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Supporting Speech-Language Pathologist Evidence-Based Practice Use: A Mixed-Methods Study in Skilled Nursing Facilities within the Promoting Action on Research Implementation in Health Services Framework

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Supporting Speech-Language Pathologist Evidence-Based Practice Use: A Mixed-Methods Study in Skilled Nursing Facilities within the Promoting Action on Research Implementation in Health Services Framework

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy
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Dedication


To my children Luke Douglas, Laney Douglas, and Audrey Douglas, thank you for constantly reminding me about what matters and what doesn’t matter during this process. Thank you for your patience and for your unconditional love. I am now and always privileged to be your mom.

To my husband Ryan Douglas, words are unable to capture the significance of your sacrificial love and support throughout these years. You have given me a tremendous gift, cheering me toward my passions, despite the many obstacles. We did it! Now, your turn…
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Abstract

As the management of dementia is a significant public health concern, efforts to increase access to effective treatments to a greater number of residents with dementia in skilled nursing facilities (SNFs) are warranted. The treatment addressed in this study, non-electronic external memory aids, is an evidence-based practice that has been found to increase positive communicative interactions and decrease negative behavioral problems of residents with dementia in SNFs.

Although use of memory aids is recommended, there are significant barriers such as lack of time and resources that inhibit the use of effective treatments in typical clinical settings. To address such barriers to evidence-based practice (EBP) implementation, the Promoting Action on Research in Health Services (PARIHS) framework is available. The PARIHS framework accounts for elements outside of the clinician knowledge base that may impact EBP delivery such as perceptions of the specific EBP and the specific context in which the EBP will be delivered. Organizational variables such as culture, leadership priorities, and resource availability are considered. Although the PARIHS framework has been used to successfully study and support EBP uptake in other areas of health care such as nursing, this framework has not to date been used in the field of Speech-Language Pathology, the clinician group of interest in this study.

This study utilized a transformative, mixed-methods design within the PARIHS framework to investigate potential impacts of Speech-Language Pathologists’ (SLPs) and
Facility Rehabilitation Directors’ (FRDs) perceptions of the evidence and organizational context on the use of non-electronic external memory aids in SNFs. The project explored differences between FRDs’ and SLPs’ perceptions of such variables, as well as the relationship between those variables and the SLPs’ reported percentage of use of non-electronic external memory aids. Qualitative methods through semi-structured interviewing of SLPs further provided contextualized and detailed data regarding facilitators and barriers to the use of memory aids in SNFs.

Results of the study indicated that there were statistically significant differences between SLP and FRD groups in terms of perceptions of the organizational context in the SNF, with the FRDs viewing the organizational context more favorably. There were no significant quantitative differences between SLPs and FRDs in terms of perception of the evidence for the practice of non-electronic external memory aids. Both groups demonstrated relatively favorable perceptions of the practice (3.8 on a 5-point scale with 5 being strongly favorable). Each additional point regarding favorable perceptions of SLPs in terms of the evidence for non-electronic external memory aids were associated with a 24% increase in percentage of use of the practice. Perceptions of the organizational context in the SNF were not significantly associated with higher percentages of SLP use of the practice; however, issues of organizational context were heavily present in the qualitative data. Analysis of the interview data yielded a total of 318 codes and 191/318 (60%) of those codes addressed issues of organizational context. Qualitatively, the most common codes related to issues of lack of necessary staff to both implement and sustain the use of non-electronic external memory aids. Further, lack of physical materials and time to create memory aids was also a frequently reported barrier in the interview data. There was not mention
of local performance data or systems for which to evaluate performance in relationship to non-
electronic external memory aid usage in the interview data.

Results of this study may contribute to the acceleration of a successful, systematic uptake
of non-electronic external memory aids for residents with dementia in SNFs by considering
SLPs’ perceptions of evidence and by engaging the end organizational context. This project may
also serve as a model to contribute to the successful implementation of other EBP for patients
with cognitive-communicative impairments.
Chapter One: Introduction

The long-term goal of the mixed-methods work described here is to develop, implement, and support the use of evidence-based practices of Speech-Language Pathologists (SLPs) within the Promoting Action on Research Implementation in Health Services (PARIHS) conceptual framework. Speech-Language Pathologists (SLPs) are professionals who work with the “full range of human communication and its disorders, including the evaluation, diagnosis and treatment of speech, language, cognitive-communication and swallowing disorders in individuals of all ages, from infants to the elderly,” (http://www.asha.org). All SLPs are encouraged to engage in evidence-based practice in the evaluation, diagnosis, and treatment of communication disorders (McCurtin & Roddam, 2012). Evidence-based practice can be defined as the integration of best scientific evidence, clinical expertise, and patient preferences to optimize patient care (Sackett, Rosenberg, Gray & Richardson, 1996). Evidence-based practice is necessary to provide best services to patients. However, the reality of evidence-based practice implementation into typical clinical settings is a multi-faceted challenge, requiring whole system, organizational change (Burke & Gitlin, 2012; Kitson, Rycroft-Malone, Harvey, McCormack, Seers, Titchen, 2008). The problem of evidence-based practice implementation is not unique to SLPs, and has led to the emergence of a new discipline, Implementation Science.

The importance of Implementation Science to optimizing clinical practices that are based on research is highlighted in Figure 1 below (Westfall, Mold & Fagnan, 2007). Figure 1 shows an adapted version of Westfall and colleagues’ proposed modification of the National Institutes
of Health’s (NIH) roadmap, which was initially developed to highlight the types of research (i.e. Translation 1 or T1 studies) that were needed to allow for the translation of laboratory findings to clinical research. This process is also referred to as moving research findings from “bench to bedside.” Once human clinical research has found an intervention or other procedure to be efficacious, the next step is to move research findings into everyday clinical practice through endeavors that are referred to as Practice-Based Research. Practice-Based Research includes guideline development, meta-analysis, and systematic reviews of the literature, and is referred to as Translation-2 or T2 research. Practice-Based Research also includes Implementation and Dissemination studies that are aimed at translating evidence-based practices into routine clinical use and are referred to as Translation-3 or T3 research (Woolfe, 2008). The present study is an initial step in T3 research in the practice of Speech-Language Pathology.

![Figure 1. Suggested Modifications To NIH Roadmap, Adapted from Westfall, Mold & Fagnan, 2007](image)

*Notes.* NIH=National Institutes of Health.

The present study is rooted in the theory and principles of Implementation Science, and it examined factors related to the implementation of one specific evidence-based practice for one patient group as delivered by one specific group of practitioners in one type of health care system. That is, the use of non-electronic external memory aids for residents with dementia in treatment provided by SLPs in skilled nursing facilities (SNFs) was examined. The PARIHS framework (Kitson et al., 2008) was utilized to address the research questions, and this is the first time this conceptual framework has been applied to the field of Speech-Language Pathology.
The PARIHS framework lends itself to the examination of various factors that may contribute to the implementation of an evidence-based practice including the clinician’s perception of evidence and factors of the organizational context in which the intervention is being delivered, components referred to in the framework as Evidence, Context, and Facilitation (Kitson, Seers, Titchen, 1998; Rycroft-Malone, 2004; Kitson et al., 2008). In the framework, the component Evidence refers to not only the strength of the evidence, but the perceptions of the strength of the evidence from relevant stakeholders. Context refers to the important aspects of the organizational context impacting evidence-based practice delivery, and Facilitation refers to factors within the system that make delivering the practice easy or “doable.” This framework has also been used to facilitate the uptake of evidence-based practices in various aspects of nursing care (Brisebois & Doyon, 2010; Brown & McCormack, 2005). Finally, the PARIHS framework fits well into T3 studies that seek to incorporate research findings into day-to-day clinical practice.

The application of the PARIHS framework to the use of non-electronic memory aids for residents with dementia being treated by SLPs in SNFs was addressed through both quantitative and qualitative methods. The perceptions of potential factors associated with the use of evidence-based practices by SLPs was analyzed, and this analysis was complemented by interview data designed to provide a deeper understanding of the facilitators and barriers to SLPs’ use of non-electronic external memory aids with residents with dementia in SNFs. The subsequent chapters denote details of the study beginning with a review of relevant literature.
Chapter Two: Review of Relevant Literature

As described in Chapter One, evidence-based practice (EBP) is defined as the integration of the best scientific evidence, clinician expertise and patient values to optimize patient health care outcomes (Sackett et al., 1996). In Section One of this review, the role of evidence-based practice in health care service professions in general is reviewed, followed by a review of evidence-based practice specific to Speech-Language Pathology. In Section Two of this review, an overview of the emerging discipline of Implementation and Dissemination Science is provided. Specific applications of Implementation and Dissemination Science to health care professions such as Mental Health Services and Occupational Therapy are also reviewed in this section. In Section Three, the problem of dementia, the organization of Skilled Nursing Facilities (SNFs), and the practice of non-electronic external memory aids are reviewed in relationship to the research questions. Finally, the study aims, research questions and hypotheses are outlined in Section Four of this review.

Section One: Evidence-Based Practice

Evidence-based practice in health service professions. In 1835, a urologist lived in France named Jean Civiale. Dr. Civiale was unhappy with the available methods to treat bladder stones, an extremely painful condition that was the source of intense suffering for many (Herr, 2009). Lithotomy, the treatment option of choice, involved “cutting the stones” through a perineal incision. This procedure was terrifying, agonizing and often resulted in death. As an alternative, Dr. Civiale proposed treating the stones through shockwaves. His less-invasive
surgical alternative resulted in higher success rates and decreased mortality (Herr, 2009). To support his new technique, he began collecting data across Europe, and his findings were discussed at the Paris Academy of Sciences. This numerical reasoning prompted a movement, Medicine d’Observation, which most now consider to be the origin of current Evidence-Based Medicine (EBM).

Fast forward many years to 1992 when physicians, researchers and colleagues further defined EBM (EBM Working Group, 1992). The group explained EBM to be a de-emphasis of intuition, unsystematic clinical experience and solely pathophysiologic rationales to treat disease (EBM Working Group, 1992). A few years later, EBM was later explicitly defined by Sackett and colleagues as “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients,” (Sackett, Rosenberg, Gray, Haynes & Richardson, 1996, p. 71). Evidence-based medicine requires the integration of clinical expertise with the current best scientific literature all the while considering individual patient rights, predicaments and preferences (Sackett et al., 1996).

Clinicians are encouraged to engage in EBM by formulating specific clinical questions regarding their patients and then reviewing the scientific literature concerning that question. The next step is then for the clinician to evaluate the literature based upon the question and subsequently apply that information to the patient (Dijkers, Murphy & Krellman, 2012; Rosenberg & Donald, 1995). Essentially, EBM requires the practitioner not only to be abreast of the most current scientific literature, but also to be familiar enough about the methodological design of the literature to make an accurate appraisal of it and the potential outcomes. This is not an easy task. Indeed, some suggest this process to be in and of itself a full-time job (Mukohara & Schwartz, 2005).
Relying on scientific evidence for clinical decision-making as opposed to clinical anecdote or pathophysiological symptoms, EBM was considered a paradigm shift by many physicians. EBM remains a popular topic invoking much discussion in today’s health care literature. A journal dedicated to EBM was launched in 1995, *Evidence Based Medicine*, part of the *British Medical Journal*. The movement of EBM subsequently spread to other allied health care professions. A shift of nomenclature from EBM to evidence-based practice (EBP) ensued. Evidence-based practice is encouraged in Nursing (Fineout-Overholt, Melnyk & Schultz, 2005), Physical Therapy (Jones, 2000), Occupational Therapy (Gitlin, Earland, Piersol & Shaw, 2010), Speech-Language Pathology (Johnson, 2006), and Psychology (Gallagher-Thompson & Coon, 2007), among other health care professions. Although there is agreement amongst most health care disciplines regarding a definition of EBP, for the purposes of this study, it is helpful to discuss EBP in the context of Speech-Language Pathology.

**Evidence-based practice in speech-language pathology (SLP).** As in EBM, EBP in SLP is supported to provide best services, avenues for professional accountability, the reduction of ineffective treatments, and the increase of effective treatments (Lum, 2002; McCurtin & Roddam, 2012; Walshe & Rundall, 2001). The American Speech-Language-Hearing Association (ASHA) supports the EBP definition provided by Sackett and colleagues (1996) including the integration of best scientific evidence, clinical expertise and patient preferences (http://www.asha.org/members/ebp/). A slight adaptation of this definition of EBP is also available for the field of SLP including the best available evidence from external research, the best available evidence internal to clinical practice, and the best available evidence concerning preferences of a fully informed patient (Dollaghan, 2007). Although this definition may provide more flexibility, aspects such as “evidence internal to clinical practice” are difficult to quantify.
Evidence-based practice in SLP is challenging due to the general lack of evidence and irrelevant or conflicting evidence in some cases within the field (Mullen, 2005). When adequate evidence does not exist, SLP clinicians are encouraged to act as scientists, collecting data on their individual clients according to the scientific method, also known as version of practice-based evidence (PBE; Apel, 2009; Lof, 2011). As SLP clinicians may be motivated to change behavior as immediately as possible, data from practice-based evidence may lack the empirical rigor of a traditional researcher (Kamhi, 1999; Kahmi, 2006). Varying perceptions as to what constitutes “evidence” present a challenge to SLP.

Evidence-based practice in SLP and other disciplines is further influenced by clinician and client variables. Factors such as clinician experience, expertise, personality, and overall craft knowledge of the field of SLP may influence treatment selection. Along the same lines, individual differences among clients in terms of disorders, severity, family dynamics, and economic status may also impact treatment outcomes. These aspects of treatment research have not been well studied to date, but their potential impacts on the implementation of evidence-based practice are apparent (Justice, 2010). Evidence-based practice in SLP is also likely influenced by organizational factors in which the SLPs provide clinical services, such as a public school or skilled nursing facility. Factors such as the value that the organization places on EBP and the organization’s availability of resources to provide EBP in terms of potential impacts on EBP implementation in SLP have not been studied.

The American Speech-Language-Hearing Association (ASHA) has established some new initiatives to promote the uptake of EBP by SLPs including web-based tutorials regarding EBP, an available EBP compendium concerning the scientific evidence in various communication disorders (http://www.asha.org/members/ebp/compendium/), and evidence maps. “Evidence
maps are intended to provide clinicians, researchers, clients, and caregivers with tools and guidance to engage in evidence-based decision making,” (http://www.ncepmaps.org/). Finally, in conjunction with the National Center for Evidence Based Practice in Communication Disorders (N-CEP), ASHA has supported 20 systematic reviews of the evidence in assessment and treatment for the areas of hearing, fluency, language, swallowing and service delivery (http://www.asha.org/Members/ebp/EBSRs.htm). At least nine other systematic reviews of the evidence are also in progress. Data concerning the impact of these initiatives on SLP actual practice behaviors are not yet available.

The general consensus of the literature is that although difficult to realize in its entirety, EBP in SLP is essential to best practices, professional standards, replicable treatments, and positive benefits for clients and society at large. Efforts to promote EBP in a manner relevant for researchers, practitioners and clients is a continuous work in progress with several barriers to such practice identified in the field of SLP and other health care professions.

**Barriers to evidence-based practice in health service professions and speech-language pathology.** Obstacles to SLPs incorporating evidence into their practices have been identified and remain consistent throughout several studies. These include: 1) clinician unfamiliarity with EBP, 2) clinician inability to apply the evidence to their clinical settings, 3) lack of time to examine the literature base, and 4) limited access to the evidence (Elliot, 2004; Mullen, 2005; Nelson, Steele & Mize, 2006; O’Connor & Pettigrew, 2009; Pollock, Legg, Langhorne & Sellars, 2000; Vallino-Napoli & Reilly, 2004; Zipoli & Kennedy, 2005). One study noted that the only predictor of the use of EBP in clinical practice after graduation included exposure to research and principles of EBP during the Clinical Fellowship Year (CFY; Zipoli & Kennedy, 2005). Studies noting obstacles to EBP in SLP are primarily rooted in survey
methodology and tend to examine factors according to aspects of the clinician experience with EBP. The examination of factors related to the organizations in which these SLPs practice such as physical resources and managerial support to engage in EBP has not previously been explicitly studied.

As noted, barriers to evidence-based practice in SLP and other health care professions are many. Overcoming these barriers to EBP is a significant challenge and has led to the emergence of a new discipline, Implementation and Dissemination Science. Implementation and Dissemination Science has its roots in several psychological theories. Implementation and Dissemination Science is influenced by the Theory of Reasoned Action (Ajzen & Fishbein, 1980), the Technology Acceptance Model (Davis, 1989), the Theory of Planned Behavior (Ajzen, 1991), the Innovation Diffusion Theory (Rogers, 2003), and Social Cognitive Theory (Bandura, 1988; Miller & Dollard, 1941).

For example, factors that may influence clinician behavior change toward clinical guidelines such as the clinician’s intention to change behaviors, the perceived ease of adherence to the guideline as determined by the clinician, and the influence of social aspects all impact human behavior to some degree according to the Theory of Planned Behavior, the Technology Acceptance Model, and Social Cognitive Theory. Similarly, Innovation Diffusion Theory outlines what is required in order to influence knowledge spread to large populations. Application of these theories within this new discipline has led to improved health care outcomes for typical health care consumers (Gitlin, Jacobs & Earland, 2010; Nichols, Martindale-Adams, Burns, Graney & Zuber, 2011).
Section Two: Implementation and Dissemination Science

Generally, Implementation and Dissemination Science consists of methods to assure the use and uptake of evidence-based programs and other innovations with fidelity and benefit to typical consumers (http://nirn.fpg.unc.edu/about-nirn). In order to distinguish Implementation Science from other research areas, definitions of objectives of current treatment research is required. The leading group of clinical scholars in the field of SLP concerning adults with cognitive-communicative disorders is the American Academy of Neurologic Communication Disorders and Sciences (ANCDS). This group has endorsed specific definitions of treatment research in their development of practice guidelines within the cognitive-communicative disorder community, and these will be discussed below (Golper, Wertz, Frattali, Yorkston, Myers et al., 2001).

In treatment outcomes research, one observes a certain behavior at one point in time and then again at another point in time. Changes in outcomes could be the result of time, a specific intervention, or both. It is important to note that outcomes research such as a pre-test, post-test measurement, do not necessarily equate to efficacy standards.

In treatment efficacy research, the main research question is, can the treatment work? Is the treatment active within a specific population as administered under ideal conditions? The treatment context is highly controlled and results of efficacy studies may not be generalized to individuals, but only to the specific population of study (Wertz & Irwin, 2001). A treatment should be considered efficacious prior to the initiation of treatment effectiveness work. Establishing the efficacy of a treatment is a beginning step toward further work for which to determine effectiveness for a broader population.

A treatment effectiveness study asks the question, does the treatment work in a real-world
setting? (Robey & Schulz, 1998). Furthermore, an efficiency treatment study is concerned with the optimal dosages of an effective treatment to minimize waste (time, money, resources) and maximize therapeutic benefit. Measures such as cost-benefit, cost-effectiveness and cost-utility are often used within efficiency studies.

An implementation study asks different questions such as what are the characteristics of the health care provider delivering the intervention and what are characteristics of the organization that impact delivery of the evidence-based practice? These and additional questions are outlined in the Table 1 below.

In a review of the Implementation Science literature, Fixsen and colleagues (2005) identify six stages of progression that an intervention may pass through when the goal of the research is translation into a community setting, such as a skilled nursing facility, hospital, or school. First, the researcher explores the potential setting in which the intervention may be translated. Considering factors such as potential adaptations, available staff, and overall readiness of the facility to accept such implementation of an intervention, the implementation site is then identified.

