate with them (Hinckley et al., 2013). These findings suggest the need for Speech-Language Pathologists (SLPs) to extend the awareness of aphasia to those affected with the disorder and to the general public; including businesses which provide services to these individuals.

Educating community members and business personnel increases communicative participation for persons with aphasia (Mumby & Whitworth, 2012). Lack of awareness of aphasia may cause communication partners to avoid conversations or react negatively when communicating with persons who have aphasia (Johansson et al., 2012). On the other hand, if communication partners are not aware of the difficulties individuals with aphasia have and how to interact with them in a productive manner, persons with aphasia may avoid interactions with business operators. This is because, in general, people who have aphasia often perceive communication partners as angry, frustrated, or impatient (Johansson et al., 2012). People with aphasia often fear new places or situations (i.e., visiting a new business), because they fear bias treatment (Johansson et al., 2012). One can conclude education for employees may increase the
overall accessibility of a business by providing its employees the tools to communicate more effectively with customers who have aphasia.

**Americans with Disabilities Act of 1990**

The American’s with Disabilities Act of 1990 (ADA) was designed to increase accessibility of public entities for all persons with disabilities (Ellek, 1991). The ADA also attempts to increase individuals’ opportunities to actively engage in a variety of settings (ADA, 1990). Accessibility refers to an object or a place’s capability of being seen or used (Merriam-Webster, 2013). In addition to physical accessibility, the ADA also requires businesses to provide communication access which is more difficult to achieve (Rosenblum, 2011).

The ADA was developed as an attempt to assist persons with disabilities in regaining status as active members of society by requiring businesses to provide persons with disabilities access equal to that of persons without disabilities. The ADA (1990) defined a disability as being construed in “favor of broad coverage of individuals…to the maximum extent permitted…” (p.7). The ADA was then amended on September 25, 2008 to redefine Congress’s intention for the law. Public Law 110-325, also known as the ADA Amendments Act of 2008 (ADAAA), amended the ADA. It redefined Congress’s intention with ADA as a means to provide a clear way to eliminate discrimination of persons with disabilities (ADAAA, 2008). ADAAA defines a person with a disability as one who has a physical or mental impairment that limits life activities, has a record of impairment, or is believed to have an impairment (p. 3555).

In addition to defining disability, ADAAA (2008) described major life activities as they relate to persons with aphasia. ADAAA makes it clear persons with aphasia qualify for coverage and protection for major life activities. Major life activities include hearing, eating, speaking, learning, reading, and communicating (ADAAA, 2008). Moreover, ADAAA considers major life
activities without mitigating measures such as medication, assistive hearing devices, mobility
devices, or assistive technology (p. 3556). CVA and resulting aphasia affects major life activities.
Not all patients have access to mitigating measures (i.e., hearing aids, communication devices,
other assistive technology), making this an important aspect of ADA in regard to coverage for
persons with aphasia. Essentially, ADA requires businesses to provide appropriate
accommodations to persons with aphasia with or without the presence of mitigating measures.

**Implications.** Several implications have arisen from the ADA due to misinformation and
resistance of the persons under the legislation (Braithwaite & Labreque, 1994). Braithwaite and
Labreque (1994) outlined five aspects of the ADA which may have implications on
communication. These include: a) accessibility is considered a right; b) persons with disabilities
are recognized as potential customers; c) the law includes an intentional lack of detail; d) ADA
may be reviewed and enforced at the highest level of the judicial system; and e) exemptions will
not be granted from understanding and complying with the law (Braithwaite & Labreque, 1994,
p. 288).

The ADA used vague language and provided minimal guidelines, intentionally, to allow
businesses to apply the law in ways which best suited individual businesses (Braithwaite &
Labreque, 1994). Unfortunately, this vagueness led to businesses frequently failing to focus on
the opinions of the consumers with disabilities, on how to effectively implement the law
(Braitwaite & Labreque, 1994). One can conclude, this vagueness of language used in the ADA
may result in inadequate accessibility to businesses for consumers. One could also surmise
proper implementation of ADA and its principles are key in providing proper accessibility.
ADA’s failure to provide guidelines for proper implementation may be a current problem which
results in lack of overall communication accessibility. This problem may act as a barrier to improving communication accessibility.

**Implementation.** The original ADA legislation did not include a direct plan for implementation; therefore, it became necessary for individual businesses affected by the legislation to develop an individual plan for implementation (Elleck, 1991). Possible problems with this model included misunderstanding the law, poor management of the process, and personal bias which may cause the business to do as little as possible to carry out the law (Elleck, 1991, p. 178). One specific problem with implementation resulting from lack of a direct plan for implementation is many professionals have assumed using family members as interpreters for communication difficulties is acceptable (Rosenblum, 2011). Based on these problems, individual businesses may need guidance and education on the complexities of ADA and how to implement the law specifically for individuals with aphasia.

There exists a paucity of evidence, in the current literature on the effectiveness of business’s implementation of ADA regarding communication access. The language used in the legislation of ADAAA clearly shows there is a wide range of individuals with physical and mental disabilities, covered under this act, who may require improved communication access. These include hearing, speech, and language disabilities, such as aphasia. Due to this range of persons who may benefit from communication accessibility, a clear understanding of the nature and implementation of communication accessibility is needed.

**Communication Accessibility**

Rosenblum (2011) introduced the term *communication accessibility* to the current body of literature in an article targeting implementation of ADA for persons with hearing loss in medical and legal settings. Although Rosenblum does not provide a direct definition for the term
communication accessibility, it is made clear, through citation of ADA and situational examples; ADA requires communication with professionals for a facility to be accessible to persons with disabilities (2011). Because of ADA, if a facility denies a person with communication difficulties appropriate access, then the facility has discriminated against the person (Rosenblum, 2011). Rosenblum suggested a leading factor that negatively impacts communication access is the assumed financial burden on facilities when providing communication accommodations. Nonetheless, communication access is needed and must be provided to allow persons with aphasia proper access to local businesses, to increase their participation and quality of life.

There has been minimal documentation relating to specific successes and failures of businesses which have attempted to provide communication accessibility. Raising awareness of aphasia has been positively correlated with overall communication access and quality of life (Mumby & Whitworth, 2013). Although research demonstrates communication access often improves quality of life for a person with aphasia (Mumby & Whitworth, 2013), consistent implementation of ADA regarding communication needs is scarce (Rosenblum, 2011). A review of the current literature suggests the challenge is to understand the nature of communication accessibility and to determine principles for how to provide communication accessibility.

Conclusion

Aphasia is a life-changing disorder for both the person with aphasia and their loved-ones. Immediately, the lives of these individuals may be changed, which often results in a decrease in participation of daily activities (Chapey, 2008). These activities may include utilization of businesses. Lack of participation, along with fear of judgment from new people, situations, and places, may result in an overall reduction in quality of life for persons with aphasia and their loved-ones. The ADA attempts to assist persons with disabilities, such as aphasia, with accessing
facilities and, therefore, increasing overall participation and quality of life. Despite positive intentions, the ADA’s use of vague language and emphasis on physical accessibility has left businesses with little guidance, resulting in an overall lack of purposeful provision of communication accessibility. It is assumed, by the researcher, increase in aphasia awareness and communication accessibility would result in increased participation and quality of life for persons with aphasia in addition to higher rates of ADA correspondence for businesses. Unfortunately, an overall lack of research on the topic has left the researcher questioning the exact nature of communication accessibility.

Rosenblum (2011) provided crucial information on the topic of communication accessibility. Rosenblum’s research is essential to the current study in developing use of the term communication accessibility and in laying a foundation for the overall problem. Unfortunately, this study has a strong focus on ADA within medical and legal settings for persons who are deaf or hard of hearing. Because of the nature of the study, the researcher was unable to reliably generalize the findings for comparison to the current study.
The purpose of the current study was to answer the primary research question: How do caregivers of persons with aphasia (caregivers) and business operators perceive communication accessibility in community businesses? The central research question contained the following sub-questions: 1) How do caregivers define communication accessibility?; 2) How do business operators define communication accessibility?; 3) What are the lived experiences, regarding communication access, of caregivers?; 4) What are the lived experiences, regarding communication access, of business operators?; 5) What is the nature of caregivers’ attitudes regarding communication access?; and 6) What is the nature of the business operators’ attitudes regarding communication access? These questions were answered through participant responses during in-depth interviews. During the main study, business operators and caregivers were interviewed regarding communication accessibility. Interviews were then transcribed and analyzed using the NVivo8. A pilot study was conducted.

**Pilot Study**

A pilot study was conducted prior to the main study to ensure the research design allowed the researcher to answer research questions. In addition, the pilot study was used to identify any flaws in the design or other factors which may not have been considered by the researcher. The pilot study was conducted by mirroring the design for the main study.

Two people who were a caregiver to someone with aphasia were interviewed by the researcher. Caregivers consisted of family members, significant others, or close friends. Caregivers were drawn from a list of clients who had aphasia and attended the Welch-Schmidt Center for Communication Disorders (Center). Personal invitations to participate in the study were extended to the caregivers of these clients. Inclusion criteria consisted of the individual
interacting regularly with a person who has aphasia and the ability/willingness to verbally answer all interview questions. Exclusion criteria included the inability or unwillingness to verbally answer all interview questions. Also excluded were those individuals who did not report they accompanied the person with aphasia into a local business. The interview topic focused on the caregiver’s perception of communication accessibility for their loved-one.

Two business operators (to include upper management or owner/operators who work in direct contact with customers) were interviewed, following a brief explanation of aphasia. Inclusion criteria consisted of business locations in the direct community and the business operator’s ability/willingness to answer all interview questions. Business operators were excluded from the study if business operators were not located in the direct community, did not work in direct contact with customers, or were unable to answer all interview questions. Business operators were drawn through personal invitation in the form of a letter followed-up with a phone call, e-mail, or personal visit. The focus of the interview was the operators’ perception of communication accessibility under ADA for customers with aphasia and their caregivers.

Data collection procedures included use of field notes in a researcher’s journal, digitally voice-recorded interviews, verbatim transcription of interviews, and use of the NVivo8 software for in-depth analysis. During the pilot study, minor errors emerged in the research design. The study needed changes to correct these errors. Originally, interview questions were not presented in randomized order. After completing the pilot study, the procedure was modified to include randomization of interview questions prior to initiation of the interviews. During the pilot study, the NVivo8 software failed to save transcriptions. Because of this technical difficulty, the pilot study data was initially analyzed by hand, using the researcher’s journal. Once the software was in working order, the data was re-analyzed using the NVivo8, to ensure consistency of results.
Results of the data analysis were consistent for both forms of analysis. In addition, a review of the recorded interviews revealed interviewer reactions to participant responses were not neutral. To correct this during the main study, the interviewer provided only neutral reactions to participant responses. Another identified error was found regarding sampling procedures. All business operators who agreed to participate agreed only via in-person invitation. Because only one response was obtained from a letter, phone call, or e-mail, the main study included only in-person invitation of business operators.

The importance of awareness and knowledge of aphasia emerged as a significant theme for caregivers in defining communication accessibility. Participant responses implied the need for business operator awareness and education regarding communication accessibility. This finding is consistent with current literature which suggests persons with aphasia often fear people are not understanding of their communication needs (Johansson et al., 2012). The caregiver’s role in communicating with business operators also emerged as a salient theme. Caregivers described their role as the primary communicator. Their spouses did not frequent local businesses independently and relied on the caregiver for communication. The caregivers reported business operators relied on them to clarify messages or to communicate with persons who have aphasia. One can assume, based on this finding, persons with aphasia may have difficulty communicating with business operators independently. In this case, the person with aphasia may be limited in his or her ability to utilize businesses as desired, therefore reducing their overall quality of life. Overall, participant definitions of communication accessibility implied the person with aphasia and the business operators need to make contributions that may lead to successful communication. Minimal thought about communication access also emerged as a prominent
theme. These findings suggested business operators were simply not thinking about communication accessibility.

In summary, the results of the pilot study demonstrated a sound and reliable design and adequate data collection sufficient to address the research question. The information extracted from the interviews allowed the researcher to determine common themes which assisted in answering the research questions. No other modifications were needed for implementation of the main study.

**Main Study**

The main study was conducted in the same manner described for the pilot study. All modifications identified in the pilot study were implemented.

**Sample and Population**

A total of 10 individuals participated in the study. Five caregivers and five business operators were interviewed for the main study. Caregivers were gathered from a list of clients with aphasia who attended the Center. Each caregiver was assigned a code to ensure confidentiality. Business operators were gathered through a researcher-generated list of businesses in the local community. Each participant was assigned a code to ensure confidentiality. The codes consisted of an initial letter (C for caregiver and B for business operator) followed by a letter in alphabetical order. For example, the first caregiver interviewed was identified by the code C-A and the second identified as C-B. Likewise, the first business operator interviewed was identified by the code B-A and the second identified as B-B. Individuals were personally invited to participate in the study. Each participant was provided an invitation in the form of an informational letter. Each letter was followed with an in-person visit, phone call, or e-mail.
Five people who were a caregiver to someone with aphasia were interviewed. Caregivers consisted of family members, significant others, or close friends. For this study, a caregiver was defined as someone who interacts with the person on a weekly basis and had accompanied them to a local business. Inclusion and exclusion criteria for caregivers were identical to the pilot study. Five business operators (to include upper management or owner/operators who work in direct contact with customers) were interviewed. Inclusion and exclusion criteria for business operators from the pilot study were adopted for the main study.

Data Collection

Each participant completed an informed consent prior to participation in the study. This form was used to ensure each participant was aware of their level of participation, what to expect, as well as, the risks and benefits of participation in the study. The interviewer digitally voice-recorded participant accounts and answers to interview questions. Interview questions were uniform and pre-determined. These questions were asked of each participant in a randomized order based on randomization gathered from RANDOM.ORG. This increased the reliability of interview questions by ensuring the order of the questions did not affect participant responses. In addition, the interviewer utilized field notes and a researcher’s journal for data collection during the interviews. Interviews were then transcribed verbatim and analyzed using the NVivo8 software to extract common themes and answers to research questions.

Data management was completed in the Center. Immediately following each interview, hand written responses to questions and consent forms were filed into a caregiver or business operator file and stored in a locked cabinet. In addition, the digital voice recorder and researcher’s journal were stored in the locked cabinet when not in use. The key to the cabinet was available to the researcher, research supervisors, and Clinic coordinator. The computer
containing \textit{NVivo8} was password protected under the researcher’s personal password and kept in the Clinic which is routinely locked during hours of closure.

**Data Analysis**

Interviews were reviewed and transcribed verbatim. These transcriptions were then analyzed using the \textit{NVivo8} software. The \textit{NVivo8} software assisted the researcher in organizing and analyzing unstructured data, such as in-depth interviews. The researcher analyzed the data and identified nodes which are sets of data which represent common themes. Each node was stored in an individual digital file. This allowed the researcher to identify all data relating to each node and extract salient themes. During the analysis, 11 nodes were identified. Further examination of each node included a review of the total number of references, the quality of each reference, and notes from the researcher’s journal relating to each node. The researcher extracted the seven composite themes from these 11 nodes following this examination of quality for each node. The seven composite themes were then utilized to draw conclusions to each research question.