Next, the intervention or program is initially installed into the community setting, with specific attention to staff training, coaching and core, critical components of the intervention that are identified a priori. In the third stage, the intervention is implemented, and by the fourth stage, the intervention or program is in full operation. The fifth stage of implementation involves the consideration of changes or adaptations that may be necessary based on local contextual factors, and finally, the last stage of implementation is concerned with the sustainability or maintenance of the intervention after the formal implementation has been completed.
Table 1

*Implementation Science Research Questions, Adapted from Damschroder, et al., 2009*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinician individual characteristics</td>
<td>What is his/her intellectual ability? What is his/her learning style? What is his/her motivation for being a health care provider?</td>
</tr>
<tr>
<td>Organizational characteristics</td>
<td>What is the organizational climate and structure? Is there tension within the organizational structure for change? What is the leadership like? Are there other specific barriers or facilitators within the organization as to implementation of the intervention? Is there any incentive to adopt the intervention?</td>
</tr>
<tr>
<td>Intervention packaging</td>
<td>What is the physical packaging of the intervention? Are treatment protocols and treatment fidelity checks available?</td>
</tr>
<tr>
<td>Health care providers’ perception of the intervention</td>
<td>What is his/her perception of the “evidence?” Can that change?</td>
</tr>
<tr>
<td>Intervention characteristics</td>
<td>What makes the intervention the intervention? What are the changeable elements of the intervention versus the unchangeable elements? How much can this intervention be modified to meet local needs?</td>
</tr>
<tr>
<td>Intervention sustainability</td>
<td>What resources are required to maintain the effects of the intervention? How to sustain it? Would a purveyor or change agent be helpful?</td>
</tr>
<tr>
<td>Health care provider training</td>
<td>Is it online? Is it a one-day seminar? Is it with readings and tests? Is it with onsite coaching and follow-up support?</td>
</tr>
<tr>
<td>Health care consumer (patient) perceptions of the intervention</td>
<td>Is the intervention readily acceptable and valuable to patients and family members?</td>
</tr>
<tr>
<td>Policy issues</td>
<td>What is the impact of policy on the delivery of the intervention including government and local facility policy?</td>
</tr>
<tr>
<td>Laws?</td>
<td></td>
</tr>
<tr>
<td>Facility policy?</td>
<td></td>
</tr>
<tr>
<td>3rd party payer reimbursement?</td>
<td></td>
</tr>
</tbody>
</table>

When implementing an evidence-based practice into the community, critical measurement issues have been identified (Glasgow, 2009). Six levels of inter-related, dynamic, multi-dimensional potential outcomes may be measured according to the “Who,” “What,” “Where,” and “Why” of the practice to be implemented. Furthermore, issues such as treatment fidelity or how consistently the evidence-based practice is implemented, and the maintenance of
the practice over time are also addressed within these critical areas of measurement for implementation research. More details describing such measurement considerations are highlighted in Table 2 below. Questions such as these posed in Table 2 have been studied to improve service provision in other health care disciplines (Gitlin et al., 2010; Nicohls et al., 2011) and are applicable to the provision of Speech-Language Pathology services.

Table 2

<table>
<thead>
<tr>
<th>Measurement issue</th>
<th>Explanatory questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who</td>
<td>Implementation research is concerned with who is using the evidenced-based intervention. Which type of staff is available for training in the intervention and within what type of organization are they part? (school, hospital, skilled nursing facility) Did all of the staff participate in the push towards implementation of the intervention? Why or why not? What type of patient or consumer used the intervention and were these typical users of the intervention?</td>
</tr>
<tr>
<td>What</td>
<td>What were the outcome measures when the intervention was taken from a lab environment and implemented into a community setting? What were the unintended outcomes? Were there negative outcomes? Was there an impact on quality of life? Considering specific dependent variable, how much change was observed based on implementation of the intervention?</td>
</tr>
<tr>
<td>Where</td>
<td>In what types of community settings is this intervention likely to be successful? What are characteristics of the staff and residents or clients that are associated with best success of the implementation of the intervention?</td>
</tr>
<tr>
<td>Why</td>
<td>Why did we find the results as stated in item 2? What were the mediators causing the change? What specific, local contextual factors should be considered?</td>
</tr>
<tr>
<td>Fidelity</td>
<td>How consistently was the intervention delivered? How was this assessed? Did this differ across different components of the intervention or across various practitioners or staff? How was this assessed throughout the intervention implementation? Were there changes over time?</td>
</tr>
<tr>
<td>Maintenance</td>
<td>How long lasting were the effects of the implementation of the intervention over time? Did the intervention continue? Was it modified or discontinued?</td>
</tr>
</tbody>
</table>

The promoting action on research implementation in health services (PARIHS) framework. A conceptual model that can be used to systematically address the difficulty of implementing evidence-based practices in the health care service professions is the Promoting
Action on Research in Health Services Framework (PARIHS) (Kitson, Rycroft-Malone, Harvey, McCormack, Seers & Titchen, 2008; Kitson, Seers & Titchen, 1998; Rycroft-Malone, 2004). The model proposes the integration of three important aspects, all of which need to be favorable in order to enable the implementation of any evidence-based practice. These three critical components include: perceptions of the evidence, organizational context, and the availability of facilitating systems to support and sustain the practice. Each of the three aspects has several subcomponents including, for example, leadership support, and available resources. Figure 2 provides a hypothesized visual depiction of the items needed for successful implementation of evidence-based practices. This model has been used to facilitate the uptake of evidence-based practice in several areas of nursing care by accounting for the clinician’s perception of evidence and factors of the organizational context that may impact evidence-based practice delivery (Brisebois & Doyon, 2010; Brown & McCormack, 2005; Estabrooks, Squires, Cummings, Teare & Norton, 2009;).

It is difficult to ascertain where to intervene within the system of health care service delivery if baseline measures across multiple levels of the organization are not in place. In a critical synthesis of the literature completed by a research team independent of the original PARIHS framework scientists, suggestions to improve such baseline measure are provided (Stetler, Damschrdoer, Helfrich & Hagedorn, 2011). For example, within the PARIHS model, perceptions about the value of a specific evidence-based practice from the delivering clinician’s perspective as well as administrator’s and manager’s perspectives are considered. The clinician delivering the treatment is able to express his or her clinical experience and opinion of the practice in terms of his or her prior knowledge, perception of resources and leadership support, as well as his or her perceived ability to implement the evidence-based practice correctly. This
latter concept is referred to as self-efficacy. Attention to the clinician’s perception of these factors may increase stake in the process, a factor associated with successful implementation of evidence-based practice (Stetler et al., 2011).

Figure 2. Successful Implementation of Evidence Based Practice Based on the Promoting Action on Research Implementation in Health Services Framework, Adapted from Kitson et al., 2008

Similarly within the PARIHS framework, aspects related to the context in which the evidence-based practice is being implemented are considered across the clinician and related organizational members, such as opinion leaders and management. Contextual factors such as perceptions of organizational culture, perceptions of clinical innovation, and perceptions of the availability of resources in terms of time, money, training and human support are measured (Helfrich, Li, Sharp & Sales, 2009; Stetler et al., 2011). Further details of these hypotheses and items will be explained in subsequent portions of this review.
The PARIHS model is designed to examine factors related to successful implementation of one specific evidence-based practice in one specific setting. For the purposes of this study, the specific organization is that of skilled nursing facilities and the specific practice is the use of non-electronic external memory aids for residents of those facilities with dementia. The *Organizational Readiness to Change Assessment* (ORCA) is an instrument designed to quantitatively assess aspects within the PARIHS framework related to the above-mentioned one-specific organization and one specific practice (Helfrich et al., 2009). Results of one study in the health care professions provide preliminary support for the use of the ORCA to measure organizational factors that appear to influence successful implementation of evidence-based practices (Hagedorn & Heideman, 2010). In the study, health care professionals who implemented more elements of an evidence-based program demonstrated significantly higher scores on the patient experience and leadership culture items on the Evidence and Context Scales of the ORCA providing preliminary predictive validity of the scales. These items will be further described in Section Three of this literature review.

**Implementation and dissemination science in aging and dementia services.**

Techniques of Dissemination and Implementation Science have been successful in improving service provision in Occupational Therapy and Psychology, among other disciplines, by including the researcher, the organization, and the clinical provider of services as equal stakeholders. Examples of such benefits include improved patient outcomes, clinician or practitioner satisfaction, and increased efficiency of services (Gitlin et al., 2010; Nichols et al., 2011).

The important contribution of organizational factors to the successful implementation of evidence-based practices has been studied in nursing and stroke rehabilitation. Issues of
organizational structure, culture, and resources have been studied and do impact the implementation of evidence-based practices in other health care professions such as critical care nursing and provision of rehabilitation services for patients who have sustained a stroke (Bayley, Hurdower, Richards, Korner-Bitensky, Wood-Dauphinee, et al., 2012; Jensen, 2011). In addition to barriers such as time, knowledge, and access to information, factors such as a negative organizational culture, lack of team building and lack of necessary equipment may impede evidence-based practice in health care settings (Bayley et al., 2012). Also, communication problems among clinicians, managers and administrators within varying health care disciplines such as Nursing, Occupational Therapy and Physical Therapy contributed to barriers in evidence-based practice implementation (Bayley et al., 2012). Indeed, employees of mental health service organizations who worked in proficient, engaged, and low stress organizational cultures displayed more positive attitudes toward evidence-based practices than those employees that did not (Aarons, Glisson, Green, Hoagwood, Kelleher & Landsverk, 2012).

Nichols et al. (2011) specifically studied the effects of the translation of an evidence-based caregiver intervention for patients with dementia within the Veteran’s Administration (VA) system. The intervention addressed five areas of risk for caregivers of patients with Alzheimer’s dementia including safety, social support, problem behaviors, depression, and caregiver health. The intervention consisted of nine, 1-hour home visits, three, ½ hour phone visits and five, 1-hour phone group support meetings with the hopeful outcome of reducing caregiver burden and depression symptoms and increasing caregiver health and self care. Based upon previously successful randomized controlled clinical trials supporting the intervention in a more controlled setting, (e.g. Belle, Burgio, Burns et al., 2006) the work of Nichols and colleagues (2011) supported the translation of benefits when provided in a home health setting.
Results of this large scaled work supported clinically significant benefits in terms of reduced depression and burden on the caregivers of these residents with dementia. The intervention was delivered by typical VA clinicians in the patients’ homes, and featured techniques of Implementation and Dissemination Science such as coaching and situation-specific training. The intervention was ultimately successfully adopted by 24 VA facilities, and benefits were maintained at a 6-month follow-up.

Another example of successful implementation of an evidence-based intervention into a community setting is a detailed skill management program delivered by occupational therapists (OTs) that was supported by randomized controlled trials in the past (Gitlin, Jacobs, & Earland, 2003). This intervention, called Skills 2 Care, was later translated into a home health agency private practice (Gitlin et al., 2010). Delivered in a patient’s home by an OT, the program was additionally integrated into OTs’ current therapy workflow to allow the program to be reimbursed by Medicare part B. The intervention itself consists of custom-tailored interventions for home safety (including decluttering the environment), reducing problem behaviors through problem-solving strategies and enhancing overall communication (Gitlin et al., 2010).

Results of Gitlin’s work (Gitlin et al., 2010) indicated continued positive patient outcomes even though the intervention was delivered by typical OTs in a typical community setting. The majority of the clinicians were satisfied with the treatment and intended to use the treatment even after the end of the study. The study also highlighted features of successful implementation of evidence-based practices including organizational buy-in, the use of treatment protocols and continued coaching and situation specific training as outlined below (Gitlin et al., 2010).

In terms of organizational buy-in, for example, Gitlin and colleagues found that having a
dedicated community setting based coordinator and early adopters of the intervention to be helpful in the successful translation of the program. In this study, agreement of participation and OTs who volunteered served as markers for such buy-in. Fidelity monitoring in the form of treatment protocol review and caregiver surveys in terms of treatment delivery, treatment receipt and treatment enactment also contributed to the successful translation of this program. Finally, coaching in terms of three individual phone calls with each trained therapist and five monthly group phone calls to discuss difficult cases and reinforce core components of the treatment also contributed to the successful translation of this program into a community setting (Gitlin et al., 2010).

A recent review of initiatives designed to attend to the multilevel influences required for successful implementation of evidence-based programs into community settings is also available in the cancer care literature (Yano, Green, Glanz, Ayanian, Mittman et al., 2012). The review highlights the importance of addressing multiple levels in the organization to promote the successful uptake of evidence-based programs such as a skin cancer prevention program, a colorectal screening program, a depression intervention program, and a tobacco control program (Yano et al., 2012). Although individual differences among programs are present, the emphasis of partnerships across varying levels of the organization (managers, providers, nurses) is noted among all of the programs. Perhaps different in scope and topic, the above examples share attention to not only factors concerning the clinician delivering the evidence-based practice or program, but also factors concerning the organization such as financial resources, quality control, and organizational culture.

Section Three: The Problem, the Organization, and the Practice

The problem of dementia. Although sourcing methodologies may vary, it is undisputed
that dementia is a significant public health concern for Americans (Brookmeyer, Evans, Hebert, Langa, Heeringa et al., 2011; Mebane-Sims, 2009). It is estimated that the management of dementia in the United States costs over 200 billion dollars considering Medicare/Medicaid claims, decreased work productivity due to the disease, and the unpaid salaries of over 10 million dementia caregivers in the United States (Mebane-Sims, 2009). Dementia from various causes such as Alzheimer’s disease, vascular dementia, fronto-temporal disorders and Lewy body disease results in the loss of cognitive functioning, and consequences of such cognitive loss are often life-changing for the individual and family members (http://www.nia.nih.gov/alzheimers/topics/other-dementias). It is estimated that around 5 million Americans have Alzheimer’s dementia, and this number is projected to increase to between 11 and 16 million by the year 2050 (Mebane-Sims, 2009).

Although dementia varies widely in severity from mild problems to total dependence on a caregiver, typical consequences of the disease include loss of problem solving ability, loss of reasoning ability, loss of language, loss of memory and an increase in maladaptive behaviors (http://www.nia.nih.gov/alzheimers/topics/other-dementias). Total dependence on a caregiver for activities of daily living may result in a person with dementia requiring the services of a skilled nursing facility or nursing home (Lann-Wolcott, Medvene & Williams, 2011). It is estimated that of the 1.5 million Americans residing in the 16,100 nursing homes in the United States, the overall prevalence of dementia is 52.58% (Kamble, Chen, Sherer & Aparasu, 2009). Indeed, dementia is among the most common psychiatric disorders for people living in long-term care (Seitz, Puranndare & Conn, 2010).

These large numbers point to the need for effective and efficient services for individuals with dementia in the United States. Although caring for individuals with dementia in skilled
nursing facilities may result in numerous challenges for the health care worker, the best chance of optimizing patient outcomes for residents with dementia is for health care personnel to engage in evidence-based treatments and management (Gitlin, Earland & Piersol, 2010).

The organization, skilled nursing facilities (SNFs). Skilled nursing facilities (SNFs) are buildings that house residents with a variety of diagnoses for rehabilitation services after a hospitalization or for long-term, chronic care. These individuals are often referred to as residents as they remain in the building during their care. SNFs are typically staffed with several health care workers including Certified Nursing Assistants, Licensed Practical Nurses, Registered Nurses, Social Workers, and Physical and Occupational Therapists and Speech-Language Pathologists. Skilled nursing facilities also have an important leadership structure in terms of policies and organizational culture, and ultimately clinical practice.

Nursing home administrators are responsible for the knowledge and expertise in management of the frail geriatric and other long-term care residents. Other relevant responsibilities of the administrator include consideration of the resident’s care and quality of life, communication between management and staff (in the form of coaching, counseling), the development of quality resident care programs, and the assurance that a rehabilitation program is planned, implemented and evaluated to maximize a residents’ optimal level of functioning (www.achca.org).

Directors of nursing also work in SNFs. These individuals are typically registered nurses (RNs) that are responsible for the overall coordination and execution of nursing services, and the monitoring and evaluation of the outcomes of nursing care (www.achca.org). Nursing directors may employ unit nursing managers that may be responsible for more day to day supervision of nursing activities. Certified nursing assistants (CNAs) also report to the unit nursing manager or
the director of nursing. Nursing staff are often times responsible for the day to day implementation of SLP recommendations concerning swallowing or cognitive-communicative deficits of residents.

Within this leadership structure, there is often a senior level manager of rehabilitation services responsible for the management of rehabilitation professions (including SLP) within a specific district. An on-site Facility Director of Rehabilitation is responsible for the day to day planning, organizing, directing, budgeting, training, work review, counseling, and disciplining of Physical Therapists, Occupational Therapists, Speech-Language Pathologists and support personnel within the facility. This on-site director of rehabilitation is typically a licensed rehabilitation professional in any of the above-mentioned disciplines, sometimes with further training in business management. The on-site director of rehabilitation is usually employed full-time with the facility.

**Roles and responsibilities of SLPs in skilled nursing facilities.** Around 38% of SLPs are employed with in the health care field, and of that number, about 10% are employed full-time in SNFs (Brook, 2012). This number is likely higher, secondary to the common trend of SLPs working in other areas full-time (schools, hospitals), and then working a few hours as needed in SNFs.

SLPs in SNFs are responsible for the clinical management of individuals with both cognitive-communicative and swallowing disorders. Specific to cognitive-communicative disorders, SLPs are responsible for the assessment, treatment, counseling and education of individuals and caregivers possessing such deficits (Knowledge and Skills, ASHA, 2005). The SLP is additionally required to collaborate with other professionals and engage in prevention, advocacy and research activities as able.
Specific to SNF settings, responsibilities include educating other staff, especially certified nursing assistants (CNAs) to follow through with specific recommendations concerning a resident’s cognitive-communicative status. As mentioned, CNAs report to unit nursing managers and the director of nursing. The role of the SLP in the SNF evolved with the passing of the Omnibus Budget Reconciliation Act (1987). It was then required of employees to evaluate the physical and psychological capabilities of residents of SNFs, now known at the Minimum Data Set (MDS). “Although the law did not require that judgments about hearing and communicative function be made by SLPs, the inclusion of questions on the MDS about hearing, speech, and language helped establish a role for SLPs with long-term care residents, and many SLPs were employed by nursing homes. Even still, SLPs have struggled to gain recognition as the professionals best qualified to evaluate communicative function” (ASHA Technical Report, 2005, p. 2 and 3). Although a 2007 Health Care Survey noted that about 25% of SLPs in SNFs do not feel valued by other disciplines or administration (http://www.asha.org/careers/), there is scientific support for the intervention of cognitive-communicative disorders by SLPs for people and caregivers with dementia in SNF settings.

The practice, non-electronic external memory aids for residents with dementia and their caregivers. One of the most effective interventions that SLPs can use in the SNF environment with residents who have dementia is the use of non-electronic external memory aids (Andrews-Salavia, Roy & Cameron, 2003; Bourgeois, 1992, 1993, 1997, 2001; Eagan, Berube, Rancine, Leonard, & Rochon, 2010; Sohlberg & Mateer, 2001). Non-electronic external memory aids boast a strong level of evidence to promote positive communicative interactions and decrease behavioral problems for the treatment of cognitive-communicative disorders of dementia. The use of non-electronic external memory aids are considered an acceptable practice
A guideline for SLPs to support memory for communicative acts in other cognitive-communicative diagnoses attributable to brain injury as well (Sohlberg, Kennedy, Avery, Coehllo, Turkstra, Ylvisaker & Yorkston, 2007).