**Evidence of Quality**

**Trustworthiness**

Trustworthiness of qualitative research is directly correlated to the competence of the researcher who collects and analyzes the data (Patton, 2002, p. 570). This may include the descriptive validity or factual accuracy and interpretive validity (Johnson & Christensen, 2004). Factors of trustworthiness included: checking transcribed interview data for accuracy, using a rich description of analyzed data, and using the \textit{NVivo8} along with manual data extraction for themes. When analyzing the data, the researcher reviewed data and results with a variety of methods (i.e., analysis using \textit{NVivo8}, manual data extraction, and review of the researcher’s
The combination of the researcher’s education, experience, and guidance from supervisors increased the overall trustworthiness of the current study’s design, implementation, and results. Participant checks and triangulation also increased trustworthiness.

**Participant Checks**

Participant checks increased reliability of the data. The researcher asked participants for clarification of their responses to ensure correct interpretation of participant responses. Participant checks occurred any time there was uncertainty regarding a participant response and at random during the interview process, regardless of response clarity.

**Triangulation**

Triangulation increases quality of a study through use of combined methods of research (Patton, 2002). The researcher utilized methodological triangulation. During data collection and analysis, methodological triangulation involves using multiple methods when studying a phenomenon (Patton, 2002). For instance, the researcher documented participant and environmental observations using the researcher’s journal. Participant responses were documented verbatim using an interview form and digital voice recordings. Data collection and analysis results were consistent throughout each of these different methods of data analysis. Use of methodological triangulation increased overall reliability and validity of results.
CHAPTER 4
RESULTS

Data was analyzed using the NVivo8 software following completion of all interviews. The researcher extracted several common themes from participant responses. This in-depth analysis of participant responses also allowed the researcher to draw conclusions regarding the primary research question and six research subquestions. Table A summarizes the seven codes extracted from analysis of the data.

Table A
Composite Themes

<table>
<thead>
<tr>
<th>Code</th>
<th>Composite Theme</th>
<th>Sub-Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Business Operator Responsibility</td>
<td>1, 2, 5, 6</td>
</tr>
<tr>
<td>2</td>
<td>Customer Responsibility</td>
<td>1, 4, 6</td>
</tr>
<tr>
<td>3</td>
<td>Caregiver Frustration</td>
<td>3, 5</td>
</tr>
<tr>
<td>4</td>
<td>Lack of Awareness</td>
<td>4, 6</td>
</tr>
<tr>
<td>5</td>
<td>Need for Business Operator Knowledge</td>
<td>4, 6</td>
</tr>
<tr>
<td>6</td>
<td>Non-Aphasia Communication Problems</td>
<td>2, 4</td>
</tr>
<tr>
<td>7</td>
<td>Reliance on Caregivers</td>
<td>3</td>
</tr>
</tbody>
</table>

Composite Themes

Findings revealed seven core composite themes which described how caregivers and business operators perceived communication accessibility within community businesses. Emersion of these composite themes assisted in determining conclusions to the research questions.

**Business operator responsibility.** Need for business operator responsibility emerged as a salient theme. This theme indicated business operators must contribute to communication accessibility. As expressed by Participant C-F, there should be, "someone in the business that
had training to deal with people who have different severities and types of speaking problems."
This concept is further discussed by Participant C-D who questioned, "Do they have experience
themselves on how to communicate with a person with a disorder?"

In addition to caregiver comments regarding business operator responsibility, business
operators expressed personal responsibility for communication accessibility. Participant B-C
explained communication accessibility included, "having somebody or something there to help
communicate with all types of communication problems." Participant B-A discussed the
importance of business operators to demonstrate patience when communicating with persons
who have communication difficulties. This discussion included Participant B-A's statement,
"Well, I think it means that you're willing to talk to them and try to understand them." This
theme is further elaborated with Participant B-E's statement, "Let's not make it harder for you.
Let's not make it an issue that I can't understand you, and I'll get everything done for you to the
best of my ability." Participant accounts, such as these, indicate perceptions of responsibility for
communication accessibility falls primarily on the business operator.

**Customer responsibility.** The responsibility of the person with aphasia to be able to
communicate their message to the business operator emerged as another salient theme from
caregiver accounts. For instance, Participant C-C stated, "She could point to what she wanted."
Participant C-B shared, "Um, you should specify what you're trying to tell them and make sure
you say it clearly." Furthermore, caregivers discussed the importance of the business operator to,
somehow, be able to receive the message being relayed by the person with aphasia. For instance,
Participant C-A stated, "...it just means when you go into a store, hmm, that they can understand
what you're wanting." To elaborate this theme even further, Participant C-B explained, "Right
now, she usually points. But we try to tell her she needs to say what she is wanting.” This theme emphasized the importance of persons with aphasia to contribute to communication accessibility.

**Caregiver frustration.** Regardless of overall satisfaction, few caregivers reported frustration. Participant C-D reported frequent frustration with the statement, “Sometimes I get frustrated. They do not know why sometimes he speaks slower than usual.” In addition to caregivers demonstrating feelings of frustration toward business operators, some caregivers also felt frustration toward their loved-one and the changes caused by the onset of aphasia. For example, Participant C-A discussed the loved-one’s communicative attempts with others using consistent remarks such as, “He just doesn’t do it on his own anymore.” Participant C-B explained, “And now that this has occurred I have to communicate more.” In addition, Participant C-F discussed experiences interacting with business operators saying, "I'm not gonna be rude or whatever, but I will not tolerate anything less than service.” Caregivers described lived experiences regarding communication access as positive overall. Despite, overall positive experiences, statements such as these indicate caregivers experience frustration when utilizing community businesses with their loved-ones.

**Lack of awareness.** Business operators consistently indicated lack of encounters with persons who have aphasia. Many of the business operators expressed a belief that persons with aphasia did not utilize their business. When discussing encounters with customers who have aphasia, Participant B-D stated, “I don’t know that we’ve ever had any.” Furthermore, Participant B-A concluded an interview response with the statement, “Not that I’ve ever been around people that have that problem.” In addition, Participant B-B responded to an interview question regarding customers with aphasia, “I don’t know that I’ve had any, how would you describe aphasia again?” This lack of awareness of customers who have aphasia may result in
business operators not being aware of the possible need for accommodations when working with this group of customers.

**Need for business operator knowledge.** Although responses varied greatly among business operators, a common theme of business operator difficulty and lack of confidence in communicating with persons who have communication difficulties arose. For instance, when discussing communication with persons who may have aphasia, Participant B-A stated, “It takes much longer.” Participant B-A commented, “They’re harder to talk to than others are.” Furthermore, Participant B-C hypothesized, “I think it’s me needing to be more educated on the matter.” In addition to business operator responses, caregivers also indicated a need for increased business operator knowledge. For example, Participant C-D stated, ”To me it depends on the business and how much they train their employees as to how to communicate with individuals who have disabilities regarding speaking or communication in any order.” Participant responses demonstrated a need for business operator training and education to increase business operator communication with customers who have aphasia.

**Non-Aphasia communication problems.** Business operators exhibited increased awareness of the need for communication accessibility for persons with communication difficulties other than aphasia. For example, business operators frequently referred to communication accessibility as relating to persons who are deaf or speak a foreign language; however, they were largely unaware of possible interactions with persons who had aphasia. Participant B-C discussed the need for business operators to have something in place to communicate with all types of customers. Participant B-C explained this as, “having someone available who can do sign language or speak a foreign language.” Furthermore, when asked to define communication accessibility, Participant B-E stated, “To me that’s more like language
barriers.” The participant further described this statement to as difficulties communicating with persons who speak different languages. Participant B-E provided a narrative example of an elderly Cambodian woman having difficulty communicating in a bank due to her minimal English speaking skills. Additionally, Participant B-D explained, “I’ve had the deaf, you know. And they just write everything down on paper.”

Business operators were also questioned about their lived experiences regarding communication accessibility with customers who did not have aphasia. Responses varied. Some business operators discussed difficulty with business-specific terminology. For example, Participant B-B shared, “The only time we have difficulties is when like, terms here are different than terms other similar places use.” In addition, Participant B-A explained ways the business assisted with communication for all customers when describing products, “…we let our customers go in the cooler and see the flowers. You know, because we can’t describe how beautiful they are.”

Business operators demonstrated awareness of problems with communication accessibility for persons with communication difficulties other than aphasia. Business operators frequently referred to communication accessibility by discussing customers who were deaf or spoke a foreign language, but were largely unaware of possible interactions with persons who had aphasia. Business operators demonstrated higher awareness of non-aphasia communication problems.

Reliance on caregivers. Reports of the caregiver speaking for the person with aphasia were frequent. For example, Participant C-A stated, “Well, we have had no problems, because I’m usually the one doing the talking.” Participant C-C described experiences as, “Overall pretty well.” One caregiver, Participant C-F, who generally expressed positive experiences, elaborated
on the reasons for satisfaction. This participant stated satisfaction with current experiences was, “partially because it’s ________, MO…I’m not meddling with big companies.” Participant C-F further explained, “I will not tolerate anything less than service.” It was concluded, based on these responses, communication is successful in businesses with caregivers present. Accounts such as these, indicate this concept is true only if the caregiver is the primary communicator rather than the person with aphasia. The nature of communication accessibility, when persons with aphasia independently utilize businesses, could not be determined.

**Summary of Research Findings**

Findings suggested participants perceived communication accessibility as the shared responsibility of each party involved in communication. In addition, participants felt business operators’ overall lack of aphasia awareness resulted in caregiver frustration and an over-reliance on caregivers. Non-aphasia communication problems arose as another commonality. For the most part, business operators demonstrated unawareness that some customers may have aphasia. On the other hand, they recognized other types of communication difficulties. For example, they were aware of customers who spoke different languages/dialects or had hearing loss. These generalities and specific results relating to each research question were surmised from an in-depth review of participant accounts and composite themes.

**Subquestion one.** Subquestion one defined communication accessibility as described by caregivers. Composite themes relating to this subquestion include business operator responsibility and customer responsibility. Surprisingly, many caregivers expressed an overall lack of knowledge or prior thought on the topic of communication accessibility. This was evidenced by responses such as Participant C-A’s comment, "You mean in general, like going to stores?" Participant responses revealed caregivers define communication accessibility as: 1) the
ability for each participant to express and understand wants and needs of the other, and 2) the need for business operators to be trained in communicating with persons who have communication difficulties. Participant C-B summed up this finding with the definition, "Um, being able to understand what each party is needing and wanting. Understand each other."

**Subquestion two.** Subquestion two determined the definition of communication accessibility, according to business operators. Composite themes relating to subquestion two included business operator responsibility and non-aphasia communication problems. Similar to caregivers, the majority of business operators expressed lack of knowledge or prior thought on the topic of communication accessibility. Business operators defined communication accessibility as an aspect of business which is the responsibility of the business operator. This responsibility included showing patience and providing any available accommodations needed to understand the customer. This definition was revealed through comments such Participant B-A's statement, "Well I think it means that you’re willing to talk to them and to try to understand them." In addition, business operators showed more awareness of the need for communication accessibility when working with persons who speak a foreign language or the deaf population than when working with persons who have aphasia. This theme is illustrated by Participant B-C's definition of communication accessibility to include, "having someone available who can do sign language or speak a foreign language."

**Subquestion three.** The third subquestion examined the lived experiences of caregivers regarding communication accessibility. The interview question, “Discuss your overall experience, as a caregiver, with businesses regarding communication accessibility” directly targeted the third subquestion. Participant responses for this subquestion varied greatly. The composite themes which emerged from subquestion three included reliance on caregivers and caregiver frustration.
The emersion of these composite themes is not surprising based on current literature suggesting frequent occurrence of role reversals following stroke (Luterman, 2008).

**Subquestion four.** Subquestion four targeted the nature of lived experiences of business operators regarding communication accessibility. Need for business operator knowledge, lack of awareness, business operator responsibility, and non-aphasia communication problems were relevant composite themes when answering subquestion four. The participant responses indicated business operators’ lived experiences included primary difficulties with comfort, knowledge, and responsibility in providing communication access for persons who have communication difficulties such as aphasia. This concept is illustrated by Participant B-C's comment, "I felt bad that they were getting frustrated that I couldn't understand what they were saying. Because it isn't their fault I'm not hearing what they're trying to say. …I could be more knowledgeable in the proper way to communicate with them."

**Subquestion five.** Subquestion five targeted the nature of caregiver’s attitudes on communication accessibility. Composite themes which related to subquestion five included business operator responsibility and caregiver frustration. Surprisingly, caregivers provided neutral responses. Although many caregivers perceived communication accessibility as important, many of them had not given the topic prior thought. Participant C-C best summarized the theme by providing the statement, “It’s something she has to have. So you know, you just have to do what you have to.” Overall, caregiver attitudes regarding communication access were positive. Despite lack of prior thought on the topic, caregivers generally experienced occasional frustration. Caregivers also identified a need for business operators to take responsibility and gain knowledge regarding communication accessibility. For example, Participant C-F stated
there should be, "someone in the business that had training to deal with people who have different severities and types of speaking problems.

Subquestion six. The final subquestion targeted the nature of business operator’s attitudes regarding communication access. The composite themes which relate to this subquestion included business operator responsibility and the need for business operator knowledge. The business operators displayed accepting and positive attitudes toward communication accessibility despite lack of prior consideration on the topic. This finding is similar to that of subquestion five relating to caregivers. Participant B-C summed up the theme of business operator responses with the statement, “I mean, it’s fine. I think it’s certainly important. I know it’s something not a lot of people think about.”

Central research question. The central research question examined how caregivers of persons with aphasia and business operators perceive communication accessibility. An in-depth review and summary of participant accounts, composite themes, and the six research subquestions allowed for conclusions to be drawn. The findings showed caregivers perceived communication accessibility as important for their loved-one, particularly in the caregiver’s absence. Caregivers had an overall positive view of the current execution of communication accessibility within local businesses, despite occasional frustration resulting from lack of business operator knowledge. Surprisingly, communication accessibility is a topic that has not received much prior thought by the caregivers.

Business operators perceived communication accessibility as an important factor of customer service, which they viewed as the responsibility of the business operators. Business operators accepted the concept of communication accessibility, although there was minimal to no thought on the topic prior to the interview. In addition, business operators displayed a sense of
uncertainty and confusion regarding how to provide communication accessibility to their customers with communication difficulties. The primary theme which arose during business operator interview was a lack of awareness of aphasia and the presence of customers who may be affected. These results provide groundwork for professional discussion on the topic of communication accessibility.
CHAPTER 5
DISCUSSION

For the current study, the researcher examined the nature of caregiver and business operator perceptions of communication accessibility. In-depth face-to-face interviews were conducted regarding the topic of communication accessibility. Results of the interviews revealed implications for practical implementation of communication accessibility.