External memory aids in the form of visual schedules and reminders with large print, memory wallets with pictures or family scrapbooks with important events rely on context, preserved memory, and caregiver integration of the external memory aid at appropriate times. Training the caregiver according to a specific manualized intervention results in enhanced communication, increased conversational turn-taking, decreased repetitive requests and an overall improved balance to the conversation (Andrews-Salavia, Roy & Cameron, 2003; Bourgeois, 1992, 1993, 1997, 2001; Brush & Camp, 1998; Burgio, Allen-Burge, Roth, Bourgeois, Dijkstra, Gerstle, Jackson & Bankester, 2001; Hoerster, Hickey & Bourgeois, 2001; Sohlberg & Mateer, 2001). These interventions have the most robust effects when used in SNFs with residents with moderate dementia. Typically, a dyad between a resident with dementia and a certified nursing assistant is the target of the intervention.

Use of non-electronic memory aids have also been shown to decrease specific problem behaviors when the aid is readily available and the caregiver is prompted to use the aid at the appropriate time. In order for non-electronic memory aids to be maximally effective, they must be matched with the person with dementia’s deficits in terms of font size and topics of interest (Bourgeois, 2007). See Appendix 1 for examples of non-electronic external memory aids.

Non-electronic external memory aids are inexpensive, easy to use, and fit into current billable codes as prescribed by Medicare, Part B. Additionally, as staff in SNFs are often faced with behavioral problems among residents with dementia, a scientifically supported, non-pharmacological intervention is welcome (Kolanowski, Fick, Frazer & Penrod, 2010). Indeed,
some suggest SNFs are overusing antipsychotic drugs to manage behavioral problems for people with dementia resulting in potentially increased cognitive impairment or even death (Gebhart, 2011).

**Quantifying actual use of non-electronic external memory aids.** Although the use of external memory aids as delivered by SLPs to residents with dementia is a scientifically supported practice, the literature at large concerning the difficulties of transferring evidence-based practices into typical clinical settings leads one to question whether or not all SLPs are routinely using external memory aids. Indeed, current data do not exist regarding the frequency of SLP actual use of non-electronic external memory aids for residents with dementia in SNFs. An important question is how to know if an SLP is actually using non-electronic external memory aids for residents with dementia in SNFs.

Although not necessarily feasible, the surest way to know if SLPs are using non-electronic external memory aids for residents with dementia in SNFs is through direct observation. Other ways to determine actual use of a practice are documentation review, treatment protocol review, or supervisor or self-report (Eccles, Hrisos, Francis, Kanner, Dickinson et al., 2006; Gitlin et al., 2010, Nichols et al., 2011). Due to the preliminary nature of the present study, SLP self-report as quantified by estimation of percentage of use was used as the outcome variable. Finally, an SLPs’ projected use or intention to use non-electronic external memory aids for residents with dementia in SNFs was also measured as a outcome variable.

**Intention to use non-electronic external memory aids.** It is theoretically well-accepted that a person’s intention to use a behavior is the best and most immediate predictor of their actual behavior (Ajzen, 1991; Godin, Belanger-Gravel, Eccles & Grimshaw, 2008). Results of a systematic review noted that this same relationship was also present in terms of health care
professionals (Godin et al., 2008). The researchers completing the review proposed that there is a predictable, reliable but not perfect, relationship between the intentions of a health care professional and their subsequent, actual behavior (Eccles et al., 2006). Of the studies reviewed by Godin and colleagues (2008), most studies used a Likert scale rating to assess intention to use a behavior after some type of continuing education or academic detailing. Actual behaviors in the review were measured via direct observation, clinician report, patient report, or documentation of behavior.

Intention to use measures are based heavily from the self-efficacy and the Theory of Planned Behavior literature (Bandura, 1997; Luszczynska, Schwarzer & Guiterrez-Dona, 2005; Schwarzer & Jerusalem, 1995). An individual is more likely to participate in behaviors that are perceived as “easy” or low effort, and for which they have positive attitudes and high amounts of perceived control. Individuals are also more comfortable engaging in behaviors in which they are confident they are performing the behavior correctly and to the expectations of outside individuals. The use of such psychological models to measure intention to use a behavior may facilitate research uptake and reduce the gap between research and practice in health-care (Bonetti, Johnston, Pitts, Deery, Francis, Kaner, Ricketts, Bahrami, Ramsay & Johnston, 2003).

**Section Four: Study Aims and Research Questions**

The long-term goal of the proposed work, for which this study is a first step, is to assess the usefulness of the PARIHS model in determining facilitators and barriers to the use of EBP by SLPs. Prior to developing and evaluating such facilitative methods, it is important to be able to quantify and understand the various factors that impact a clinician’s adoption of an evidence-based practice such as perceptions of the evidence, organizational culture, resource availability, management and local practice expectations. In the present study, the influence of these factors
on the use of one evidence-based practice, non-electronic external memory aids for residents with dementia in SNFs, was assessed.

As gleaned from the literature review above, a well-documented and substantial gap between the development of the evidence and its use in everyday clinical practice is present (Green, 2009). Although previous research has sought to identify the various barriers to the implementation of EBP by SLPs (e.g., Elliot, 2004; McCurtin & Roddam, 2012; Vallino-Napoli & Reilly, 2004), the studies did not adequately address the complex interactions that can either impede or support the adoption of an evidence-based practice outside of the clinician, such as factors related to the organization in which the clinical services are being provided. The present study used an explicit conceptual framework to examine perceptions of the evidence and contextual factors across two levels within the organization including the clinical SLP and Facility Rehabilitation Director (FRD). Such factors may contribute to an SLP’s self-reported use or projected use of non-electronic external memory aids for residents with dementia in a SNF.

Potential associative variables of an SLP’s self-reported actual or projected use of non-electronic external memory aids include perceptions of the scientific research as well as the clinical or other experiences with the treatment. As recommended by prior studies designed to facilitate evidence-based practice uptake, factors related to the whole health care system, such as input from relevant managers, were incorporated (Burke & Gitlin, 2012), in this case the SLPs’ immediate supervisor, the Facility Rehabilitation Director was included.

Additional associative variables of an SLP’s actual or intended use of non-electronic external memory aids for residents with dementia in SNFs include perceptions of contextual support for the practice including issues of staffing, training, resources, leadership support and
organizational culture. Highlighted in Figure 3, it is not only the perceptions of the SLP regarding the evidence that may contribute to use of non-electronic external memory aids, but also the perceptions of managerial staff. In addition to SLP participants, in this particular study, on-site, Facility Directors of Rehabilitation were considered. It is acknowledged that corporate level management may have policies that can support or discourage use of a particular EBP, but clinical experience allows one to assert that local level policies have a greater influence on day to day events. Thus, a decision was made to only include local level managers in the present study.

The three research questions posed below were assessed through a quantitative methodology.

1. Are there mean differences between SLPs’ and FRDs’ perceptions about the evidence for the use of non-electronic memory aids and/or their perceptions about the organizational context within the SNF, as measured by the Organizational Readiness to Change Assessment Evidence and Context scales?

2. Are the perceptions of SLPs about the evidence for the use of non-electronic external memory aids and/or their perceptions about the organizational context within the SNF, as measured by the Organizational Readiness to Change Assessment Evidence and Context scales, associated with SLPs’:
   a) Reported percentage of use of non-electronic external memory aids with residents with dementia in SNFs? and/or
   b) Reported percentage of projected use of non-electronic external memory aids with residents with dementia in SNFs?

3. Are the perceptions of FRDs about the evidence for the use of non-electronic external memory aids and/or their perceptions about the organizational context within the SNF, as measured by the
**Organizational Readiness to Change Assessment** Evidence and Context scales, associated with SLPs’:

a) Reported percentage of use of non-electronic external memory aids with residents with dementia in SNFs? and/or

b) Reported percentage of projected use of non-electronic external memory aids with residents with dementia in SNFs?

Since the long-term goal of this work is to develop, implement and assess methods to support the use of evidence-based practices by SLPs within the PARIHS model, the quantitative approach to the examination of factors which are associated with the use of evidence-based practices by SLPs was complemented with a qualitative inquiry to provide a deeper understanding of the facilitators and barriers to SLP’s use of non-electronic external memory aids with residents with dementia in SNFs. Interview questions were posed according to components of the PARIHS framework, and a final research question addressed the mixed-methods nature of this current study:

4. How do SLPs describe the evidentiary and contextual factors associated with the use of non-electronic memory aids in the SNF setting?

**Hypotheses.** The literature review and conceptual framework led to the following predictions. It was hypothesized that there would be statistically significant mean differences among SLPs and FRDs in terms of their perceptions of the evidence of non-electronic external memory aids for residents with dementia and SNF and the perceptions of organizational context within the SNF. Speech-Language Pathologists would likely have more favorable perceptions of the evidence than FRDs, and less favorable perceptions of the organizational context.
Figure 3. Potential Contributing Factors of SLP Actual or Intended Use of an EBP and relationship to the PARIHS model. Adapted from Kitson et al., 2008; Stetler et al., 2011 Notes. SLP=speech-language pathologist; FRD=facility rehabilitation director; EBP=evidence-based practice; PARIHS=promoting action on research implementation in health services framework.
Furthermore, perceptions of SLPs that were favorable in terms of the evidence for non-electronic external memory aids and favorable in terms of the organizational context in the SNF would be associated with higher percentages of SLP use and projected use of the practice of non-electronic external memory aids for residents with dementia. Similarly, it was hypothesized that perceptions of FRDs that are favorable in terms of the evidence for non-electronic external memory aids and favorable in terms of the organizational context in the SNF would be associated with higher percentages of SLP use and projected use of the practice of non-electronic external memory aids for residents with dementia.

Finally, the qualitative inquiry would provide additional information regarding the facilitators and barriers of the use of non-electronic external memory aids for residents with dementias in SNFs that may not be measured by the Evidence and Context scales of the Organizational Readiness to Change Assessment. Factors such as productivity requirements and other associated fiscal variables may become apparent in such qualitative inquiry. Further, the integration of quantitative and qualitative data would allow for increased understanding of the research questions.
Chapter Three: Methods

Design

As shown in Figure 4, this study utilized a concurrent, triangulation, transformative, mixed-methods design (Creswell & Plano Clark, 2007) to provide insights into the facilitators and barriers to the use of one evidence-based practice by Speech-Language Pathologists (SLPs) working in skilled nursing facilities (SNFs) and to investigate the potential application of the PARIHS framework. The evidence-based practice examined was the use of non-electronic external memory aids with residents with dementia. As this study was guided by a specific conceptual model, a transformative design was fitting (Creswell, 2009; Creswell & Plano Clark, 2007).

Concurrent Transformative Triangulation Design

Figure 4. Visual Depiction of Study Design

Notes. QUAN=quantitative; QUAL=qualitative; PARIHS=promoting action on research implementation in health services framework.
In this study, quantitative and qualitative data were collected concurrently. Quantitative data was collected from Facility Rehabilitation Directors (FRDs) and Speech-Language Pathologists (SLPs) in skilled nursing facilities (SNFs) whose residents include individuals with dementia who are candidates for the use of non-electronic external memory aids. Qualitative data was obtained through the interviewing of SLPs. At the conclusion of data collection, quantitative and qualitative data were analyzed separately, then integrated at the time of data interpretation. A mixed methods approach provided a mechanism in which the research questions were answered in a more comprehensive way, with increased clinical utility (Bryman, 2006; Doyle, Brady & Byrne, 2006).

Participants and Informed Consent

All recruitment and protocols were approved by the Institutional Review Board at the University of South Florida (see Appendix 4). Due to the nature of the research questions, study participants were SLPs and FRDs working in a Skilled Nursing Facility. Speech-Language Pathologists were asked to report hours per week working in their current facility; and, they were included if they worked any amount of time per week within that facility. Participants were recruited in two ways. First, participants were recruited based upon personal contacts of this author due to her clinical experience. In these cases, a snowball sampling methodology was used as the primary investigator gave contact information to personal contacts for those contacts to forward to potentially interested participants. This resulted in approximately 25 potential contacts in this recruitment phase. Secondly, materials were mailed to every Speech-Language Pathologist and Facility Rehabilitation Director in every SNF in the state of Florida. Addresses for each facility were available through the Florida Agency for Health Care Administration (ACHA) public listing of SNFs. A total of 1352 letters (676 facilities) were mailed to the Facility
Rehabilitation Director and the Speech-Language Pathologist of each facility. At 1 ½ weeks, a reminder letter indicating the date of data collection closure for this project was sent to each potential participant. Recruitment ceased for the quantitative portion of the study 2 ½ weeks after the mailing date. The first SLPs who agreed to participate in the quantitative portion of the study were also asked to participate in a semi-structured interview whose results would contribute to the qualitative portion of the study. Consecutive participants were asked to participate in the semi-structured interview until five SLP participants had completed the interview.

Participants in the quantitative portion of the study chose whether to complete the measure electronically or on paper. If the participant chose to complete the measure electronically, they were provided a unique, secure link to the measure via Survey Monkey. Participants noted their informed consent at the first question of the electronic version of the measure. Participants in the quantitative portion of the study who chose to complete the measure on paper were provided the survey via mail along with stamped envelopes addressed to the primary investigator for return. Informed consent documents were mailed along with the surveys, and participants were instructed to review those documents and only participate if they wanted to volunteer. Signed consent was not collected to protect the anonymity of the participants. No participant names were used, and facility information was coded, without names. All other potentially identifying information was changed or coded for the protection of the participants.

The Primary Investigator verbally reviewed the informed consent documents with participants who completed the qualitative portion of the study over the phone. Participants were then able to verbally agree to participate and agree to the audio recording of the conversation for further data analysis.

As all participants in this study were either SLPs or FRDs in SNFs, one may assert that
participants were literate and possess some form of post high-school education. Therefore, adequate comprehension of the measures, including informed consent and instructions, was assumed to have been achieved.

**Instrumentation/Procedures for Quantitative Data Collection**

Measures used to collect the quantitative data for this study were: 1) A brief questionnaire; 2) Two questions for the SLP participants relating to percentage of actual and projected use of non-electronic external memory aids in treatment of residents with dementia; and 3) the Evidence and Context scales of the *Organizational Readiness to Change Assessment* (Helfrich et al., 2009).

**Questionnaire data.** Descriptive data about facilities was collected from the FRDs by asking them to report information about facility characteristics such as profit status, chain status, number of certified beds, and percentage of occupancy of beds (Bonifas, 2009; Tian, Dejong, Horn, Putman, Hsieh & DaVanzo, 2012). In addition, FRDs reported years of professional experience in current facility, and years of professional experience in the SNF industry as a whole. Further demographic information was not collected to protect the anonymity of participants.

Descriptive data from Speech-Language Pathologist participants was also collected by asking them to report years of experience as an SLP, years of experience in SNF setting, years of experience in current facility, number of hours per week working in any SNFs, and number of hours per week working in the current SNF building. Facility characteristics were not collected from SLP participants. Further demographic information was not collected to protect the anonymity of participants.

**Self-reported percentage of use of non-electronic external memory aids.** As discussed
in the literature review, current data do not exist regarding the frequency of SLP actual use of non-electronic external memory aids for residents with dementia in SNFs. The surest way to know if SLPs are using non-electronic external memory aids for residents with dementia in SNFs is through direct observation of use. For the purposes of the present study, this was not feasible. Alternatives to determine actual use of a practice include documentation review, treatment protocol review, or supervisor or self report (Eccles et al., 2006; Gitlin et al., 2010, Nichols et al., 2011). For the purposes of this study, the SLP’s use of non-electronic external memory aids with residents with dementia was measured in terms of percentage of self-reported use in cases of people with dementia in the last six months. Participants were asked to estimate the number somewhere between 0 and 100%. Pictures of common non-electronic external memory aids were provided to the SLP participants to ensure clarity and are shown in Appendix 1.

**Intention to use non-electronic external memory aids.** The SLP’s projected use or intention to use non-electronic external memory aids for residents with dementia in the next six months was also measured. It is accepted that the strongest predictor of behavior change is the strength of a person’s intention to engage in that behavior (Ajzen, 1991; Godin et al., 2008). SLP participants were asked to estimate their projected use of non-electronic external memory aids in cases of people with dementia in the next six months between 0 and 100%.

**The organizational readiness to change assessment (ORCA; Helfrich et al., 2009).**

All FRD participants and SLP participants were administered the Evidence and Context scales of the *Organizational Readiness to Change Assessment* (ORCA). The ORCA is a measure designed to assess organizational readiness to change when attempting to implement a specific, evidence-based practice into an organization. The ORCA includes three scales corresponding to the Promoting Action on Research Implementation in Health Services (PARIHS) framework. The
Evidence scale of the ORCA was designed to measure the strength and nature of the evidence for the practice change (as perceived by stakeholders), the Context scale assesses the quality of the organizational context to implement the practice, and the Facilitation scale helps determine the capacity for the organization to implement the practice change (Helfrich et al., 2009). The present study used the Evidence and Context scales as the reported or projected percentage of use of non-electronic external memory aids relates to a practice that may or may not already be in place, not a new practice to be implemented. Please see Appendix 1 for the actual quantitative measures administered to SLP and FRD participants.

**Evidence scale of the ORCA.** The Evidence scale consists of 13 total items across four subscales. The first subscale consists of two items that measure the participant’s opinion of the strength of the evidence and any differences between the individual’s opinion and the opinion of their coworkers. The three additional subscales assess clinical experiences with the practice, patient experiences, needs and preferences concerning the practice, and local information concerning the practice (Hagedorn & Heideman, 2010; Stetler et al., 2011). These items are assessed by asking participants to rate agreement or disagreement, scored on a 5-point Likert scale, where “1” indicates strongly disagree and “5” indicates strongly agree. All of the items of the Evidence scale were averaged to obtain an evidence score for each participant. Mean scores may range anywhere from “1” to “5” with “5” indicating high or favorable perceptions of evidence. Items were slightly adapted in certain instances according to the research questions and for reader ease, such as inputting the word “facility” for “organization.”

**Context scale of the ORCA.** The Context Scale consists of 23 total items across six subscales. Two of the subscales assess the leadership and staff culture of the organization. The remaining four subscales assess leadership practices, leadership feedback, readiness to change
among opinion leaders, and the perception of resources to support any changes in practice (Haegdorn & Heideman, 2010; Stetler et al., 2011). As above, participants were asked to rate agreement or disagreement, scored on a 5-point Likert scale, where “1” indicates strongly disagree and “5” indicates strongly agree. All of the items of the Context scale were averaged to obtain a Context score for each participant. Mean scores may range anywhere from “1” to “5” with “5” indicating high or favorable perceptions of the organizational context. As in the Evidence scale, items were slightly adapted in certain instances according to the research questions and for reader ease.

**Reliability and validity of the ORCA.** During development of the ORCA, the reliability of the Evidence and Context Scales were assessed with Cronbach alpha coefficients. The Evidence Scale obtained a Cronbach alpha of .74 and .85 for the Context Scale (Helfrich et al., 2009). A study demonstrating predictive validity of the scales was also promising in terms of clinician behavior change toward recommended practice guidelines (Haegdorn & Heideman, 2010).