Caregivers perceived communication accessibility as important for their loved-one in the caregiver’s absence. There was an overall positive view of the current execution of communication accessibility, despite occasional frustrations. On the other hand, business operators identified communication accessibility as an important factor of business. They perceived communication accessibility to be primarily the responsibility of the business operators. Business operators were also accepting of the concept of communication accessibility. Although they indicated a willingness to try implementing communication accessibility, business operators also expressed a sense of uncertainty and confusion regarding how to provide it to customers who had communication difficulties. A major theme which arose during interviews was a lack of aphasia awareness and awareness of customers who may be affected. Caregivers and businesses operators reported a lack of prior consideration on the topic of communication accessibility. These results provide impetus for further research and professional discussion on the topic of communication accessibility.

Interpretation of Findings for Central Research Question

Findings for the central research question, “How do caregivers of persons with aphasia and business operators perceive communication accessibility in community businesses?” have drastic affects on future steps needed for implementing communication accessibility. First, both parties have an overall positive outlook and feel communication accessibility is important. This
opinion could positively affect implementation and continuation of quality communication accessibility. Second, neither party reported previous thought on the topic of communication accessibility. This is an issue which requires professional assistance in implementing communication accessibility. If people are unaware of the concept or importance of communication accessibility, it can be assumed they are less likely to independently seek education, training, or develop implementation plans for communication accessibility.

Caregivers and business operators will need professionals to provide training and education. Because business operators and caregivers are simply not aware of communication accessibility, they are unlikely to independently seek information regarding communication accessibility. Finally, training and education regarding communication accessibility is needed for business operators and caregivers. Business operators reported need for education and training on specific aspects of different communication disorders and strategies to increase successful communication. Caregivers may require education regarding their loved one’s rights to communication accessibility. An active outreach from professionals in the field of communication disorders is needed to increase awareness and implementation of communication accessibility. Successful implementation, one can assume, will result in lower caregiver frustration. In turn, with lowered frustration, participation and overall quality of life should increase for the caregiver and, potentially, their loved-one.

**Interpretation of Findings for Subquestion One**

The first subquestion, “How do caregivers define communication accessibility?” resulted in a definition of communication accessibility which included two major aspects. These aspects of communication accessibility as defined by caregivers included: 1) the ability for each party to express and understand wants and needs of the other, and 2) the need for business operators to be
trained regarding communication with persons who have communication difficulties. These findings imply responsibility of each party involved in the communication to take responsibility for communication accessibility. To do this, they must have awareness and knowledge regarding different aspects of communication accessibility. The implication presented by Rosenblum (2011) which indicates communication accessibility requires communication with professionals is congruent with the definition provided by caregivers.

Caregivers implied they and their loved-ones should claim responsibility by showing patience and clarifying their communications to the greatest extent possible during interactions with business operators. Caregivers also expressed the need for business operators to receive training to increase effective communication with persons who have communication difficulties, such as aphasia. Due to the general lack of aphasia awareness, training and education may be difficult for the business operators to receive without guidance. Experts in communication disorders may need to reach out to business operators and offer training and education regarding communication accessibility. Professionals may assist business operators in achieving communication accessibility for customers with communication difficulties, such as aphasia through this training. These findings and conclusions are congruent with current literature indicating overall lack of aphasia awareness in the public (Sherratt, 2011). These findings also correlate with previous research which indicates education of community members and business personnel may increase communication abilities for persons with aphasia (Mumby & Whitworth, 2012).

**Interpretation of Findings for Subquestion Two**

The second subquestion was, “How do business operators define communication accessibility?” Definitions provided by business operators indicated perceptions of
communication accessibility to include their responsibility as showing patience and providing any available accommodations needed to understand the customer. This definition coincides with current literature which suggests a facility discriminates against a person when communication accessibility is not provided (Rosenblum, 2011). Business operators identified the need for communication accessibility for persons who speak a foreign language or the deaf population, rather than for persons who have aphasia. Comments provided by business operators implied current communication accessibility is lower for persons who have aphasia due to lack of awareness of aphasia.

Participant responses convey the need for education and training for business operators. One can conclude education is needed because business operators must have some awareness on the topic of aphasia and communication accessibility to provide appropriate accommodations. Lack of awareness may result in customers who have aphasia not receiving necessary communication accessibility. These assumptions correlate with current literature suggesting lack of awareness of aphasia may cause communication partners to avoid conversations with persons who have aphasia (Johansson et al., 2012). Findings continued to imply need for business operator training and education to raise awareness of customers who have specific communication disorders such as aphasia.

**Interpretation of Findings for Subquestion Three**

Findings were examined for the subquestion, “What are the lived experiences, regarding communication access, of caregivers?” From the standpoint of participants, business operators and persons with aphasia demonstrate over-reliance on the caregivers for successful communication. Luterman (2008) suggests this role reversal in families is common following a stroke. Reliance on caregivers may be problematic for several reasons. First, reliance on
caregivers implies persons with aphasia are unable to have successful communication experiences within local businesses independently. It can be assumed individuals may not always have the option or desire to be accompanied by another person to a business and, therefore, require the ability to have successful experiences independently. In fact, the ADA is designed to increase the independent ability for a person with a disability to access businesses (ADA, 1990).

Second, reliance on caregivers is problematic because it results in caregiver frustration. This frustration may result in reduction of overall participation for people with aphasia who use local business. This could reduce the individual’s overall quality of life. Reliance on caregivers reduces the overall quality of communication accessibility for persons with aphasia and their loved ones.

**Interpretation of Findings for Subquestion Four**

Difficulties, for business operators, implementing communication access emerged from the fourth subquestion, “What are the lived experiences, regarding communication access, of caregivers?” Business operators expressed difficulties with comfort, knowledge, and responsibility in providing communication access for persons who have aphasia. These overall findings for subquestion four correlate with the current notion communication partners may avoid conversations with persons with aphasia due to a lack of awareness (Johansson et al., 2012). Business operators also displayed overall positive attitudes, despite feeling uncomfortable with the implementation of communication accessibility. This discomfort resulted from lack of knowledge regarding specific communication techniques.

Based on the opinions of business operators, it can be assumed, their comfort with implementing communication accessibility may increase with education and training on aphasia. This concept further emphasizes the importance of business operator education and training in
the area of communication disorders and communication accessibility. Business operators feel education may increase their level of comfort in taking responsibility providing communication access for persons with communication difficulties such as aphasia. Business operators also expressed the opinion that communication accessibility will increase with higher comfort levels of implementation procedures.

**Interpretation of Findings for Subquestion Five**

Subquestions five, “What is the nature of caregivers’ attitudes regarding communication access?” resulted in caregiver expression of occasional frustration and the need for business operators to take responsibility for implementing communication accessibility. Responses of caregivers reiterate the continuing theme of need for business operator knowledge through training and education. For this to happen, outreach from professionals to assist business operators should occur. In addition, participants reported reliance on the caregivers for successful communication. Reliance on caregivers caused frustration which could ultimately cause caregivers to resist utilizing local businesses. This lowered participation could ultimately result in lowered overall quality of life for caregivers, as well as, their loved ones. These findings continue to support literature indicating overall lack of aphasia awareness (Sherratt, 2011), role reversal following CVA (Luterman, 2008), and importance of communication accessibility (Rosenblum, 2011).

**Interpretation of Findings for Subquestion Six**

Positive attitudes of business operators emerged during analysis of subquestion six, “What is the nature of the business operators’ attitudes regarding communication access?” Business operators displayed overall accepting and positive attitudes toward communication
accessibility, despite lack of prior consideration of the topic. In addition, business operators often felt the need to take responsibility for the implementation of communication accessibility.

Business operators’ positive attitudes resulted in a good outlook for improving the implementation of communication accessibility. Originally, the expectation was for business operators to express feelings of communication access being burdensome or something in which they are not responsible for. On the contrary, business operators were very open and accepting of the idea of taking responsibility for communication accessibility. It can be assumed, this will translate into accepting and positive attitudes toward receiving education and training on the topic with outreach and guidance from professionals in the field of communication disorders. Findings for subquestion six continue to support the overall lack of aphasia awareness (Sherratt, 2011) and importance of public education (Mumby & Whitworth, 2013).

**Interpretation in Relationship to the Theoretical Framework**

Throughout the study, the researcher considered two theoretical frameworks. These frameworks included the Propositional Language Framework and the Multi-Dimensional Framework. During analysis of the study, relevance of the frameworks within local businesses emerged. Relevance of these frameworks may imply practical application during implementation of communication accessibility.

**Propositional language framework.** The Propositional Language Framework views aphasia as impairment in the ability to convey communication intent; the person may know the words, but have difficulty using them correctly or communicating meaning (Chapey, 2008). Based on caregiver and business operator interviews, this framework is relevant within local businesses regarding communication accessibility. Caregivers suggested occasions of loved-ones communicating basic wants and needs to business operators by nonverbal methods, such as
pointing to pictures. Likewise, business operators experienced customers who require assistance with verbal communication. These customers frequently communicated by answering basic questions or visualizing and pointing to the desired product.

Based on these participant accounts, implementation of communication accessibility may be affected by the concepts within the Propositional Language Framework. For instance, the customer may know what they want and simply experience word-finding difficulty needed to communicate to the business operators. If business operators are aware of this framework and its implications, they may have greater awareness of the nature of communication deficits. Based on these findings, it may be beneficial to educate and train business operators regarding non-verbal forms of communication. This awareness may allow business operators to more efficiently communicate, resulting in increased communication accessibility. Educating business operators regarding the nature and implications of the Propositional Language Framework may result in higher quality communication accessibility.

**Multi-Dimensional framework.** The Multi-Dimensional Framework views aphasia as taking several forms. Each form corresponds to a specific site of lesion and demonstrates characteristic features (Chapey, 2008). Few participants indicated an awareness of characteristic features of aphasia relative to the Multi-Dimensional Framework. Based on the overall need for business operator knowledge, however, discussing details of aphasia that are inherent within this framework may be beneficial. Educating business operators on different types and severities of aphasia, the different symptoms, and ways to accommodate for different features of each may increase overall communication accessibility. Business operator education should include details and implications of the Multi-Dimensional Framework.

**Conclusion of Research Findings**
The primary finding of this study was the need for business operator and caregiver training and education regarding communication accessibility. This was not surprising, when considering current literature which suggests the public has minimal knowledge of aphasia (Hinckley et al., 2013). Both parties were accepting of communication accessibility and identified its importance, despite minimal previous thought on the topic. Participants also expressed uncertainty regarding details of customer rights and implementation of communication access. Education needed for caregivers may include topics such as rights regarding communication access and ways to advocate for their loved-ones. Training for business operators may include general knowledge and awareness of communication disorders such as aphasia. Persons with aphasia appreciate the application of communication strategies by communication partners (Johansson et al., 2012). Based on this concept, training should also include specific strategies for communication and resulting communication accessibility with these persons. These findings continue to correlate with current literature which implies communication accessibility is particularly difficult to provide (Rosenblum, 2011).

Due to lack of prior thought, awareness, and education on the topic of communication accessibility, one can assume, caregivers and business operators are unlikely to independently seek training or education. Professionals, such as speech-language pathologists, should extend offers for education and training to correct this dilemma. This education and training for business operators and caregivers should increase successful instances of communication accessibility. With increased communication accessibility, overall use of local businesses for persons with aphasia and their caregivers may increase. Higher participation will, in turn, increase overall quality of life for the persons with aphasia and their loved ones. These findings and assumptions
are congruent with literature which implies an increase of aphasia awareness corresponds with overall communication access and quality of life (Mumby & Whitworth, 2013).

**Limitations of study.** There are apparent limitations to this study. First, the current study did not directly investigate the lived experiences of the persons with aphasia. Experiences and opinions of persons with aphasia may greatly affect results and implications of the current study. Experiences of persons with aphasia should be a consideration during future research. In addition, the current study only investigated the opinions and lived experiences of business operators (owners and upper management) and did not investigate opinions of employees at multiple levels of businesses. Again, future research should focus on this, as experiences may differ across levels of employment. Finally, large businesses and franchises were not interviewed, due to lack of response from invitations. As a result, the study was limited to business operators from small, privately-owned businesses. It is unknown if differences in communication accessibility would be found across different types and sizes of businesses.

**Implications for Future Research**

Results of the current study leave implications for future research. The first implication for research is the need to investigate the lived experiences of persons with aphasia. Although the current study sought these experiences, direct feelings, opinions, and perspectives of the persons with aphasia could not be obtained. Their perspectives could have been crucial to the results and implications of the current study. In addition, it may be beneficial for future researchers to investigate differences in accommodations provided for individuals with different types and severity of aphasia. Second, future researchers should investigate lived experiences of employees across several levels of employment. This is critical because lived experiences may differ across levels of employment.
The next crucial step in improving communication accessibility is for researchers to develop specific training programs for caregivers and business operators. Results of the current study revealed the need for this training and education. Training programs for communication accessibility, at this time, are non-existent or, at best, minimal. This creates difficulty for professionals in reliably training businesses. Consequently, evidence-based training programs are needed. Based on results of the current study, the researcher recommends these training programs for business operators to focus on descriptions of aphasia, identification of aphasia, and specific evidence-based communication strategies, such as those discussed by Johansson et al. (2012) for persons with aphasia. In addition, speech-language pathologists should counsel their clients with aphasia and family members regarding their rights under ADA and ways to advocate for themselves. These training programs should be evaluated for overall effectiveness in communication accessibility. Results of this study have laid a framework for further research and implementation of communication accessibility.
REFERENCES


APPENDIX A
IRB APPROVAL

4/21/2014

Autumn Rives
air87230@ucmo.edu

Dear Autumn Rives,

Your research project, ‘Caregiver and Business Operator Perceptions of Communication Accessibility’, was approved by the Human Subjects Review Committee on 4/21/2014. This approval is valid through 4/21/2015. Your informed consent is also approved until 4/21/2015.

Please note that you are required to notify the committee in writing of any changes in your research project and that you may not implement changes without prior approval of the committee. You must also notify the committee in writing of any change in the nature or the status of the risks of participating in this research project.

Should any adverse events occur in the course of your research (such as harm to a research participant), you must notify the committee in writing immediately. In the case of any adverse event, you are required to stop the research immediately unless stopping the research would cause more harm to the participants than continuing with it.

At the conclusion of your project, you will need to submit a completed Project Status Form to this office. You must also submit the Project Status Form if you wish to continue your research project beyond its initial expiration date.

If you have any questions, please feel free to contact me at the number above.

Sincerely,

[Signature]

Janice Putnam Ph.D., RN
Associate Dean of The Graduate School
putnam@ucmo.edu
APPENDIX B
BUSINESS OPERATOR INVITATION

To Whom It May Concern,

My name is Autumn Rives, and I am a graduate speech-language pathology student at the University of Central Missouri. As a part of getting my degree, I am completing my research requirement which involves writing a thesis. I have decided to write my thesis about persons who have aphasia (a communication disorder resulting from a stroke) and their experiences with the communication accessibility in local businesses. You are receiving this letter because, you have a business in Warrensburg, MO and I think you can help!