**Instrumentation/Procedures for Qualitative Data Collection**

The first SLPs to volunteer were asked to participate in semi-structured, telephone interviews until five SLPs completed the interview. A semi-structured format allowed for the primary investigator to ask appropriate follow-up questions as indicated (Patton, 2002). Eleven interview questions based upon specific elements of the PARIHS framework and adapted from Stetler and colleagues (2011) and Kitson and colleagues (2008) are shown in Appendix 2.

All interviews were audio recorded. All participants verbally agreed to the recording. The interviews were then transcribed verbatim by the experimenter to allow for further data analysis. Twenty percent of interview transcripts were transcribed by co-chair JH. These transcripts were
compared with the primary investigator for point-to-point reliability of transcripts. Point to point reliability of transcripts was 94%.

Table 3

A-priori Codes for Qualitative Data

<table>
<thead>
<tr>
<th>Code (Abbrev)</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EvR&amp;PG</td>
<td>Evidence: Research &amp; Practice Guidelines</td>
<td>Mention findings from research including practice guidelines</td>
</tr>
<tr>
<td>EvClinExp</td>
<td>Evidence: Clinical Experience</td>
<td>Experiences using the EBP; positive/negative experiences using EBP and others’ reactions to its use</td>
</tr>
<tr>
<td>EvPtExp</td>
<td>Evidence: Patient experiences, needs, and preferences</td>
<td>Patient-related information about patient perceptions of the EBP</td>
</tr>
<tr>
<td>EvLocalPrac</td>
<td>Evidence: Local practice information</td>
<td>Local data availability; local data collection on use of EBP</td>
</tr>
<tr>
<td>EvOtherChar</td>
<td>Evidence: Other characteristics of the targeted EBP</td>
<td>Advantages/disadvantages for use of EBP</td>
</tr>
<tr>
<td>ConLeader</td>
<td>Context: Leadership Support</td>
<td>Behaviors, attitudes, or actions of leaders affecting use of EBP</td>
</tr>
<tr>
<td>ConCulture</td>
<td>Context: Culture</td>
<td>Values and beliefs of clinician that affect use of EBP</td>
</tr>
<tr>
<td>ConEval</td>
<td>Context: Evaluation capabilities</td>
<td>Ability to produce needed data about use/benefit of EBP</td>
</tr>
<tr>
<td>ConReceptiv</td>
<td>Context: Receptivity to the targeted EBP</td>
<td>Resources, including human, financial, computers, space, materials, decision-making authority needed to implement EBP</td>
</tr>
</tbody>
</table>

Notes. EBP=evidence-based practice.

Reading and re-reading of transcripts was completed by this author and co-chair JH (Braun & Clark, 2006). The transcripts were then independently coded by this author and co-chair JH according to Stetler et al., 2011. A-priori codes were used according to the PARIHS framework and included the following codes under the rubric Evidence: research and published guidelines; clinical experiences and perceptions; patient experiences, needs and preferences; local practice information; and, other characteristics of targeted evidence-based practice. A-priori codes were also used according to Context as outlined by Stetler and colleagues (2011) and included the following: leadership support; culture; evaluation capabilities; and, receptivity to targeted innovation or change. Table 3 highlights brief descriptions of the a-priori codes;
however, they are described in more detail below in relationship to their position in the PARIHS model (Evidence or Context).

**Evidence a-priori codes.** Research and published guidelines refer to the degree that relevant stakeholders are well-informed and cognizant of the evidence for the targeted practice. This code additionally refers to the perceived quality of such research evidence as well as the worth that important stakeholders place upon the evidence. Finally, this code also includes perceptions of potential controversies about the strength of the evidence among various stakeholders.

*Clinical experience* refers to a clinician’s “own experience” with the practice. It additionally refers to his or her history and beliefs about the practice. As Stetler and colleagues point out (2011), these experiences may or may not be based upon accurate information. Further, this code refers to the need for agreement among clinicians or other major stakeholders in order to fully implement the practice.

*Patient experiences, needs and preferences* refer to patient and relevant caregivers’ experiences with use of the practice. This code additionally includes the degree to which the targeted practice is compatible to patient preferences. This code also includes any element referred to as patient-centered care.

*Local practice information* refers to local data about stakeholder outcomes in relationship to the practice. For example, this refers to quantitative or qualitative data (or lack thereof) about the practice as well as the accessibility of such data to significant stakeholders. This code also includes the practicability of data collection within the organization and the beliefs of stakeholders about whether or not the data is an accurate appraisal.

*Other characteristics of the targeted evidence-based practice* refer to the relative
advantage that stakeholders perceive in determining if the practice will improve practice patterns or treatment outcomes. It additionally refers to how easy or difficult the practice is to understand or implement and by which stakeholders. This code additionally includes elements related to cost, design and packaging.

**Context a-priori codes.** *Leadership support* refers to stakeholders’ understanding of leadership support for implementation and sustainability of the targeted practice. It additionally includes observable actions, attitudes and choices of leaders in relationship to the practice. The status of leadership communication channels are also included within this code.

*Culture* refers to beliefs concerning cooperation and teamwork across stakeholders. It also includes beliefs about the value of data-based evaluation in terms of the targeted practice. Essentially, this category refers to, “the way things are done around here; or prevailing values and beliefs as a perquisite to sustaining change” (Steler et al., 2011, supplemental guide p.14).

*Evaluation capabilities* refer to the mechanisms in place within the organization to collect data about the targeted practice. The authors note that ideally data would come from different sources within the organization (such as the therapy department and the nursing department). This code also includes elements related to sustainability and future use of the practice.

*Receptivity to the targeted practice* refers to organizational readiness to implement the practice in terms of human capacity, physical resources and overall fit within the organization. Issues such as actual and perceived availability of staffing and physical space and equipment are especially relevant in this code.

After the first pass of independent coding, this author and JH met to discuss findings and clarify codes. After clarification was conducted, a second round of independent coding was completed. After the second round of coding, the researchers reached 100% consensus.
Integrating Quantitative and Qualitative Data

After quantitative and qualitative data analysis was complete, the data were integrated at the stage of interpretation of the study. Quantitative and qualitative data were compared and contrasted for convergence, differences, or some combination of the two alternatives (Creswell, 2009) to arrive at study conclusions within the PARIHS framework.
Chapter 4: Results

The purpose of this study was to study factors influencing the use of one specific evidence-based practice with one patient group in one specific setting, as delivered by one type of clinician. That is, the use of non-electronic external memory aids for residents with dementia in SNFs as delivered by SLPs, was considered. Prior to addressing the research questions, a description of the respondents is provided. This description is followed by the results of the quantitative analyses, then the qualitative analyses, and finally, the integration of the two data sets within the PARIHS framework.

Quantitative Data

Description of respondents. Of the 1377 potential participants, 74 SLPs and 56 FRDs completed the questionnaires (total = 130 respondents), resulting in a response rate of 9.4%. Of those potential respondents, 1352 were mailed materials, and 25 were from contacts from this author who agreed to recruit their acquaintances for the study. One-hundred eleven participants (85.4%) completed the questionnaires manually on paper, and 19 participants (14.6%) completed the questionnaires electronically. Each SLP who completed the questionnaires was asked to participate in the semi-structured interview until five participants agreed. The first five SLPs to respond all agreed to participate in the semi-structured interview.

Of this sample, 44 participants (33.8%) did not complete the Evidence scale or indicated the answer “I don’t know or not applicable” for at least one item on the scale. In these missing
cases, 17 participants had more than 20% of the items on the scale missing and were therefore deleted from the analytical sample. Of the remaining respondents, 16 had one item missing, and 11 had two items missing. For the 27 participants who had no more than two items missing on the Evidence scale, data were imputed for the missing items based upon the mean of the relevant sample (SLP or FRD) for that particular item as suggested by Hopman and colleagues (2011). On the Context scale, seven participants (5.4%) indicated the answer “I don’t know or not applicable.” In all seven of these instances, 20% or less of the data were missing, and data were imputed for all of the missing items based upon the mean of the SLP or FRD sample of that particular item, using the same procedure as for the Evidence scale.

In order to determine whether there was a shared characteristic among those respondents who selected “I don’t know or not applicable” for 20% or more of the items, the number of years of experience was inspected. There was no pattern in terms of years of experience concerning participants who responded more frequently with “I don’t know or not applicable,” and no other patterns emerged among the deleted respondents.

Three SLP participants left the outcome variables blank, i.e. percentage of actual and/or projected use of non-electronic external memory aids, and they were thus deleted from the analytical sample. In total, 10 SLP and 10 FRD participants were removed from the analytical sample, resulting in 64 SLP and 46 FRD participants for a total of 110 participants.

The average years of experience in the current facility was 3.37 (SD=2.76) years for SLP participants and 5.76 years (SD=6.26 years) for FRD participants. Most participants had spent their careers in the skilled nursing facility industry, and reported working close to 40 hours weekly in their facility. Table 4 summarizes the characteristics of the participating SLPs and FRDs who were included in the analysis. Raw data, prior to imputation and deletion, are
summarized for each question on the Evidence and Context Scales and SLP/FRD groups in Appendix 1.

Table 4

Characteristics of SLP and FRD Participants in Quantitative Portion of Study

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>SLP Mean (SD)</th>
<th>Range</th>
<th>FRD Mean (SD)</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 64</td>
<td></td>
<td>n = 46</td>
<td></td>
</tr>
<tr>
<td>Years of experience in current skilled nursing facility</td>
<td>3.37 (2.76)</td>
<td>.08 — 13</td>
<td>5.76 (6.26)</td>
<td>.08 — 34</td>
</tr>
<tr>
<td>Years of experience in skilled nursing facility industry</td>
<td>7.66 (6.32)</td>
<td>.25 — 30</td>
<td>13.15 (7.3)</td>
<td>3 — 34</td>
</tr>
<tr>
<td>SLP hours per week in current skilled nursing facility</td>
<td>36.95 (7.7)</td>
<td>10 — 50</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>SLP hours per week in any skilled nursing facility</td>
<td>39.08 (6.83)</td>
<td>12 — 60</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>Years of experience as SLP</td>
<td>10.93 (9.09)</td>
<td>.25 — 41</td>
<td>--</td>
<td></td>
</tr>
</tbody>
</table>

Notes. SLP=speech-language pathologist; FRD=facility rehabilitation director.

Facility characteristics were collected from all but one of the participating FRDs (n = 45).

Facility characteristics were collected from all but one of the participating FRDs (n = 45).

Profit and chain facility characteristics are shown in Table 5. Most FRDs were working at for-profit facilities (80%) that are part of a corporate chain (71%). The mean number of beds at these facilities was 125.18 (SD = 45.19, range = 42-294), and the average occupancy rate of these facilities was 91% (SD = 5.97; range = 80%-100%).

Table 5

Facility Profit and Chain Characteristics for (n = 45 reported)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit, chain</td>
<td>28 (62%)</td>
</tr>
<tr>
<td>Profit, non-chain</td>
<td>8 (18%)</td>
</tr>
<tr>
<td>Non-profit, chain</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>Non-profit, non-chain</td>
<td>5 (11%)</td>
</tr>
</tbody>
</table>
**Differences between SLP and FRD perceptions.** The first research question was assessed through a quantitative methodology. Are there mean differences between SLPs’ and FRDs’ perceptions about the evidence for the use of non-electronic memory aids and/or their perceptions about the organizational context within the SNF, as measured by the *Organizational Readiness to Change Assessment* Evidence and Context scales?

It was hypothesized that there would be statistically significant mean differences among SLPs and FRDs in terms of their perceptions of the evidence for non-electronic external memory aids for residents with dementia in SNFs and the perceptions of organizational context within the SNF. Speech-language pathologists would likely have more favorable perceptions of the evidence than FRDs, and less favorable perceptions of the organizational context.

In order to determine whether there were differences in perceptions of SLPs and FRDs in the full sample (n = 64 SLPs, n = 46 FRDs), as measured by Evidence and Context scale scores of the ORCA, mean difference data were calculated between participants in the two groups. Results in relationship to this research question should be interpreted with caution as FRDs and SLPs came from different facilities. It will be recalled scores can range anywhere from “1” to “5” with “5” indicating high or favorable perceptions of the evidence and/or the organizational context, and “3” indicating a more neutral position. The mean Evidence score for the SLP group was 3.80 (SD = .56), and the mean Evidence score for the FRD group was 3.89 (SD = .54). The mean Context score for the SLP group was 3.74 (SD = .71), and the mean Context score for the FRD group was 3.96 (SD = .6). An independent-samples t-test was performed to compare mean values of the Evidence and Context scores between the SLP and FRD participants. In this sample, FRD participants viewed the organizational context more favorably than the SLP participants, and this difference was statistically significant (t = 2.5, df = 108, p = .01). There were no significant
differences between SLPs’ and FRDs’ perceptions of the Evidence, based on the mean Evidence scale scores on the ORCA.

**Relationships between SLP perceptions and SLP non-electronic external memory aid use.** The second research question was also assessed through quantitative means. The question focused on whether or not the perceptions of SLPs about the evidence for the use of non-electronic external memory aids and/or their perceptions about the organizational context within the SNF, as measured by the *Organizational Readiness to Change Assessment* Evidence and Context scales, were associated with SLPs’ reported percentage of use of non-electronic external memory aids with residents with dementia in SNFs.

It was hypothesized that perceptions of SLPs that were favorable in terms of the evidence for non-electronic external memory aids and favorable in terms of the organizational context in the SNF would be associated with higher percentages of SLP use of the practice of non-electronic external memory aids for residents with dementia. As noted, the outcome variable in this research question was SLP reported percentage use of non-electronic external memory aids. Results in relationship to this research question should also be interpreted with caution as SLPs came from different facilities.

**Reported SLP usage of non-electronic external memory aids.** SLP participants (n = 64) reported using non-electronic external memory aids in the past 6 months in 45.06% (SD = 27.26, range = 0% to 100%) of their cases of residents with dementia. Those same SLP participants also reported a projected use of non-electronic external memory aids in the next 6 months in 47% (SD = 27.24, range = 0% to 100%) of their cases of residents with dementia. As percentage of actual use of non-electronic external memory aids and percentage of projected use of non-electronic external memory aids were highly correlated (Refer to Figure 5) (Pearson $r=.958$, $p<.001$), only
further data concerning reported actual percentage of use are presented further.

![Figure 5](image)

**Figure 5.** Scatterplot of SLP Use and SLP Projected Use of Non-Electronic External Memory Aids

*Notes.* SLP=speech-language pathologist; Numbers represented are reported percentages of use and projected use.

**Correlational and regression analyses for SLP participants.** In order to further evaluate potential relationships between SLPs’ evidentiary and organizational context perceptions as measured by the ORCA and their reported usage of non-external memory aids in the entire SLP sample (*n* =64), data were analyzed in a two-stage process. First, Pearson product moment correlations were computed to facilitate model building. Following that, multivariate linear regression analyses enabled evaluation of predictive relationships among the variables of interest.

Tables 6 summarizes the correlations of these data. There were statistically significant positive correlations between the number of years of experience as an SLP, years of experience in the SNF industry, and years of experience at the current facility, suggesting that most SLP respondents in this sample had spent most of their career working in SNFs. There were also significant positive correlations between SLP mean Evidence scores and SLP mean Context...
scores, suggesting an association between SLPs perceptions of evidence and context. There was an additional significant positive correlation between SLP mean Evidence score and SLP usage of non-electronic external memory aids, suggesting an association between favorable perceptions of the evidence and use of the practice. There were statistically significant negative correlations between years of experience as an SLP and years of experience in the SNF industry with reported usage of non-electronic external memory aids, suggesting that the clinicians with more experience were less likely to use non-electronic external memory aids.

Table 6

Correlates of SLP Experience, SLP Evidence and Context Scores and SLP Use of Memory Aids (n = 64 SLPs)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Years of experience as an SLP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. SLP years of experience total in skilled nursing facility industry</td>
<td>.858**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. SLP years of experience in current facility</td>
<td>.528**</td>
<td>.579**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. SLP evidence score</td>
<td>-.134</td>
<td>-.195</td>
<td>.076</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. SLP context score</td>
<td>-.056</td>
<td>.005</td>
<td>.028</td>
<td>.441**</td>
<td></td>
</tr>
<tr>
<td>6. SLP reported percentage of use of non-electronic external memory aids</td>
<td>-.279*</td>
<td>-.270*</td>
<td>-.162</td>
<td>.472**</td>
<td>.135</td>
</tr>
</tbody>
</table>

*p < .05 (2-tailed)

**p < .01 (2-tailed)

Notes. SLP = speech-language pathologist

Results of the correlational analyses facilitated model building of the regression analysis. Given these statistically significant relationships, years of experience as an SLP, SLP Evidence score and SLP Context score were entered as predictor variables. This multivariate analysis allowed for the control of years of experience as an SLP. It also facilitated the examination of Evidence scores in relationship to memory aid usage independent of the Context scores and vice versa. As noted in Table 6, these variables were entered into the model not only because they were statistically significant, but they also did not greatly co-vary with other variables. These
three independent variables were entered into the simultaneous regression model. The outcome variable in the analysis was SLP reported percentage of use of non-electronic external memory aids. Perceptions of the evidence supporting non-electronic external memory aids was a significant predictor and years of experience as an SLP approached significance as a predictor of reported use of non-electronic external memory aids. ORCA Context scale mean scores were not significant predictors of SLP use of external memory aids.

Specifically, the regression model supported the result that for each additional positive point on the ORCA Evidence scale, the reported use of external memory aids increases 24% while controlling for the Context score and years of experience as an SLP. For each decade of experience as an SLP, the use of the treatment decreases by approximately 7% controlling for both Evidence and Context scores. Table 7 shows the estimates, standard errors, and p values for this multivariate linear regression model.

Table 7

*Multivariate Linear Regression Analysis for SLP Years of Experience, Evidence Scores, Context Scores and Memory Aid Usage (n =64)*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Estimate</th>
<th>SE</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-24.47</td>
<td>22.6</td>
<td></td>
</tr>
<tr>
<td>Years of experience as SLP</td>
<td>-.66</td>
<td>.33</td>
<td>.052</td>
</tr>
<tr>
<td>SLP evidence score</td>
<td>23.50</td>
<td>6.0</td>
<td>.000</td>
</tr>
<tr>
<td>SLP context score</td>
<td>-3.45</td>
<td>4.68</td>
<td>.463</td>
</tr>
</tbody>
</table>

*Notes.* SLP=speech-language pathologist; Estimate = unstandardized regression coefficient; SE = standard error of measurement.

**Relationships between FRD perceptions and SLP non-electronic external memory aid use.** The final quantitative research question was are the perceptions of FRDs about the evidence for the use of non-electronic external memory aids and/or their perceptions about the
organizational context within the SNF, as measured by the *Organizational Readiness to Change Assessment* Evidence and Context scales, associated with SLPs’ reported percentage of use of non-electronic external memory aids with residents with dementia in SNFs?

It was hypothesized that perceptions of FRDs that are favorable in terms of the evidence for non-electronic external memory aids and favorable in terms of the organizational context in the SNF will be associated with higher percentages of SLP use and projected use of the practice of non-electronic external memory aids for residents with dementia.

Table 8 summarizes correlational data for the FRD participants. For the FRD participants, there were statistically positive significant correlations between the number of years of experience as an FRD in the SNF industry and in the current building, suggesting that most FRDs remained in the same building during the SNF industry experience. There were also statistically significant positive correlations between years of experience in the current building for the FRDs and the FRDs mean Context scores, suggesting that there is an association between more favorable views of the context and more years of experience in the facility.

Table 8

*Correlates of FRD Experience and FRD Evidence and Context Scores  (n =46 FRDs)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FRD years of experience total in skilled nursing facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. FRD years of experience in current facility</td>
<td></td>
<td>.555**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. FRD evidence score</td>
<td>-.167</td>
<td>-.146</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. FRD context score</td>
<td>.337*</td>
<td>.303*</td>
<td>.141</td>
<td></td>
</tr>
</tbody>
</table>

*p <.05 (2-tailed)  
**p <.01 (2-tailed)

*Notes. FRD=facility rehabilitation director*
In order to further evaluate potential relationships between FRDs’ evidentiary and organizational context perceptions as measured by the ORCA and the reported usage of non-electronic external memory aids by SLPs, the FRD and the SLP needed to come from the same facility. Originally, there were 18 such FRD/SLP pairs; however, four of those pairs had missing data (as noted above). The remaining 14 pairs in which the SLP and the FRD came from the same facility were analyzed.

Mean FRD Evidence scores in this sample \( (n=14) \) were 3.91 \( (SD=.55) \), and mean FRD Context scores in this sample \( (n=14) \) were 3.81 \( (SD=.51) \). Mean SLP \( (n=14) \) percentage of reported use in this samples was 42\% \( (SD=25\%) \). A multivariate linear regression was performed in order to determine the significance of the independent variables FRD Evidence score and FRD Context score in explaining variance of the dependent variable, SLP reported percentage use of the practice. This multivariate analysis allowed for the examination of FRD Evidence scores in relationship to SLP memory aid usage independent of the FRD Context scores and vice versa. In these cases, no statistically significant relationships were found. The inverse relationship between Evidence score and SLP use of non-electronic external memory aids is likely a result of the underpowered nature of this analysis. The results of the multivariate linear regression are shown in Table 9.

Table 9

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Estimate</th>
<th>SE</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>216.94</td>
<td>70.94</td>
<td>.06</td>
</tr>
<tr>
<td>FRD evidence score</td>
<td>-24.01</td>
<td>11.48</td>
<td>.117</td>
</tr>
<tr>
<td>FRD context score</td>
<td>-21.18</td>
<td>12.47</td>
<td></td>
</tr>
</tbody>
</table>

*Notes.* FRD = facility rehabilitation director; Estimate = unstandardized regression coefficient; SE = standard error of measurement.
Qualitative Data

**Description of participants.** Participants who volunteered for the qualitative portion of the study are described in terms of years of experience in current SNF, years of experience in SNF industry, years of experience as an SLP, number of hours per week working in current SNF, and number of hours working in any SNF, and these data are shown in Table 10. The five participants who agreed to complete the interviews are similar to the overall SLP sample in years of experience in the SNF industry and year of experience in the current building.

Table 10

*Characteristics of SLP Participants in Qualitative Portion of Study*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Years of experience in current facility</th>
<th>Years of experience in skilled nursing facility industry</th>
<th>Years of experience as an SLP</th>
<th>Number of hours per week working in current facility</th>
<th>Number of hours per week working in any facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>5</td>
<td>5</td>
<td>9</td>
<td>35-40</td>
<td>--</td>
</tr>
<tr>
<td>2.</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>24</td>
<td>--</td>
</tr>
<tr>
<td>3.</td>
<td>1</td>
<td>12</td>
<td>13</td>
<td>20-40</td>
<td>--</td>
</tr>
<tr>
<td>4.</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td>32</td>
<td>--</td>
</tr>
<tr>
<td>5.</td>
<td>3</td>
<td>4</td>
<td>5.5</td>
<td>24</td>
<td>40-50</td>
</tr>
</tbody>
</table>

*Notes.* SLP=speech-language pathologist.

**Description of interviews.** The interview questions are shown in Appendix 2. The duration of the interviews averaged 19 minutes (range from 13.5 minutes to 23 minutes). The interview transcripts yielded a total of 318 codes. Interview transcripts are shown in Appendix 3.

**Results by codes.** There were 9 codes possible as per the guide for applying the PARIHS framework as outlined by Stetler and colleagues (2011; Table 3). Figure 6 summarizes the distribution of codes. It can be seen more comments were applied codes relating to Context rather than Evidence, with the most common category being Receptivity to the Targeted...
Innovation/Change. Results concerning each code are explained below in order from most frequently to least frequently occurring. Excerpts relating to each code are found in Table 11.

*Contextual readiness, receptivity to the targeted innovation/change.* This category refers to the readiness of the environment to accept the practice in terms of physical space, physical resources, human resources such as staffing and the status of overall communication channels. This was the most popular code as almost 1/3 of all codes related to this category, applied to 99/318 codes (31%).

*Contextual readiness, leadership support.* In this category, items such as perceived leadership support across varying levels of leadership are included. Furthermore, leadership priorities and opportunities for feedback are also considered. This code was applied in 56/318 codes (17.6%).

*Evidence, clinical experiences and perceptions.* The strength and the nature of motivation for and against non-electronic external memory aids are considered in this category. It also refers to the extent that opinion leaders support the practice, and overall impressions of the practice in terms of positive or negative experiences. This code was applied in 53/318 codes (16.7%) among the 5 participants in the interviews.

*Evidence, patient experiences, needs, and preferences.* This category refers to our knowledge about the patient experience with non-electronic external memory aids with dementia. Further, this category is designed to make note of whether or not the targeted practice is in line with patient preferences. This code was applied in 35/318 codes (11%).

*Contextual readiness, culture.* In this category, “the way things are done around here,” (Stetler, 2011, supplemental guide, p. 14) is considered. It also refers to the beliefs that employees possess regarding how things are done within the organization. This code was applied
Evidence, characteristics of the targeted EBP. This category refers to the relative advantage of using the treatment versus another alternative. It also refers to principles of self-efficacy including the ease or complexity of the practice according to the implementing clinician and surrounding stakeholders. Issues such as cost and sustainability are additionally included in this category. This code was applied in 28/318 codes (8.8%).

Evidence, research and published guidelines. In this category any mention of research or clinical guidelines concerning non-electronic external memory aids that took place during the interview was considered. This code was applied in 11/318 (3.5%) codes.

Contextual readiness, evaluation capabilities. This category refers to the availability of data to measure outcomes for targeted implementation efforts, in this case, non-electronic external memory aids. This category also encompasses evaluative programs. This code was applied in 5/318 codes (1.6%). Table

Evidence, local practice information. The local practice information category refers to the extent that stakeholders are aware of local data concerning their actual performance as well as various other factors concerning data collection at the local level (Stetler et al., 2011). None of the participants mentioned this type of information in the interviews.
Figure 6. Distribution of Codes in Qualitative Data

Notes. EvR&PG=Evidence, research and practice guidelines; EvClinExp=Evidence, clinical experiences and perceptions; EvPtExp=patient experiences, needs and preferences; EvLocalPrac=Evidence, local practice information; EvOtherChar=Evidence, characteristics of targeted evidence-based practice; ConLeader=Contextual readiness, leadership support; ConCulture=Contextual readiness, organizational culture; ConEval=Contextual readiness, evaluation capabilities; ConReceptiv=Contextual readiness, receptivity to targeted innovation/change.
### Table 11

**Excerpts from Qualitative Data According to Codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Excerpt (s)</th>
</tr>
</thead>
</table>
| Context, receptivity to targeted practice | N: Right, OK, OK, so my next question is, what are some facilitators to your use of this treatment? So is there anything particularly in your building that makes it easy for you to implement this treatment?  
  P: Physically, I don’t have any facilitators. I think recently in I would say the past year, we have acquired some nursing staff and some nursing managers that are more amenable to carrying over the use of the memory aid.  
  N: OK  
  P: As trained  
  N: OK  
  P: Uh so I uh, I have good staff support outside of the therapy department, nursing, with nurse managers and with caregivers  
  N: OK, great, now on the other hand, what about barriers? So you sort of touched on a few, but are there any barriers that may inhibit your use of the tool for your residents with dementia?  
  P: My use of the tool, no, because  
  N: OK  
  P: You know when training with the tool, it usually goes really well and you know, like, like I said before I think time for the CNAs and the caregivers is a barrier  
  N: OK, gotcha  
  P: They don’t have, sometimes, those extra couple minutes to find the resource, use it, to have a kind of stress free, kind of situation where they’re not feeling rushed in order to allow the resident to use it appropriately, be independent with it, uhm hence it kinda gets, it gets pushed out of the way uhm so I would say that time, and uhm the CNAs in terms of how much time they have, gets in the way of its use.  
  P: OK, I, you know, a barrier would be one, is uh is the staff here, that’s a huge one, uhm location and see uhm to really actually utilize the uh memory aid, like for instance, I like to attach it so it’s with the patient at all times. If it’s in a drawer,  
  N: Uh huh  
  3: It’s not easily accessible, so accessibility is kind of a barrier at times. Uhm I think that my resources and tools from, A: I do a lot of stuff on my own, uhm, my my building is very uhm, great, they’re nice about uh you know trying to assist with things but they can’t, today they can’t do it for me, and, B: they’re constantly talking about productivity so I have to be certain, certain that I’m 90% productive, so I kind of, that’s a challenge of with rules and what not, I just usually suck it up and take it home and that way I can spend as much time with that as I need to, but sometimes that can be a a little bit of a challenge uhm, but overall, I would say the big one is the uh staff assistance and accessibility of the actual aid, of the memory aid.  
  N: OK, uhm, to what extent do you think there needs to be consensus among nursing, therapy and you about the use of memory aids for residents with dementia?  
  P: I think that there has to be 100% consensus on its use  
  N: OK  
  P: and the benefits that can come from it uh, yeah, and I feel like, honestly, because I know that there is poor follow through for the longer term residents with dementia, uhm, developing these kinds of tools, unfortunately, I feel like it’s kind of an exercise in futility because I, my experience has shown that it, there isn’t a good follow-through on it, so if there was, kind of a system wide approval and appreciation and training on how these tools can be effective, the administrator, the nurse manager, the CNAs, the, all staff, laundry, the kitchen staff,  
  N: Right, right  
  P: Uhm, that it would, I think it would, could be a better utilized tool. |
| Context, leadership support | N: So, to what extent is your Facility Rehab Director, knowledgeable about non-electronic external memory aids for residents with dementia?  
P: Yeah, well I don’t know. He’s an SLP which is great  
N: Uh huh  
P: I don’t know, you know, the extent, he’s pretty hands off, so I do all of these things that I don’t really think that he knows that I do them  
N: Right, OK  
P: at all  
N: OK  
P: I don’t think that he has any concept of the things that I’m like putting in people’s rooms or  
N: OK  
P: working with them on, on a daily basis, I think he’s pretty, you know, hand off in terms of that  
N: OK uh to what extent does he support your use of these types of tools for residents with dementia?  
P: Yeah, uhm, well, I can’t really, I think he’s pretty, you know, he kinda gives a lot of leeway  
N: OK  
P: Uhm I wouldn’t say that I have either a lot of support or the opposite  
N: I see  
P: You know I wouldn’t say that I don’t have support, I would just say pretty neutral  
N: OK  
P: about it  
N: right, Ok, great. What about other key stakeholders in your building? Kind of like nursing managers, or nursing assistants, maybe the administrator or the director of nursing, how much do you think those, uhm employees value uhm your use of uhm memory aids for residents with dementia?  
P: I think they really like my ideas theoretically, but I think uhm you know when it comes to uhm kind of the trickle down of communication from maybe like let’s say the assistant DON, and I’ll you know, I really wanna do this with this person  
N: uh huh  
P: And maybe I even get a care plan that they need to do this, it seems like even with those things in place, then getting the communication to the various staff that maybe working with the patient uhm is a challenge.  
N: OK, so tell me, to what extent is your facility rehab director knowledgeable about this type of treatment, in your view?  
P: You know, I would say, our rehab director is an occupational therapist and I think that her knowledge probably, in that area, is pretty basic with memory  
N: OK  
P: I mean, I think that, I mean, boy, she and I don’t really talk as much, so I don’t know  
N: OK  
P: I never, and that is actually interesting because I don’t see her treat much either  
N: OK  
P: She’s all administrative and stuff, so I would say probably at the basic level  
N: OK, and then to what extent does she support your use of this treatment?  
P: Oh, 100%  
N: OK  
P: She doesn’t really question or, well, I, well, that’s kind of a misconception, I wouldn’t call it support, she just kind of, well, anything we do is fabulous and if it benefits the patient, that’s how we get the green light to do pretty much whatever.  
N: OK |
Table 11 Continued

<table>
<thead>
<tr>
<th>Evidence, clinical experience</th>
<th>P: Yeah, definitely, uhm so I had for example, a resident who, with dementia, who had uhm kind of repetitive questioning about why her daughter didn’t visit her</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N: OK</td>
</tr>
<tr>
<td></td>
<td>P: Uhm and it was impacting her ability to perform in therapy, she wasn’t really wanting to eat her meals, you know, I think kind of abandoned by her daughter but in fact, her daughter was coming by everyday to see her</td>
</tr>
<tr>
<td></td>
<td>N: Right, right</td>
</tr>
<tr>
<td></td>
<td>P: So, one kind of simple thing we did, we made a visitor’s wall for her uhm, where her daughter would write her messages everyday that she came to visit, she usually came in the evening</td>
</tr>
<tr>
<td></td>
<td>N: Awesome</td>
</tr>
<tr>
<td></td>
<td>P: And then the next day during our therapy session, we would read the message from her daughter and kind of remember the visit and uhm by you know remembering specific things that the daughter said in the message so that’s kind of one example of something simple that we would use uhm to ease some of that behavioral anxiety for our patients with dementia.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evidence, patient experiences</th>
<th>N: Sure, what do we know about the patient or caregiver experience with non-electronic external memory aids for residents with dementia?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P: Ah, uhm, I know that most of the caregivers I approach about it,</td>
</tr>
<tr>
<td></td>
<td>N: Uh huh</td>
</tr>
<tr>
<td></td>
<td>P: Once I educate them about the use on how to use it,</td>
</tr>
<tr>
<td></td>
<td>N: Yeah</td>
</tr>
<tr>
<td></td>
<td>P: They typically are totally on board</td>
</tr>
<tr>
<td></td>
<td>N: OK</td>
</tr>
<tr>
<td></td>
<td>P: And many times they come back with other ideas that they’ve come up with that kinda sparked their creativity</td>
</tr>
<tr>
<td></td>
<td>N: Right</td>
</tr>
<tr>
<td></td>
<td>P: To help their loved one</td>
</tr>
<tr>
<td></td>
<td>N: OK</td>
</tr>
<tr>
<td></td>
<td>P: So I feel like they typically are 90% on board with it, if they’re, if they’re an involved caregiver.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Context, culture</th>
<th>P: Uh I think the main thing is that the facility is so worried about HIPAA violation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N: Mmmmm</td>
</tr>
<tr>
<td></td>
<td>P: That although most of the memory aids that we use are not a violation, uhm they’re scared that it could be looked at as one, so they’re very hesitant to allow us to use them</td>
</tr>
<tr>
<td></td>
<td>N: OK, OK, OK so that’s the biggest [barrier] and then also the dignity issue you mentioned as well?</td>
</tr>
<tr>
<td></td>
<td>P: Right</td>
</tr>
<tr>
<td></td>
<td>N: OK</td>
</tr>
<tr>
<td></td>
<td>P: Right, because uhm even though there may not be, you know anything too personal on there it, they that’s something that, obviously our facility is very, it’s important to them, is keeping somebody’s dignity</td>
</tr>
<tr>
<td></td>
<td>N: Sure</td>
</tr>
<tr>
<td></td>
<td>P: Uhm but then I always kinda come back with uhm almost the opposing view of, it’s not keeping their dignity if you take away their independence either</td>
</tr>
<tr>
<td></td>
<td>N: Right, right OK</td>
</tr>
<tr>
<td></td>
<td>P: So</td>
</tr>
<tr>
<td></td>
<td>N: Yeah</td>
</tr>
<tr>
<td></td>
<td>P: That’s always kind of a conflict between</td>
</tr>
<tr>
<td></td>
<td>N: Sure</td>
</tr>
<tr>
<td></td>
<td>P: Ways of looking at it.</td>
</tr>
</tbody>
</table>
Table 11 Continued

| Evidence, other characteristics of the practice | N: Right, right, definitely, OK, so how easy or difficult is it for you to use non-electronic external memory aids for residents with dementia in your building?  
P: Uhm you know I think it’s kind of, it’s, it’s an easy thing to start and a hard thing to keep going  
N: Gotcha  
P: It’s an easy thing to initiate but then keeping it, making sure that it’s effective and that the residents have all the tools they need and that staff is being supportive to the use of those aids  
N: Uh huh  
P: that’s more of challenge  
N: OK  
P: so I would say it’s easy to start and then a challenge to keep going. |
| Evidence, research and published guidelines | N: OK, so the first question is if you could describe your overall impression of the use of non-electronic external memory aids for your residents with dementia?  
P: OK, I guess my overall impression from the work I’ve done and then covering PRN at other places, is that the research is great behind them, they seem promising and then there’s a lot of fizzle. |
| Context, evaluation capabilities | P: When we get to talking about this, and support for various services and there could be a lot of good things, but I think in general, especially with as much outcomes based the field is becoming in response to Medicare and 3rd party payers in really determining the value of our services, I think that fizzle that I described earlier  
N: Yeah  
P: Is something that we really need to be concerned about, uhm, yeah, you know people that we pick up for these services, they’re probably appropriate, you know, if they’re at the right stage of dementia where they can benefit from a memory aid  
N: Right  
P: But they’re not getting good follow through  
N: Yeah  
P: Their outcomes are not gonna look good and then, then we’re gonna get, really saying but the research supports it and Medicare and insurance will come back and say, theoretically the research might support it, but the outcomes don’t support it, so you’ve got problems  
N: Right  
P: You know, you had 3 weeks of 5 sessions a week, and you got no where cus at the end of those 3 weeks, the person isn’t using it consistently.  
N: Uh hum, Uh hum. I think that’s an excellent point.  
P: And, yeah, that’s just a little bit, that’s kind of sobering to think about. |

Notes. N=this author; P=participant.
Integration of Quantitative and Qualitative Data

The final research question of this study was how do SLPs describe the evidentiary and contextual factors associated with the use of non-external memory aids in the SNF setting? It was hypothesized that the qualitative inquiry would provide additional information regarding the facilitators and barriers of the use of non-electronic external memory aids for residents with dementias in SNFs that may not be measured by the Evidence and Context scales of the Organizational Readiness to Change Assessment.

Qualitative interviews served to contribute to a more comprehensive understanding of Evidence and Context scores of the ORCA within the PARIHS framework. For example, the role of Context was not statistically significant in its association with SLP use of the practice of non-electronic external memory aids; however, codes concerning Context were present in over half (60%) of all codes concerning Evidence and Context in the qualitative data. Organizational contextual issues related to the implementation of non-electronic external memory aids including participating staff members, communication channels within the building, leadership support, and physical resources in terms of materials were highlighted in the interview data. Quantitative and qualitative data converged in terms of perceptions of evidence for the practice for non-electronic external memory aids, as this perception remained positive across both quantitative and qualitative data sets.