Participation in my study will be quite simple. I will be interviewing business operators. All that you will have to do is participate in the interview by answering my questions about your experiences with customers who have this communication disorder. The interviews will be voice recorded, however, your information will be confidential and your business name will not be used. The interview will be conducted at your establishment, unless you request otherwise.

In order to participate, you must meet the following requirements:

1. Be at least 18 years old
2. Be a member of management or an owner/operator who works in direct contact with customers
3. Be able/willing to answer all voice recorded interview questions
4. Have cleared consent from potential higher management based on your company’s policy

It’s an exciting and rare opportunity to be involved in research in the area of aphasia. I hope that you will consider helping me fulfill my requirements as a graduate student while adding to the body research and overall knowledge in the realm of aphasia.

If you have any questions or would like to participate in this study, please feel free to contact me via phone (816-267-3758) or email (alr87230@ucmo.edu). You may also speak with my advisor, Dr. Carlotta Kimble. Her business phone number is 660-543-4107.

Thank you for considering participation!

____________________________________________________

Autumn Rives, B.S.
University of Central Missouri
APPENDIX C
CAREGIVER INVITATION

To Whom It May Concern,

My name is Autumn Rives, and I am a graduate speech-language pathology student at the University of Central Missouri. As a part of getting my degree, I am completing my research requirement which involves writing a thesis. I have decided to write my thesis about persons who have aphasia and their experiences with the communication accessibility in local businesses. You are receiving this letter because, your loved one has attended the Welch-Schmidt Center for Communication Disorders or you have attended Different Strokes for Different Folks Support Group. Because you have a loved one who has suffered a stroke and resulting aphasia, I think you can help!

Participation in my study will be quite simple. I will be interviewing Care Givers of persons with aphasia at the Welch-Schmidt Center for Communication Disorders. All that you will have to do is participate in the interview by answering my questions about the experiences you and your loved one have had with communication and local businesses. The interviews will be voice recorded, however your information will be confidential.

In order to participate you must meet the following requirements:

1. Be at least 18 years old
2. Have weekly interaction with a person who has aphasia
3. Have experience accompanying a person who has aphasia to a local business
4. Be able/willing to answer all voice recorded interview questions
5. Have no personal affiliations with local businesses

It’s an exciting and rare opportunity to be involved in research in the area of aphasia. I hope that you will consider helping me fulfill my requirements as a graduate student while adding to research and overall knowledge in the realm of aphasia.

If you have any questions or would like to participate in this study, please feel free to contact me via phone (816-267-3758) or email (alr87230@ucmo.edu). You may also speak with my advisor, Dr. Carlotta Kimble. Her business phone number is 660-543-4107.

Thank you for considering participation!

________________________________________

Autumn Rives, B.S.
University of Central Missouri
APPENDIX D
PILOT STUDY CAREGIVER CONSENT

Identification of Researchers: This research is being done by Autumn Rives, a graduate student, and Dr. Carlotta Kimble, a professor. We are with the Communication Disorders Department at University of Central Missouri.

Purpose of the Study: The purpose of this study is to find out how caregivers of persons with aphasia (caregivers) and business operators perceive communication accessibility in community businesses. This pilot study is being conducted prior to the main study to ensure the researchers have considered all factors for the study.

Request for Participation: We have invited you to participate in this study based on inclusion criteria. Participation is completely voluntary. If you decide not to participate you will not be penalized in any way. You can also decide to stop at any time without penalty. You may withdraw your data at the end of the study. If you wish to do this, please contact us.

Inclusions: You must be at least 18 years of age to participate in this study. You must be the caregiver of a person with aphasia. To be a caregiver you must interact with the person on a weekly basis and have accompanied them to a local business. You must be able and willing to verbally answer questions asked by the researchers during an interview.

Description of Research Method: This study involves participation in an in-depth, face-to-face interview with the researchers. Interviews will be held at the Welch-Schmidt Center for Communication Disorders and will be digitally voice recorded. You will be asked to provide feedback to the researchers at the conclusion of your participation.

Privacy: All of the information we collect will be anonymous. We will not record your name. Each participant will be identified with a participant number. All materials will be stored in a locked file cabinet or a password protected computer system within the Welch Schmidt Center for Communication Disorders. You will be provided with your participant number for use in the event you wish to have your information withdrawn from the study.

Explanation of Risks: The risks associated with participating in this study are similar to the risks of everyday life. Any medical or psychological treatments provided if an injury occurs will be at the expense of the participant.

Explanation of Benefits: You will receive no immediate benefit for participation. You will be assisting in adding to the body of research and knowledge in the area of communication disorders.

Questions: If you have any questions about this study, please contact myself or my advisor Dr. Kimble at the Welch-Schmidt Center for Communication Disorders @ (660) 543-4993. If you have any questions about your rights as a research participant, please contact the Human Subjects Protection Program at (660) 543-4621.

If you are willing to participate, please sign a copy of this letter and return it to me. A photocopy will be made for you to keep.

I have read this letter and agree to participate.

Signature: ____________________________

Print name: __________________________

Date: ________________________________
APPENDIX E
PILOT STUDY BUSINESS OPERATOR CONSENT

Identification of Researchers: This research is being done by Autumn Rives, a graduate student, and Dr. Carlotta Kimble, a professor. We are with the Communication Disorders Department at University of Central Missouri.

Purpose of the Study: The purpose of this study is to find out how caregivers of persons with aphasia (caregivers) and business operators perceive communication accessibility in community businesses. This pilot study is being conducted prior to the main study to ensure the researchers have considered all factors for the study.

Request for Participation: We have invited you to participate in this study based on inclusion criteria. Participation is completely voluntary. If you decide not to participate you will not be penalized in any way. You can also decide to stop at any time without penalty. You may withdraw your data at the end of the study. If you wish to do this, please contact us.

Inclusions: You must be at least 18 years of age to participate in this study. You must be a business operator in Warrensburg, Missouri. To be a business operator, you must a member of management who works in direct contact with your customers. You must be able and willing to verbally answer questions asked by the researchers during an interview. By agreeing to participate, you are confirming that you have cleared participation with all necessary members of management within your business.

Description of Research Method: This study involves participation in an in-depth, face-to-face interview with the researchers. Interviews will be held at the business for which you work and will be digitally voice recorded. You will be asked to provide feedback to the researchers at the conclusion of your participation.

Privacy: All of the information we collect will be anonymous. We will not record your name or business name. Each participant will be identified with a participant number. All materials will be stored in a locked file cabinet or a password protected computer system within the Welch Schmidt Center for Communication Disorders. You will be provided with your participant number for use in the event you wish to have your information withdrawn from the study.

Explanation of Risks: The risks associated with participating in this study are similar to the risks of everyday life. Any medical or psychological treatments provided if an injury occurs will be at the expense of the participant.

Explanation of Benefits: You will receive no immediate benefit for participation. You will be assisting in adding to the body of research and knowledge in the area of communication disorders.

Questions: If you have any questions about this study, please contact myself (Autumn Rives) or my advisor Dr. Kimble at the Welch-Schmidt Center for Communication Disorders at (660) 543-4993. If you have any questions about your rights as a research participant, please contact the Human Subjects Protection Program at (660) 543-4621.

If you are willing to participate, please sign a copy of this letter and return it to me. A copy is provided for you to keep.

I have read this letter and agree to participate.