Interview data contributed to the Evidence and Context to an increased understanding of SLPs’ descriptions of the evidentiary and contextual factors associated with the use of non-external memory aids in the SNF setting. Interview data appeared to contribute the most to the category of “Receptivity to Targeted Change,” and the least to “Local Practice Information.” For example, the most common codes related to issues of lack of necessary staff to both implement
and sustain the use of non-electronic external memory aids. Further, lack of physical materials and time to create memory aids was also a frequently reported issue in the interview data. On the other hand, any issue related to local performance data or systems for which to evaluate performance in relationship to non-electronic external memory aid usage was not mentioned in the interview data.
Chapter 5: Discussion

Although evidence-based practices are highly valued and encouraged in both the practice of medicine and other healthcare disciplines (McCurtin & Roddam, 2012; Sackett et al., 1996), the realities of evidence-based practice provision in typical clinical settings pose significant challenges (Gitlin et al., 2010). The purpose of this study was to investigate how perceptions of evidence and organizational factors affect the use of an evidence-based practice, non-electronic external memory aids, by SLPs working in SNFs. The study utilized a transformative, mixed-methods design within the Promoting Action on Research Implementation in Health Services (PARIHS) framework to investigate potential impacts of SLPs’ and FRDs’ perceptions of the evidence and organizational context on the use of this one particular evidence-based practice in SNFs.

The first hypothesis of this study was that there would be statistically significant mean differences among SLPs and FRDs in terms of their perceptions of the evidence of non-electronic external memory aids for residents with dementia and SNF and the perceptions of organizational context within the SNF. Speech-language pathologists would likely have more favorable perceptions of the evidence than FRDs, and less favorable perceptions of the organizational context. Results of the study partially supported this hypotheses. SLPs and FRDs were in agreement on their relatively favorable perceptions of the evidence supporting the practice, but as predicted FRDs perceived the organizational context as more favorable for the implementation of external memory aids than did the SLPs.
Most SLPs in this sample view the EBP of non-electronic external memory aids in a positive fashion, applicable to their clinical populations of residents with dementia. This finding is contrastive to general attitudinal surveys of EBP for which SLPs were noted to view EBP as inapplicable to their clinical settings (Mullen, 2005; Vallino-Napoli & Reilly, 2004).

The more favorable perception of the organizational context possessed by the FRDs when compared to the SLPs likely points to their position of leadership within the organization. For example, there is the distinct possibility that FRDs are aware of resources in terms of physical resources and staff resources for which the SLP is not aware, thus leading the FRDs to have a more favorable view. The link between perception of support and actual support in terms of both leadership and physical resources, may be also be linked to the implementation of evidence-based practices (Aarons et al., 2012). It is also possible that FRDs and SLPs both view the practice equally favorably, because FRDs may have observed the practice to be benefitting resident care within their facilities.

The second hypothesis of this study was that perceptions of SLPs that were favorable in terms of the evidence for non-electronic external memory aids would be associated with higher percentages of SLP use of the practice of non-electronic external memory aids. Results of the study supported this hypothesis; a 24% increase of SLP use of the practice of non-electronic external memory aids was associated with every 1-unit change in favor of the evidence.

This significant finding suggests the importance of addressing not only SLP knowledge of the evidence for a practice, but also his/her perceptions of the evidence for that practice. This novel finding accounts for at least part of EBP implementation in regards to this particular treatment. Specific interventions determining how to most effectively influence clinician perceptions should be studied.
The third hypothesis of this study was that perceptions of SLPs that were favorable in terms of the organizational context in the SNF would be associated with higher percentages of SLP use and projected use of the practice of non-electronic external memory aids for residents with dementia. This hypothesis was not supported in the quantitative data in terms of predicting use of the practice; however, there was a significant positive correlational relationship between SLP perceptions of evidence and SLP perceptions of context, suggesting some type of link between the two elements. This association suggests that factors within the organizational context may impact (at least in part) perceptions of the evidence for a specific practice. In a study by Aarons and colleagues (2012) of mental health care practitioners, a robust association along these lines was found between favorable clinician attitudes toward evidence based practices and perceived proficiency of the organizational culture.

The fourth hypothesis of this study was that perceptions of FRDs that were favorable in terms of the evidence for non-electronic external memory aids and favorable in terms of the organizational context in the SNF would be associated with higher percentages of SLP use and projected use of the practice of non-electronic external memory aids for residents with dementia. Results of the study did not support this hypothesis, possibly due to the small sample size available to answer this research question. For instance, in order to answer this question, the SLP and the FRD needed to come from the same facility, and this type of pairing only occurred in 18 facilities, with 14 of these pairs suitable for data analysis.

The final hypothesis of the study was that the qualitative inquiry would provide additional information regarding the facilitators and barriers of the use of non-electronic external memory aids for residents with dementias in SNFs that were be measured by the Evidence and Context scales of the Organizational Readiness to Change Assessment. Factors such as lack of
necessary staff to both implement and sustain the use of non-electronic external memory aids and lack of physical materials and time to create memory aids were frequently reported issues in the interview data.

In the qualitative data, similar results were found in this study when compared to previous research concerning barriers to evidence-based practices. For example, issues of staffing and problems with communication channels within the organization were noted within this study as in Bayley et al (2012) when that research group examined barriers to stroke rehabilitation recommendations. The issue of time as a barrier to non-electronic external memory aid implementation was also prevalent in the qualitative data as is in more general research assessing attitudes towards evidence-based practice in Speech-Language Pathology and in other disciplines such as nursing (Elliot, 2004; Jensen, 2011).

Results of the present study further addressed a critical measurement issue as outlined by Glasgow (2009) in terms of implementation studies. Of those six issues recalled from the literature review, results of this study specifically speak to the “Who” measurement issue which entails not only who is implementing the intervention, but which staff are required to implement the intervention and the typical consumer of the intervention. As in prior research, SLPs administer non-electronic external memory aids for residents with dementia ideally with the help and carry-over from certified nursing assistants (CNAs) when in the SNF setting (Bourgeois et al., 2001; Hoerster et al., 2001). The present study was a first step in identifying the overall readiness of skilled nursing facilities to accept a systematic implementation strategy of non-electronic external memory aids for residents with dementia (Fixsen et al., 2005). Although this study was preliminary in nature, relatively favorable perceptions of the evidence by both SLPs and FRDs may facilitate such implementation efforts.
It was of specific interest to the present study that most of the SLP sample had spent their careers in long-term care settings, suggesting this sample would be aware of issues specific to geriatric practice and dementia. Recruitment of participants in this study proved difficult, and most of the potential participants did not respond, nor did the FRD and the SLP from the same facility respond. Ideal implementation efforts are fostered upon positive relationships (Powell, McMillen, Proctor, Carpenter, Griffey, Bunger, Glass & York, 2012), and within this study design, there was no relationship between the primary investigator and the participants. There were not relationships among the researchers and the clinicians and other staff of participating SNFs. It is suspected that participation would have been higher if the researchers could have formed relationships with the staff at each building. For example, if the staff at the SNF knew that these research endeavors were indeed undergone to assist better care for residents and to improve employee satisfaction, and if there were tangible products to improve practice patterns collaboratively with SNF staff at the end of the project, the project may have been received with more enthusiasm. This also would have better enabled answering the research question of whether or not an FRDs’ perception of evidence and/or organizational context impacts the SLP use of the practice.

As results of this project indicated that clinician perceptions and organizational variables contribute to the use of non-electronic external memory aids, addressing these variables in 1-2 pilot SNFs with observation and documentation review and treatment fidelity monitoring of the use of non-electronic external memory aids for residents with dementia is a logical next step to this project and would allow opportunities for such relationships as above. For example, according to the qualitative results of this study, data systems to monitor use of non-electronic external memory aids for residents with dementia do not appear to be in place. Through a
collaborative partnership with the SNF, interventions targeting key players within the system including nursing, housekeeping, and leadership staff could be completed, while piloting such data monitoring systems. In addition to resident outcomes, this project could also incorporate outcomes measures at the employee and organizational level. A collaborative partnership may also facilitate participation and recruitment as proposed above.

Similarly, as the majority of the participants in this study came from the state of Florida, these initiatives would be better represented by administering the measures at the national level. National data would contribute to a broader picture of the industry, and provide needed descriptive data to address interventions on a national scale. It would also provide a springboard for additional future projects as one particular rehabilitation company, for example, employs over 2500 SLPs in SNFs nationwide. Partnerships and relationships with these types of companies would also likely facilitate participant recruitment efforts.

An additional limitation of this study points to missing data on the Evidence scale. Thirty-three percent of participants in the quantitative portion of the analysis chose, “I don’t know” on at least 1 item on the scale, resulting in the removal of some participants and the imputation of data for other participants. While this may point to potential issues within the measure itself, it still provided key insights into the topic. The inability for all participants to confidently fill out the Evidence scale may also point to issues in training (or perhaps a training gap) in the practicing clinician’s skills set in evaluating evidence (Mukohara & Schwartz, 2005). It seems that future work including “I don’t know” as a viable option for which to earn a complete Evidence score would be beneficial. The Evidence scale of the ORCA warrants further investigation.
As the ORCA measure was designed to be used within Veteran’s Administration (V.A.) facilities, perhaps the questions on the scale did not adequately tap into the specificity required for the organizational context to impact SLP use of the practice. The lack of quantitative association between SLPs’ perception of the organizational context and use of the practice of non-electronic external memory aids may be explained by participants wanting to remain relatively positive on the measure due to concerns about job security. Additional studies of the ORCA measure outside of the V.A. system may also be of benefit.

Another limitation of the study is in the response variable of reported percentage of use of non-electronic external memory aids. The most rigorous method would have been to observe the SLP using the practice, and the next best method would have likely been to review documentation of the SLP. However, this latter method is not certain due to the electronic reduction of many documentation programs in the SNF setting.

Future studies designed to examine outcome variables in this type of research would also be helpful. For example, a study comparing reported use of a treatment, observed use of a treatment and electronically documented use of a treatment would provide insight into the optimal outcome variable for implementation research in Speech-Language Pathology. If there are meaningful differences between a clinician’s reported use of a treatment and/or what he/she documents electronically for reimbursement purposes, and/or what is observed to be actually occurring, this would impact outcomes in determining the influences of perceptions of evidence and perceptions of organizational context in evidence-based practice implementation efforts.

Further, treatment fidelity was not accounted for in this project. For example, if an SLP reported he/she used non-electronic external memory aids in 50% of cases, within this study design, there are not ways to monitor or report the degree to which the treatment was
implemented with fidelity. For example, if the investigator reviewed a treatment protocol specific to non-electronic external memory aids, reported percentage of use may have been more accurate.

Results of this study should be further reviewed within national priorities of the National Institutes of Health (NIH) and the Centers for Medicare and Medicaid (CMS). For instance, of the many example topics listed as potentially fundable by the NIH, “studies that address context in descriptive and innovative ways in relationship to adoption [of evidence-based practices]” are of interest. As results of this study indicated an associative link between SLP use of the practice and fewer years of experience as a Speech-Language Pathologist, this may be of interest when targeting specific continuing education efforts. Results of this study also indicated an associative link between more years of experience within the SNF industry and favorable views of the context. For example, incentives for remaining in a specific organization for a longer period of time may also be of interest. These interesting findings certainly warrant further investigation in terms of implementing evidence-based practices. The findings may contribute to efforts already suggested by the NIH by incorporating clinicians perceptions and organizational contexts into research initiatives.

In March of 2012, the Centers for Medicare and Medicaid Services (CMS) initiated a national partnership to improve the behavioral health of individuals living with dementia in skilled nursing facilities (http://www.nhqualitycampaign.org/). Although this initiative began as an effort to reduce the administration of unnecessary and dangerous antipsychotic medications, the partnership also encourages person centered and interdisciplinary care within SNF settings. Non-electronic memory aids promote positive communication interactions and have been shown to reduce behavioral problems for residents with dementia (Bourgeois et al., 1991; 1992; 1993).
Such an individualized, non-pharmacological treatment should be more accessible to residents living with dementia in SNFs. Results of this work indicate that the range of SLPs providing this treatment to individuals with dementia is as wide as it could possibly be, 0 to 100%. While the reported mean use of the treatment was in 45% of cases of people with dementia in the past 6 months, the variability alone suggests need for a more systematic approach to implementing the practice in SNF settings. CMS is welcoming to all disciplines within the partnership to rethink dementia care in terms of reconnecting to residents with person-centered practices and restoring overall quality of life (http://www.nhqualitycampaign.org/). CMS will likely find a brilliant and readied partner in the SLPs in these buildings.

**Conclusion**

This work suggests two main aspects for consideration to those conducting treatment research in Speech-Language Pathology and potentially in other health care disciplines.

**Consider addressing perceptions of evidence.** Accounting for the practicing clinician’s perception of the evidence and his/her clinical experiences is important to at least some element of evidence-based practice implementation. At least a portion of the use (or not) of an evidence-based practice is accounted for by the practicing clinician’s perception and experiences with that evidence. If treatment outcome researchers consider the perceptions and experiences of the practicing clinician at an earlier stage in the research process, this may result in a more robust mechanism for implementation efforts once the treatment has been fully studied. As suggested by Kagan and colleagues (2010), incorporating multiple points of contact between research and end research users will facilitate knowledge transfer, ultimately leading to more readily implementable practices.
**Consider and engage the end organizational context.** Further, as noted in the qualitative interviews, issues of organizational context often precluded a clinician’s use of an evidence based practice. It is doubtful that repeated randomized controlled trials of memory aids in different labs would adequately address the following quotation as noted by one of the interview participants:

*I feel like, honestly, because I know that there is poor follow through for the longer term residents with dementia, uhm, developing these kinds of tools, unfortunately, I feel like it’s kind of an exercise in futility because I, my experience has shown that it, there isn’t a good follow-through on it, so if there was, kind of a system wide approval and appreciation and training on how these tools can be effective, the administrator, the nurse manager, the CNAs, the, all staff, laundry, the kitchen staff...Uhm, that it would, I think it would, could be a better utilized tool.*

Furthermore, considering context, the overall mean years of experience in the current building was much less in years for the SLPs than the FRDs. This may contribute to the significant finding that SLPs had a less favorable view of the organizational context than the FRDs. It appears that the ability to stay within the organization for longer periods of time may be somewhat associated with more favorable views of the organization. This may be relevant for SLPs who tend to feel under valued by their organization at times as expressed in this quotation from the qualitative interviews:

*Yeah, I would have to say...to answer the value question, I would have to say that they [leadership/administration] don’t...just because they’re not aware of it...I think they don’t know enough about it [the treatment] to, to value it.*

With the changing health care-tide including the onset of reimbursement based upon the value of services, researchers and clinical practitioners stand at a critical juncture. Results of this study suggest that clinicians’ perceptions of evidence, in part, impact evidence-based practice provision. It is reasonable to suggest that attempts to influence such perceptions in continuing education efforts would be beneficial to practice patterns and overall outcomes. Further, the link
between years of experience and decreased use of the practice also has potential implications. It is further sensible to consider that continuing education efforts may specifically target clinicians with more experience to increase benefits to patients and perhaps clinician satisfaction (Gitlin et al., 2010). Results of this study provide footings for conceivable benefits for a greater number of patients with cognitive-communicative disorders, practicing Speech-Language Pathologists and the organizations in which Speech-Language Pathologists practice.
References


Appendices

Appendix 1: Quantitative Measures

SLP Quantitative Measures

1. Please confirm that you are a Speech Language Pathologist:
   Yes: ______
   No: ______

2. Please state your years of experience in your current skilled nursing facility:
   ______

3. Please state your years of experience in the skilled nursing facility industry:
   ______

4. Please state your years of experience as a Speech-Language Pathologist:
   ______

5. Please state the number of hours per week you work in this particular skilled nursing facility:
   ______

6. Please state the number of hours per week you work in any skilled nursing facility:
   ______

These are some pictures of common non-electronic external memory aids for patients with dementia (Bourgeois, M.S. (2007). Memory books and other graphic cueing systems: Practical communication and memory aids for adults with dementia. Baltimore, MD: Health Professions Press.)
Appendix 1 (Continued)

7. In the last 6 months, please estimate the percentage of your cases of people with dementia in which you used similar non-electronic external memory aids. Please estimate your number somewhere in between 0 and 100%.

8. In the next 6 months, please estimate the percentage of your cases of people with dementia in which you will use similar non-electronic external memory aids. Please estimate your number somewhere in between 0 and 100%.

Please rate the strength of your agreement for the following statements when considering non-electronic external memory aids for residents with dementia.

**Statement:** The use of external memory aids will improve overall communication and decrease behavioral problems for residents with dementia.

1. Based on your assessment of the evidence basis for this statement, please rate the strength of the evidence, in your opinion, on a scale of 1 to 5 where 1 is very weak evidence and 5 is very strong evidence.

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2. Now, how do you think the FRD in your facility will view the strength of the evidence of this statement, on a 1 to 5 scale similar to the one above.

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Appendix 1 (Continued)

For each of the following statements, please rate the strength of your agreement with the statement from 1 (strongly disagree) to 5 (strongly agree).

3. The statement:

a) is supported by randomized controlled trials

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</tr>
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b) is supported by other scientific evidence

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C) has been found to produce clinically significant results

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4. The statement:

a) is supported by clinical experience with residents within our facility

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b) is supported by clinical experience with residents within other facilities

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5. The use of non-electronic external memory aids:

a) has been well-accepted by residents in our facility

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b) has been well-accepted by residents in other facilities

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Appendix 1 (Continued)

c) takes into consideration the needs and preferences of our residents

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d) appear to have more advantages than disadvantages for our residents

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6. Senior leadership/clinical management in your facility:

a) reward clinical innovation and creativity to improve resident care

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b) solicit opinions of clinical staff regarding decisions about resident care

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c) seek ways to improve resident education and increase resident participation in treatment

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7. Staff members in your facility:

a) have a sense of personal responsibility for improving resident care and outcomes

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b) cooperate to maintain and improve effectiveness of resident care

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c) are willing to innovate and/or experiment to improve clinical procedures

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Appendix 1 (Continued)

d) are receptive to change in clinical processes

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8. Senior leadership/Clinical management in your facility:

a) provide effective management for continuous improvement of resident care

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b) clearly define areas of responsibility and authority for clinical managers and staff

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c) promote team building to solve clinical care problems

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d) promote communication among clinical services and units

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9. Senior Leadership/Clinical Management in your facility:

a) provide staff with information on performance measures and guidelines

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b) establish clear goals for resident care processes and outcomes

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c) provide staff members with feedback/data on effects of clinical decisions

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d) hold staff members accountable for achieving results

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10. Leaders in your facility:

a) believe that current practice patterns can be improved

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b) encourage and support changes to practice patterns to improve resident care

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c) are willing to try new clinical protocols

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d) work cooperatively with staff to make appropriate changes

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11. In general in my facility, when there is agreement that change needs to happen:

a) we have the necessary support in terms of budget or financial resources

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Appendix 1 (Continued)

b) we have the necessary support in terms of training

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c) we have the necessary support in terms of facilities

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d) we have the necessary support in terms of staffing

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**FRD Quantitative Measures**

1. Please confirm you are a Facility Rehabilitation Director:
   Yes: _____
   No: _____

2. Please note if your facility is profit or non-profit:
   Profit: _____
   Non-profit: _____

3. Please note if your facility is a chain or not a chain:
   Chain: _____
   Not a chain: _____

4. Please state the number of beds in your facility.
   _______

5. Please estimate the percentage (0 to 100%) of occupancy of the beds at this time.
   _______

6. Please state your years of experience in your current skilled nursing facility:
   _______

7. Please state your years of experience in the skilled nursing facility industry:
   _______

These are some pictures of common non-electronic external memory aids for patients with dementia (Bourgeois, M.S. (2007). Memory books and other graphic cueing systems: Practical communication and memory aids for adults with dementia. Baltimore, MD: Health Professions Press.)
Appendix 1 (Continued)

Please rate the strength of your agreement for the following statements when considering non-electronic external memory aids for residents with dementia.

**Statement:** The use of external memory aids will improve overall communication and decrease behavioral problems for residents with dementia.

1. Based on your assessment of the evidence basis for this statement, please rate the strength of the evidence, in your opinion, on a scale of 1 to 5 where 1 is very weak evidence and 5 is very strong evidence.

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2. Now, how do you think the SLP in your facility will view the strength of the evidence of this statement, on a 1 to 5 scale similar to the one above.

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</table>
Appendix 1 (Continued)

For each of the following statements, please rate the strength of your agreement with the statement from 1 (strongly disagree) to 5 (strongly agree).

3. The statement:

a) is supported by randomized controlled trials

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b) is supported by other scientific evidence

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c) has been found to produce clinically significant results

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4. The statement:

a) is supported by clinical experience with residents within our facility

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b) is supported by clinical experience with residents within other facilities

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5. The use of non-electronic external memory aids:

a) has been well-accepted by residents in our facility

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b) has been well-accepted by residents in other facilities

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Appendix 1 (Continued)

c) takes into consideration the needs and preferences of our residents

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d) appears to have more advantages than disadvantages for our residents

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6. Senior leadership/clinical management in your facility:

a) reward clinical innovation and creativity to improve resident care

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b) solicit opinions of clinical staff regarding decisions about resident care

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b) seek ways to improve resident education and increase resident participation in treatment

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7. Staff members in your facility:

a) have a sense of personal responsibility for improving resident care and outcomes

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b) cooperate to maintain and improve effectiveness of resident care

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b) are willing to innovate and/or experiment to improve clinical procedures

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Appendix 1 (Continued)

d) are receptive to change in clinical processes

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8. Senior leadership/Clinical management in your facility:

a) provide effective management for continuous improvement of resident care

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b) clearly define areas of responsibility and authority for clinical managers and staff

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c) promote team building to solve clinical care problems

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d) promote communication among clinical services and units

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9. Senior Leadership/Clinical Management in your facility:

a) provide staff with information on performance measures and guidelines

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b) establish clear goals for resident care processes and outcomes

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c) provide staff members with feedback/data on effects of clinical decisions

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d) hold staff members accountable for achieving results

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10. Leaders in your facility:

a) believe that current practice patterns can be improved

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b) encourage and support changes to practice patterns to improve resident care

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c) are willing to try new clinical protocols

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d) work cooperatively with staff to make appropriate changes

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11. In general in my facility, when there is agreement that change needs to happen:

a) we have the necessary support in terms of budget or financial resources

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b) we have the necessary support in terms of training

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c) we have the necessary support in terms of facilities

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d) we have the necessary support in terms of staffing

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Notes. SLP=speech-language pathologist; FRD=facility rehabilitation director; n=number of participants who chose that response in the quantitative portion of the study.
Appendix 2: Semi-structured Interview Questions

1. Describe your overall impression of the use of non-electronic external memory aids for your residents with dementia.

2. What are some facilitators to your use of non-electronic external memory aids for residents with dementia?

3. What are some barriers that may inhibit your use of non-electronic external memory aids for residents with dementia?

4. To what extent is your Facility Rehabilitation Director knowledgeable about non-electronic external memory aids for residents with dementia?

5. To what extent does your Facility Rehabilitation Director support your use of non-electronic external memory aids for residents with dementia?

6. To what extent do key stakeholders value non-electronic external memory aids for residents with dementia? (such as the Facility Rehabilitation Director, nursing managers, certified nursing assistants, the director of nursing and the administrator)

7. To what extent does there need to be consensus among nursing, therapy, and you about the use of non-electronic external memory aids for residents with dementia?

8. What do we know about the patient/caregiver experience with non-electronic external memory aids for residents with dementia?

9. How easy or difficult is it for you to use non-electronic external memory aids for patients with dementia?

10. What is your perceived quality of the resources (materials/training) available for you to implement non-electronic external memory aids for your residents with dementia?

11. Where did you first learn about non-electronic external memory aids for your residents with dementia?
Appendix 3: Interview Transcripts

Interview One
N: And you know if you talk about any like patient names, you may just wanna change the name or use initials like during the interview just to protect them as well
I: Perfect, OK
N: So just real quickly, uhm what is, how long have you been in the skilled nursing facility industry? Total in years?
I: OK I have been working PRN in a skilled nursing facility for 5 years almost
N: OK
I: 4 years, 8 months
N: OK
I: And full time, uhm for 2, almost 2 years
N: OK, and is that
I: May 15th will be 2 years
N: OK, and is that, has it been 2 years since you’ve been in your current facility?
I: Uhm, I’ve only ever done PRN and the full-time in the same facility
N: Got it
I: So
N: OK
I: Full-time, it hasn’t quite been 2 years
N: OK
I: As a PRN, it’s been over that
N: OK, perfect, and then how long have you been a speech-language pathologist?
I: Oh my gosh, let’s see, 9 years
N: OK and how many hours per week do you work in your building?
I: Typically 35-40 hours a week
N: OK and you do not work in any other skilled nursing facility, just that one, right?
I: Correct
N: So now I’m just gonna ask you 11 open ended questions about uhm external memory aids for residents with dementia. If you, if a question doesn’t make sense or if you don’t have an answer, you can just say pass and we can move on to the next one, uhm
I: OK
N: OK, so the first question is if you could describe your overall impression of the use of non-electronic external memory aids for your residents with dementia. If you, if a question doesn’t make sense or if you don’t have an answer, you can just say pass and we can move on to the next one, uhm
I: OK
N: Your overall impression of the use, like what do you?
I: OK
N: Yeah
I: OK, in our facility we use different memory aids such as calendars, we may use step by step instructions to complete tasks, to help the resident complete tasks
N: Uh huh
I: For memory
N: OK
I: And I feel that they help a lot because it gives the resident another way to be independent
N: OK
I: Uhm and for our particular facility it’s also helpful because there, we don’t have budget for electronical means
N: OK
I: Uhm, so to be able to use other types that are cheaper, less expensive, are our main option
N: Got it, OK great. Uhm so what are some facilitators to your use of non-electronic external memory aids? So what helps you use those aids with a resident?
Appendix 3 (Continued)

1: Uhm the main thing that helps me use the aids with the residents are other staff, such as our CNAs
N: Uh hum
1: Uhm and other therapists as well
N: OK
1: Helping them helping me to use the aid then they’re not consistently used and therefore ineffective for the resident
N: Right
1: So the main facilitator here would be me educating the staff to help the patient use them
N: Right
1: Because they themselves don't always remember to use them
N: Right
1: Because of their uhm medical diagnoses
N: Exactly, right, so uhm on the other hand, what are some barriers that may inhibit your use of non-electronic external memory aids?
1: [unintelligible] Pry the barriers would be particularly in my facility uhm I would say it would be like confidentiality
N: OK
1: Or being able to keep the patient’s dignity is always a questions whether, like if I needed to hang one of those up in the room for a patient, anytime they have a roommate
N: Oh OK
1: And so the big question would be is that keeping their dignity because the roommate could actually see the need or the use of that aid
N: I see, OK
1: Uhm so many times it’s difficult to make them effective, you know, I’m having to worry about uhm uh uhm
N: OK
1: Uh I think the main thing is that the facility is so worried about HIPAA violation
N: Mmmmm
1: That although most of the memory aids that we use are not a violation, uhm they’re scared that it could be looked at as one, so they’re very hesitant to allow us to use them
N: OK
[unintelligible]
N: OK, OK so that’s the biggest and then also the dignity issue you mentioned as well?
1: Right
N: OK
1: Right, because uhm even though there may not be, you know anything too personal on there it, they that’s something that, obviously our facility is very, it’s important to them, is keeping somebody’s dignity
N: Sure
1: Uhm but then I always kinda come back with uhm almost the opposing view of, it’s not keeping their dignity if you take away their independence either
N: Right, right OK
1: So
N: Yeah
1: That’s always kind of a conflict between
N: Sure
1: Ways of looking at it
N: Right, OK, right. OK uhm so I know you all are in flux right now with having an on-site rehab director at the time so uhm but in the past when you had a full-time rehab director, to what extent do you think she was knowledgeable about non-electronic external memory aids for residents with dementia?
1: Uhm I don’t feel like she was very educated on them, I think what if you said that to her
N: Uh huh
1: Because she’s not a speech therapist for one
N: OK
1: Uhm, she would have uhm maybe thought of the use of a calendar
Appendix 3 (Continued)

N: OK
1: But she wouldn’t of really thought of any other kind of aid uhm other than a calendar
N: OK
1: She, she wouldn’t, her uhm, education on that topic is not very broad.
N: OK
1: Uhm, I feel like she supported me very well with it, so once I kind of showed her what I was needing to do
N: Uh huh
1: Or wanting to do and the effect it has on the patient, she became very supportive of some of the ideas or strategies we would use
N: OK
1: But I had to definitely educate her on it
N: OK great, and you actually just answered my next question which was to what extent does she support your use of it?
1: Yep
N: Uhm, so you already answered that. OK, to what extent do you think uhm key stakeholders in your building value non-electronic external memory aids for residents with dementia, so people like nursing managers, the CNAs, the director of nursing, the administrator? Those types of folks?
1: Uhm, hhhmmm. I, I think kind of the same as the FRD
N: OK
1: If I can educate them as to why it’s important for the resident
N: Uh huh
1: They’re pretty uhm open to it, but, I would say the higher we get in administration
N: Uh huh
1: Uhm, the more concerned with the different issues that [unintelligible], uhm, HIPAA, dignity
N: OK
1: That become their main focus many times
N: OK, gotcha, OK, uhm to what extent does there need to be consensus among nursing, therapy, and you about the use of non-electronic external memory aids for dementia pe, residents with dementia?
1: There needs to be almost 100% consensus [laughs] on it
N: OK
1: Because, again, if everybody’s not on board to help the patient use them, that come in contact with that person throughout the day
N: Right
1: Then it’s gonna be ineffective for that patient
N: Uh hum, right, right OK. And then what do we know about the patient or caregiver experience with non-electronic external memory aids?
1: Can you say that one again?
N: Sure, what do we know about the patient or caregiver experience with non-electronic external memory aids for residents with dementia?
1: Ah, uhm, I know that most of the caregivers I approach about it,
N: Uh huh
1: Once I educate them about the use on how to use it,
N: Yeah
1: They typically are totally on board
N: OK
1: And many times they come back with other ideas that they’ve come up with that kinda sparked their creativity
N: Right
1: To help their loved one
N: OK
1: So I feel like they typically are 90% on board with it, if they’re, if they’re an involved caregiver
N: OK, got it, great. And so, how easy or difficult is it for you to implement non-electronic external memory aids for those types of residents?
1: It’s actually very easy
Appendix 3 (Continued)

N: OK
I: And it’s the main part of their therapy
N: Right
I: Uhm
N: OK
I: In our setting, because we know that typically say with dementia, it’s not going to get better, it’s a more progressive disease,
N: Uhhum
I: So it, it’s the main part of their therapy, to be able to put those in place, make them more independent and then when the need arises and the dementia gets worse to change it up however we need to change it to maintain their independence as long as possible
N: Right, right, OK, and then what is your perceived quality of the resources available to you, and when I say resources, I’m talking about materials and training for you to implement uhm non-electronic external memory aids?
I: I feel that it, it’s not that great
N: OK
I: Cus I feel that everyone has focused solely on electronic
N: OK
I: Use of memory aids like uhm, you know different types of computers uhm
N: Right
I: Unfortunately, the ability to get those types of uhm devices are nearly impossible with insurance coverage
N: Uh hum
I: And also the elderly population, they can’t relate to that, uhm, the electronic form of things
N: Uh hum
I: As much as they can relate to something more simple, as for actual materials, I wish there was more published out there, just kind of like you know manuals that I could literally just go to and photo copy pages, kind of like the old-fashioned way uhm
N: Right
I: Of things that I could, you know, hang in the room, signs, or directions that are already uhm broken up so that it would make it easier for me so I didn’t actually have to think of things on my own
N: Right
I: Our productivity has to be pretty good so unfortunately my creativity can’t be, you know I can’t take the time to do a lot of those things so if they were already available
N: Uh hum
I: That would be easier to implement
N: Right, sure, of course, yeah, And, uhm, the last question is, where do you first learn about non-electronic external memory aids for residents with dementia?
I: Hmm. I would say I guess in my master’s degree
N: OK
I: But it was just very briefly touched on,
N: OK
I: Uhm, not really, you know, it wasn’t necessarily an elective or a class that could go more into depth on how to carry it over into the therapeutic environment or with caregivers
N: Uh hum
I: To show them, to teach them
N: Right
I: But have um, I kind of learned a lot of it on my own or through colleagues
N: OK, sure, OK so that is all the questions I have, is there anything else you would wanna add about this type of treatment or anything particular to your building that we didn’t touch upon regarding this type of treatment?
I: Nope that’s it
N: OK, well, thank you very much.
Appendix 3 (Continued)

**Interview Two**

N: Now, uhm, and I just wanna make sure that you completely consent to this and that you don’t uhm that you don’t feel manipulated into doing this or anything like that
2: No, I fully consent
N: OK, good
2: I do not feel manipulated
N: OK great, so can you uhm tell me how many years you’ve been in your current skilled nursing facility?
2: 1
N: OK, and then how bout years of experience in the skilled nursing facility industry?
2: 1
N: OK, and then how bout as, your years of experience as an SLP?
2: uhm 3
N: OK and then the number hours per week that you work in your current skilled nursing facility
2: Uhm, let’s see, 8 times 3, 24
N: OK, perfect, OK, so now I’m gonna ask you about uhm non-electronic external memory aids for your residents with dementia, so first, can you just tell me, describe your overall impression of the use of non-electronic external memory aids for dementia residents
2: OK, as in what type
N: right
2: that I use or
N: right
2: just if I think it’s worthwhile
N: right, sort of your impression, maybe a case example you've used them with
2: OK
N: Uhm
2: Yeah, definitely, uhm so I had for example, a resident who, with dementia, who had uhm kind of repetitive questioning about why her daughter didn’t visit her
N: OK
2: Uhm and it was impacting her ability to perform in therapy, she wasn’t really wanting to eat her meals, you know, I think kind of abandoned by her daughter but in fact, her daughter was coming by everyday to see her
N: Right, right
2: So, one kind of simple thing we did, we made a visitor’s wall for her uhm, where her daughter would write her messages everyday that she came to visit, she usually came in the evening
N: Awesome
2: And then the next day during our therapy session, we would read the message from her daughter and kind of remember the visit and uhm by you know remembering specific things that the daughter said in the message so that’s kind of one example of something simple that we would use uhm [unintelligible] to ease some of that behavioral anxiety for our patients with dementia
N: Right, right, OK great, so what are some facilitators to your use of those types of tools for residents with dementia? What sorts of things kinda help you implement that?
2: Uhm, I think you know, having access of course to decent materials, having, feeling like I think that I have time to make those materials
N: Uh huh
2: Because creating the materials does take time and such
N: Uh huh
You know if you feel pressure about your productivity uhm you know, uhm feeling, you know being willing to create those kinds of things, there may not be time to do that
N: Right
2: Also having the help of the therapy techs
N: Ah
2: Like copies made, or something like that, those are things that kind of facilitate making memory aids for me
Appendix 3 (Continued)

N: OK, right, and then what about barriers? Are there any barriers that may inhibit your use of these types of tools for your residents with dementia?
2: Uhmm, yeah, definitely, you know, often times when you make a tool, and then you might leave it at bedside, it is gone.
N: Right
2: A day later
N: Right
2: Uhm, so that’s that’s kind of one of the barriers either you know between, the aids or the housekeeping staff, or even family members, you know that think things kind of disappear and end up in the trash so
N: Yeah
2: Definitely like kind of keeping track of those memory aids for the resident
N: Uh huh
2: But then it’s something I want to leave at bedside uhmm and making sure that its’ use is encouraged like I had another patient who uhmm, he would remember to use his call bell when he needed it but he would forget why he hit the call bell so
N: Ah
2: if he needed to be changed, he’d hit the call bell, the aid comes in and says, “What can I help you with?” and he would forget
N: Ah
2: What he wanted, so you know, I made like a visual aid for him, when I hit my call bell, he writes down what he needed those visual aids worked really well for him
N: Uh huh
2: But then his pen would constantly be gone so he really wasn’t able to use it very effectively but if the pen was there, then he could use it really really well so
N: Right
2: Kind of things like keeping materials within access to the resident at all times
N: Yes, yes, OK, that’s a great example. So, to what extent is your Facility Rehab Director, knowledgeable, knowledgeable about non-electronic external memory aids for residents with dementia?
2: Yeah, well I don’t know. He’s an SLP which is great
N: Uh huh
2: I don’t know you know the extent, he’s pretty hands off, so I do all of these things that I don’t really think that he knows that I do them
N: Right, OK
2: at all
N: OK
2: I don’t think that he has any concept of the things that I’m like putting in people’s rooms or
N: OK
2: working with them on, on a daily basis, I think he’s pretty, you know, hand off in terms of that
N: OK uhm to what extent does he support your use of these types of tools for residents with dementia?
2: Yeah, uhm, well, I can’t really, I think he’s pretty, you know, he kinda gives a lot of leeway
N: OK
2: Uhm I wouldn’t say that I have either a lot of support or the opposite
N: I see
2: You know I wouldn’t say that I don’t have support, I would just say pretty neutral
N: OK
2: about it
N: right, Ok, great. What about other key stakeholders in your building? Kind of like nursing managers, or nursing assistants, maybe the administrator or the director of nursing, how much do you think those, uhm employees value uhm your use of uhm memory aids for residents with dementia?
2: I think they really like my ideas theoretically, but I think uhm you know when it comes to uhm kind of the trickle down of communication from maybe like let’s say the assistant DON, and I’ll you know, I really wanna do this with this person
N: uh huh
Appendix 3 (Continued)