Signature: ___________________________

Print name: _________________________

Date: _______________________________
APPENDIX F
CARRIER CONSENT

Caregiver Informed Consent Form

Identification of Researchers: This research is being done by Autumn Rives, a graduate student, and Dr. Carlotta Kimble, a professor. We are with the Communication Disorders Department at University of Central Missouri.

Purpose of the Study: The purpose of this study is to find out how caregivers of persons with aphasia (caregivers and business operators) perceive communication accessibility in community businesses.

Request for Participation: We have invited you to participate in this study based on inclusion criteria. Participation is completely voluntary. If you decide not to participate you will not be penalized in any way. You can also decide to stop at any time without penalty. You may withdraw your data at the end of the study. If you wish to do this, please contact us.

Inclusions: You must be at least 18 years of age to participate in this study. You must be the caregiver of a person with aphasia. To be a caregiver you must interact with the person on a weekly basis and have accompanied them to a local business. You must be able and willing to verbally answer questions asked by the researchers during an interview.

Description of Research Method: This study involves participation in an in-depth, face-to-face interview with the researchers. Interviews will be held at the Welch-Schmidt Center for Communication Disorders and will be digitally voice recorded.

Privacy: All of the information we collect will be anonymous. We will not record your name. Each participant will be identified with a participant number. All materials will be stored in a locked file cabinet or a password protected computer system within the Welch Schmidt Center for Communication Disorders. You will be provided with your participant number for use in the event you wish to have your information withdrawn from the study.

Explanation of Risks: The risks associated with participating in this study are similar to the risks of everyday life. Any medical or psychological treatments provided if an injury occurs will be at the expense of the participant.

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If you are willing to participate, please sign a copy of this letter and return it to me. A photocopy will be made for you to keep.

I have read this letter and agree to participate.

Signature: ____________________________

Print name: __________________________

Date: ____________________________
APPENDIX G
BUSINESS OPERATOR CONSENT

Business Operator Informed Consent Form

Identification of Researchers: This research is being done by Autumn Rives, a graduate student, and Dr. Carlotta Kimble, a professor. We are with the Communication Disorders Department at University of Central Missouri.

Purpose of the Study: The purpose of this study is to find out how caregivers of persons with aphasia (caregivers) and business operators perceive communication accessibility in community businesses.

Request for Participation: We have invited you to participate in this study based on inclusion criteria. Participation is completely voluntary. If you decide not to participate you will not be penalized in any way. You can also decide to stop at any time without penalty. You may withdraw your data at the end of the study. If you wish to do this, please contact us.

Inclusions: You must be at least 18 years of age to participate in this study. You must be a business operator in Warrensburg, Missouri. To be a business operator, you must a member of management who works in direct contact with your customers. You must be able and willing to verbally answer questions asked by the researchers during an interview. By agreeing to participate, you are confirming that you have cleared participation with all necessary members of management within your business.

Description of Research Method: This study involves participation in an in-depth, face-to-face interview with the researchers. Interviews will be held at the business for which you work and will be digitally voice recorded.

Privacy: All of the information we collect will be anonymous. We will not record your name or business name. Each participant will be identified with a participant number. All materials will be stored in a locked file cabinet or a password protected computer system within the Welch Schmidt Center for Communication Disorders. You will be provided with your participant number for use in the event you wish to have your information withdrawn from the study.

Explanation of Risks: The risks associated with participating in this study are similar to the risks of everyday life. Any medical or psychological treatments provided if an injury occurs will be at the expense of the participant.

Explanation of Benefits: You will receive no immediate benefit for participation. You will be assisting in adding to the body of research and knowledge in the area of communication disorders.

Questions: If you have any questions about this study, please contact myself (Autumn Rives) or my advisor Dr. Kimble at the Welch-Schmidt Center for Communication Disorders at (660) 543-4993. If you have any questions about your rights as a research participant, please contact the Human Subjects Protection Program at (660) 543-4621.

If you are willing to participate, please sign a copy of this letter and return it to me. A copy is provided for you to keep.

I have read this letter and agree to participate.

Signature:________________________________________

Print name:_______________________________________

Date:____________________________________________
## APPENDIX H

### BUSINESS OPERATOR QUESTIONS

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<tr>
<th>#</th>
<th>Question</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1</td>
<td>How do you define Communication Accessibility?</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Describe ways in which your business provides communication accessibility to its customers.</td>
<td></td>
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<tr>
<td>3</td>
<td>Describe your overall experience with customers who do not have speech or language difficulties, such as aphasia.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Describe your overall experience with customers who have speech or language difficulties, such as aphasia.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Discuss your overall experiences with communication access when dealing with customers who have speech or language difficulties, such as aphasia.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Describe how you feel about the topic of communication accessibility?</td>
<td></td>
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<tr>
<td>7</td>
<td>Describe your expectations for customer communication ability at your business.</td>
<td></td>
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<tr>
<td>8</td>
<td>What do you feel contributes to successful communication between you and your customers with speech or language difficulties, such as aphasia?</td>
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</table>
APPENDIX I
CAREGIVER QUESTIONS

Interview Protocol for Caregivers:

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<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>How do you define communication accessibility?</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Discuss your loved one’s current experiences communicating in different businesses.</td>
<td></td>
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<tr>
<td>3</td>
<td>Describe your loved one’s ability to communicate independently within different businesses.</td>
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<tr>
<td>4</td>
<td>Explain your loved one’s experiences in utilizing different businesses independently?</td>
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<tr>
<td>5</td>
<td>Describe how you feel about the topic of communication accessibility?</td>
<td></td>
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<tr>
<td>6</td>
<td>Discuss your overall experience, as a caregiver, with businesses regarding communication accessibility?</td>
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<tr>
<td>7</td>
<td>How would you compare experiences in communicating with business operators pre and post your loved one’s onset of aphasia.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>What do you feel contributes to successful communication between your loved one and business operators?</td>
<td></td>
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</table>
APPENDIX J
CONSENT FOR PARTICIPANT CONTACT

Date: 4/23/14
Dr. Nancy Montgomery
University of Central Missouri
Martin 68
Warrensburg, MO 64093
Dr. Nancy Montgomery,

Hello. I am a graduate student currently completing my thesis as a part of graduation requirements for a Master’s Degree in Speech-Language Pathology at the University of Central Missouri. My thesis is on the topic of applying the Americans with Disabilities Act of 1990 for persons who have aphasia. The research has been approved by the University’s Institutional Review Board and will require participants to participate in an in-depth interview with the researcher (myself).

I am writing this letter with the intent of obtaining consent to gather a list of clients from the Welch Schmidt Center for Communication Disorders who have aphasia and contact their listed caregiver. Once contacted, caregivers will be formally invited to participate in the study. The implications of the study and any applicable risks and benefits will be discussed in-depth with each participant through informed consent.

Please feel free to contact me via phone (816-267-3758) or email (alr87230@ucmo.edu). You may also speak with my advisor, Dr. Carlotta Kimble. Her business phone number is 660-543-4107.

Thank you for considering assisting with this research!

Autumn Rives, B.S.
University of Central Missouri

______________________________________________________________________________________
Nancy Montgomery <nmontgomery@ucmo.edu>
May 1, 2014

Autumn,

As the Program Director of the Communication Disorders Program at the University of Central Missouri, I am giving you permission to access the files of the clients with aphasia at the Welch-Schmidt Center for Communication Disorders and contact the client's major care provider in order to complete your research for your thesis. I understand that you have already obtained approval from the UCM Institutional Review Board to conduct this research with human subjects. Please let me know if I can assist with your research in any other way.

______________________________________________________________________________________
Nancy Montgomery <nmontgomery@ucmo.edu>
May 1, 2014