2: And maybe I even get a care plan that they need to do this, it seems like even with those things in place, then getting the communication to the various staff that maybe working with the patient uhm is a challenge
N: OK
2: Uhm between you know, cus it’s different aid and maybe every day or night shift uhm is a different person uhm
N: Uh huh
2: than the day shift that I might treat with actually, so I kinda feel like communication is where the power comes from and, it may be more effective if I had better communication
N: Right, OK, and then to what is extent does there need to be consensus among nursing, therapy and you about the use of non-electronic external memory aids for residents with dementia?
2: I think to be effective there needs to be 100%
N: OK
2: consensus
N: OK
2: Uhm and I feel like there’s usually not
N: OK, uhm, what uhm can you tell me about uh resident or caregiver experience with non-electronic external memory aids for residents with dementia?
2: Uhm I think caregivers really like it cus they feel I think a lot of times the caregivers feel like there’s nothing they can do know, there’s no solutions to problems, it just keeps getting worse and so when you show them tools that can be effective, you know like visual aids
N: Uh huh
2: uhm they really like that and especially if they’re taking the resident home
N: yeah
2: Uhm after rehab, you know I think that they really appreciate learning how to use tools and strategies, uhm the residents themselves, you know I mean when these tools are effective I think they do help, I think they do help, I just feel like I’m hearing so much anxiety from my patients with dementia
N: yeah
2: you know that kind of feeling anxious or abandoned, and I think it does help you a little bit
N: yeah
2: Uhm so I do think it helps some, with with moreso behavioral issues
N: uh hum
2: Uhm, and I guess you know kind of overall, I think you know it can help them to be a little bit more independent in a lot of circumstances so I think that’s a good thing
N: Right, right, definitely, OK, so how easy or difficult is it for you to use non-electronic external memory aids for residents with dementia in your building?
2: Uhm you know I think it’s kind of, it’s, it’s an easy thing to start and a hard thing to keep going
N: Gotcha
2: It’s an easy thing to initiate but then keeping it, making sure that it’s effective and that the residents have all the tools they need and that staff is being supportive to the use of those aids
N: Uh huh
2: that’s more of challenge
N: OK
2: so I would say it’s easy to start and then a challenge to keep going
N: Right, right, OK, and then what is your perceived quality of the resources in terms of materials and training available to you to implement these tools for residents with dementia?
2: Uhm, I you know I think it uhm I think I have access certainly to materials and you know, you know we get we get CEU funding so if I wanted to you know find some coursework, you know to take on that, I think I could do it, but I think it’s really more a matter of you know my own initiative, no one else would really be uhm promoting that
N: Gotcha
2: Uhm and I, you know I think it’s just kind of individualized, like the other SLP may not, you know uhm find that as that avenue as interesting or effective so might not pursue that as much
N: Right
2: But it’s kind of individualized, up to the person in terms of their initiative to do that
Appendix 3 (Continued)

N: Right, so kind of more of a clin, not a clinician preference, but maybe
2: Yeah, I think so, yeah.
N: Ok
2: It’s not you know like a company policy, you know what I mean
N: Exactly, right, OK, where did you first learn about non-electronic external memory aids for your residents with dementia?
2: Uhm that, well in grad school, I took a really wonderful class about dementia and TBI
N: OK
2: It was an elective
N: OK
2: at the time
N: OK
2: And that’s where we got to learn all of the literature, kind of informing the use of external memory aids
N: Uh hum
2: and the difference you know between which types you might use for TBI, or what types are most effective for dementia and things like that
N: Right, OK and then is there anything else you’d like to add about your experiences using this treatment technique specifically in your building?
2: Uhm I don’t think so other you know other than that maybe just as SLPs we can advocate and do you know in-servicing and things like that, I think that that might be good. I think a lot of people just aren’t aware that there are things for this population that can make them more independent and can help, help ease some of the behavioral uhm, more behavioral issues
N: Right, right, OK, good

Interview Three
N: OK, can you hear me OK?
3: Yes, I can
N: OK, perfect, my first uhm few questions are just a couple of demographic questions
3: OK
N: So how many years have you been in your current uhm facility?
3: I, I may, I may not have caught all that, I heard you say demographics and then facility
N: Oh, OK, I’m sorry, how many years have you been in your current facility?
3: Oh, OK, my current facility I have been in for a year
N: And what about the skilled nursing facility industry as a whole? How many years?
3: 12 years
N: OK, and how many years as a speech-language pathologist?
3: 13
N: OK, and how many hours per week do your work in your current building?
3: I can uhm, I average anywhere from 20 hours to 40 hours depending on, I, I was covering a maternity leave so I was doing 40 hours a week, now the gal is back and I’m kind of like her part-time back-up so I’m averaging more like 20
N: Gotcha, OK, great, OK, so the next set of questions here talks about uhm your experiences with using memory aids for residents with dementia, OK?
3: All right
N: So the first question is if you could describe for me your overall impression of non-electronic external memory aids for residents with dementia, so maybe a particular case that you’ve used them with, anything along those lines
3: OK, yes, uhm, I used them with a, let me think here uh, this particular patient was an early onset, early onset dementia,
N: OK
3: And uhm, in her early 50s and we used a uhm, I had the family along with her uh make a family memory [unintelligible] book for her so she could go back and reflect on her, where she grew up and what she did for a living and her family, so kind of like a uhm, just a journal so to speak or uhm, she would look at every single
day, and then we, I had sections in there for uhm therapy to use, for nursing and therapy to use to teach activities so we would talk about long-term memory and then we also used it, there was a section that we used just for daily things, and she would use that as a reflection when someone would say, she always would participate but saying, “well I don’t know,” “I don’t know what I’m talking about,” so then I would get her to write things down so then she would love it because she

N: Hey, no that’s OK, I don’t know if it’s my phone, I don’t know what is happening. I feel so bad. No, I’m so glad and I want to hear everything you’re saying, so if you don’t mind, just pick up where you left off, cus I’m loving it, OK, go ahead.

3: OK, for long-term memory and for recent memory, so we used it kind of as, the staff would write down a couple buzz words so we worked on note-taking in that respect so that either she would write down a piece of information or the staff would do it for just to jog her recent memory so she could participate more in the daily conversations, she loved it, it worked out great.

N: Oh, I love it. I love that.

3: Yeah

N: Great, so my next question is what are some facilitators to you using these types of tools for your dementia residents? So, what things sort of help or make it easy for you to use these tools?

3: Uhm, what your saying, like what, like if it, well, the thing was for me is staff. Uhm

N: OK

3: I don’t have the buy-in from, if that’s what your talking about like uh

N: Yep

3: To maximize the use of these books, is that what you mean?

N: Exactly, yes, so I’m talking about whatever makes it easy for you to implement this type of treatment

3: Right, so I would say uhm, the big thing for me, that, that makes it easiest to implement that type of treatment is the assistance from the staff because if there’s no, there’s only so much we can do in a 30 minute treatment period or what not, but if the carryover in the staff, you know isn’t there to everyday life, it’s not gonna work, I don’t think at all. [unintelligible]

N: Right, right, OK, so that sort of gets into my next question which is what are some barriers that inhibit your use of this treatment with this population type? So it seems like you’ve hit on some which is buy-in from staff

3: Right

N: But anything else that would fit?

3: I

N: Barrier wise?

3: Yes, I, I can you hear me?

N: Yes, I sure can.

3: Cool, OK, I, you know a barrier would be one is uh is the staff here, that’s a huge one, uhm location and see uhm to really actually utilize the uh memory aid, like for instance, I like to attach it so it’s with the patient at all times if it’s in a drawer

N: Uh huh

3: It’s not easily accessible so accessibility is kind of a barrier at times. Uhm I think that my resources and tools from a, I do a lot of stuff on my own, uhm, my my building is very uhm, great, they’re nice about uh you know trying to assist with things but they can’t, today they can’t do it for me, and, b. they’re constantly talking about productivity so I have to be certain, certain that I’m 90% productive, so I kind of, that’s a challenge of with rules and what not, I just usually suck it up and take it home and that way I can spend as much time with that as I need to, but sometimes that can be a a little bit of a challenge uhm, but overall, I would say the big one is the uh staff assistance and accessibility of the actual aid, of the memory aid

N: OK, gotcha, OK, so tell me, to what extent is your facility rehab director knowledgeable about this type of treatment, in your view?

3: You know, I would say, our rehab director is an occupational therapist and I think that her knowledge probably, in that area, is pretty basic with memory

N: OK

3: I mean, I think that, I mean, boy, she and I don’t really talk as much, so I don’t know

N: OK

3: I never, and that is actually interesting because I don’t see her treat much either.
Appendix 3 (Continued)

N: OK
3: She’s all administrative and stuff, so I would say probably at the basic level
N: OK, and then to what extent does she support your use of this treatment?
3: Oh, 100%
N: OK
3: She doesn’t really question or, well, I, well, that’s kind of a misconception, I wouldn’t call it support, she just kind of, well, anything we do is fabulous and if it benefits the patient, that’s how we get the green light to do pretty much whatever
N: OK
3: Uhm, but uh, I really don’t go in depth with her on follow through. We don’t, in this particular building, we have a few patients that come in with dementia but it’s not like my previous buildings where we were on, you know, I had a specific unit that was devoted to my, my dementia patients.
N: Gotcha, OK, OK, and then what about other key stakeholders in your building? People like the administration, the administrator or maybe the DON? How much do you think they value you implementing this type of treatment with residents with dementia?
3: Uhm, I would, you mean how do they perceive or how do they, how do they carry on with that?
N: Yeah,
3: As in what’s their knowledge base, is that what you mean?
N: More uhm, do you think they value when you do it?
3: I see, uhm, actually, I would say probably not, I would say it’s more of an unsure. I’m not really quite sure.
N: OK
3: We often get the misconception that we’re just there, you know to get people to talk and that’s why I never introduce myself as a speech therapist unless they need speech, I always say, I’m your thinking therapist or your swallowing therapist
N: Oh, OK, OK
3: So, I think that they often times associate us with the word producers or the swallowers and I don’t really think that they, in my opinion, the administration, in terms of dementia, well that’s not really gonna help, cus it’s a lost cause kind of thing, that’s how I’ve seen it viewed. Uhm so unfortunately more times than not.
N: I see, OK, and then the next question is, to what extent do you think there needs to be consensus among nursing, therapy and you about the use of non-electronic external memory aids for residents with dementia?
3: I think uh, I think it needs to be, I think, I think that’s huge. I think it needs to be, there needs to be uh, a complete and utter uhm symbiotic relationship there to use it there, cus, like I said before, I can only do so much in therapy, but the aids and the nurses, I always say those are my gatekeepers, they’re the ones that know the patient inside and out and they’re with them constantly, especially the aids so uhm I think it’s crucial to uh for uhm on the external memory aid use, if everyone is using it, but unfortunately, I think that timing, and uhm the timing, nursing and aids both can be over uh worked, I guess, they have too many patients, and patient care cus of how many of them there are, there time, and so I think on my memory aid use is very low on their priority list
N: Right, OK, I see what you’re saying absolutely, OK, so what do you think we know and what is your experience with the patient and caregiver experience with the use of this treatment?
3: OK, say that one more time, sorry.
N: No, that’s ok, so what is, what do we know about the patient or caregiver experience with the use of this treatment?
3: uhm, I think uhm caregivers in the sense of staff caregivers or family caregivers? Or both?
N: Yeah, why don’t you talk about both? That’d be great.
3: OK, let’s see, yeah, well, I think that family values these a little bit more than staff does.
N: OK
3: I think that what I’ve seen is that family will look at it as uhm kind of like how we value photo albums, things like that, cus it’s kind of a walk down memory lane and they are actually familiar with the memories and I think that they, I mean obviously it’s there loved one so they want to uhm uh stimulate that as much as possible wherein, the caregivers from the staff side, what I’ve seen from them is again, it’s just something that is kind of like uhm just brushed away. So for me, like the lady that I was telling you about with the early onset Alzheimer’s, that was such a unique experience for me because she, she wasn’t, she was still independent enough to be able to recognize that she needed some assistance with that and family was such a huge support and the staff was such a
huge support, and so seeing all of that work together, it was such a success for the patient. So that is more the exception than the rule, I believe.

N: Right, OK, that’s funny, I have to kind of deviate for a second just to tell you this cus I think that from talking with you, you’d appreciate it so much. One of the other participants went all out with this memory aid, and then 3 hours later she walked by and housekeeping had put it in the trash.

3: Aw

N: And she was just devastated

3: That is, that is so horrible, I mean I appreciate the fact that staff wants to keep the place clean and they want it to be very efficient, and I get that things need to be put in the drawer but, it’s like a communication device, do you turn your communication off? No.

N: Right, right

3: So we shouldn’t be limited, it’s unacceptable, it’s huge, it’s huge.

N: Absolutely, absolutely. So, how easy or difficult is it for you to use non-electronic external memory aids for residents with dementia in your building right now?

3: Oh, I think it’s very easy.

N: OK

3: I think it’s very easy, yeah, yeah, the materials, the uhm, the current staff that we have, we have some, we just recently acquired some new staff that are very willing to do uhm be trained and uhm are happy to help and of course that’s great because they’re coming in really fresh faced with this experience but then you know in another couple months when the demands, when they work demands maybe get a little bit more challenging, they maybe singing a different tune, but right now, it’s very easy to implement these, with the newer staff, I would say.

N: OK, great, great, and then what is your perceived quality of the resources available to you in terms of materials and training for you to implement this type of treatment?

3: You know, I, I go online a lot and look for things and the same things kind of pop up, Michelle, I wanna say Bourgeois but I’m saying her name probably wrong and botching it but I’ve been to one of her courses before and I see a lot of materials or research pinned to her name and I, and she’s a wealth of knowledge but, so I go online and do a lot of research that way uhm, I’ve done a couple courses in it, it’s not something that there’s, that I think there’s a lot out there and it’s the same, I would say it’s pretty much the same, the same stuff, but I think it’s valuable because uhm, Michelle, one of her courses, she was talking about that I had no idea with, she was saying for a patient with dementia with a memory aid, you wanna get in and get out, 2 weeks tops,

N: OK

3: Yeah, that was what she was talking about and I think that we need more resources to talk about that because I, you know, unfortunately PRN, I jump everywhere from facility to facility and I think some of the newer clinicians and/or some of the ones that have been doing this a long time, they uh, they’ve become stale, you know, they

N: Yeah

3: The idea of memory with some of these folks with dementia is just doing the same things, you know like maybe a calendar, no, no, no, you know in therapy we need to jump into their world and not, you know, I don’t know but I think, I think that there needs to be more of that, definitely, there’s a limit on the resources in that respect.

N: Yes, OK, OK, and then where did you first learn, you mentioned Michelle Bourgeois, where did you first learn about this treatment technique?

3: I ooo, that’s a good question Natalie, I believe, uh, OK, I believe it was a continuing education course in my home state

N: OK

3: We had, our annual conference, I had gone to a conference that was kind of, had a cognitive component to it, we got to talking about memory aids, it was right out of college so, uhm, we didn’t talk about that at all in my graduate school

N: OK

3: At Purdue, we didn’t talk about any of that

N: OK, OK, and then finally, is there anything else you’d like to add about this treatment, your experiences, in particular to perhaps different buildings that you’ve worked in since you do have a wealth of experience in different buildings? Anything at all?
Appendix 3 (Continued)

3: Uhm you know, I think that I’ve kind of touched on all the stuff I’ve seen, uhm, I think that in theory, it’s such a good tool to have because it’s something that’s visual, it’s something tactile, something that is recollection, reminiscing therapy, I think that it’s absolutely important to have, especially like routines, things like that, it’s so important but I’ve just had a very difficult, I’ve had more disappointments than I have had success and I think it all stems from accessibility and uhm staff participation, those are my 2 big things with it.

N: Right, right, OK

3: So, that’s all I would add, just driving home that message. Overall, it’s you know, it’s kind of 50-50 success rate, you know we go over, routines are really important to have in there, or there daily events, we just, especially the higher level ones, I think there definitely needs to be more uhm, like well, for instance, my girlfrend and I are getting together once a month to go over, like all the ones that work in long-term care, to go over, OK, when you see somebody with memory, I’m sick of the, I’ve been doing the same things over and over, what do you have in your bag of tricks?

N: Yeah

3: What do you do that is maybe a little bit different?

N: Right

3: Uhm so we talk about that, you know I kind of think that people don’t know things like spaced retrieval, things like that, so

N: Right

3: So I think that there needs to be more resources on that, more classes or

N: Sure

3: Online or live courses but uh yeah, I think that that’s important to have.

N: OK, well that’s all the questions that I have, I can’t thank you enough for your participation and this has just added a wealth of knowledge.

Interview Four

N: OK, can you hear me OK?

4: I can hear you OK, it’s a little fuzzy.

N: Is this better? OK, great. OK, so my first question to you is, how many years have you been in your current building?

4: 6 ½ years

N: OK great, and then, how many years have you been in the skilled nursing facility industry in general?

4: 6 ½ years

N: OK, and then what about as an SLP?

4: 6 ½ years

N: Oh, I must have lost you somehow.

4: I know, I was about to call you back on my cell phone but it went straight to your voicemail, so thank you for calling back.

N: Oh of course, so the last I heard you were 6 and ½ years in your current building, same, that’s your experience in the industry, and also that’s how long you’ve been a speech pathologist. Is that right?

4: Correct

N: Great, and how many hours a week do you work in your particular building?

4: I’m at about 32 hours a week

N: OK, and then do you do PRN at any other facility?

4: Uh, I mean, I think I did one day, some PRN work last year, by and large, no.

N: OK, great, uhm, so these next set of questions have to do with your experiences using memory aids for your residents with dementia.

4: OK

N: OK, so the first question is, if you could just describe your overall impression of the use of this type of treatment, non-electronic external memory aids for residents with dementia?

4: I feel like it isn’t used enough, uhm, and I also feel like once it’s trained it’s trained with the caregivers and with the patients as soon as kind of that post therapy caseload window has worn off, they, they largely get stuffed in a drawer uhm and aren’t utilized as it was, as it was originally planned out. So, I feel like, there not used enough
actively by the staff as developed and hence they end up really not being used at all, and then caregivers kind of you know, either, start to know the resident enough and usually when people uhm if I develop the memory aid for someone, they’re usually staying here as a long-term resident as opposed to discharging to another level uhm, and so then once the aids kind of quote “know” the, the resident, then they, they kind of acquire the kind of cueing that they need to kind of get the most out of the resident.

N: Right, OK, OK, so my next question is what are some facilitators to your use of this treatment? So is there anything particularly in your building that makes it easy for you to implement this treatment?

4: Physically, I don’t have any facilitators. I think recently in I would say the past year we have acquired some nursing staff and some nursing managers that are more amenable to carrying over the use of the memory aid.

N: OK

4: As trained

N: OK

4: Uh so I uh, I have good staff support outside of the therapy department, nursing, with nurse managers and with caregivers

N: OK, great, now on the other hand, what about barriers? So you sort of touched on a few, but are there any barriers that may inhibit your use of the tool for your residents with dementia?

4: My use of the tool, no, because

N: OK

4: You know when training with the tool, it usually goes really well and you know, like, like I said before I think time for the CNAs and the caregivers is a barrier

N: OK, gotcha

4: They don’t have, sometimes, those extra couple minutes to find the resource, use it, to have a kind of stress free, kind of situation where they’re not feeling rushed in order to allow the resident to use it appropriately, be independent with it, uhm hence it kinda gets, it gets pushed out of the way uhm so I would say that time, and uhm the CNAs in terms of how much time they have, gets in the way of its use.

N: Right, OK, great, what about, to what extent is your facility rehab director knowledgeable about this type of treatment?

4: I wouldn’t say very knowledgeable about that. Uhm, yeah, I think she, in terms of its, if I’m advocating that this is going to be uhm an ideal treatment for a patient, then I have the DOR’s support, 100%, but in terms of the knowledge base about it, I wouldn’t say that it’s super strong.

N: OK and you actually already just answered my next question which was to what extent do you feel that she supports your use of the treatment?

4: Yeah, definitely very supportive.

N: OK, great, what about key stakeholders in your building, people such as the DON, nursing managers, uhm, the administrator, even the nursing assistants? To what extent do you think that they value your use of the treatment?

4: I think it’s variable, I mean right off the bat, I don’t have a one on one relationship with our administrator

N: OK

4: I do have the one on one relationship and the ability to communicate with CNAs, nursing managers, and our Director of Nursing.

N: OK

4: Uhm, I, I think that some are more supportive than others.

N: OK

4: Uhm, so it, it’s kind of a variable question. I believe that some CNAs who I’m generally training to use the aids uhm if you know, sometimes I get the impression that they have a vested interest in the patient, you know they take someone under their wing, you now they’re my resident so to speak

N: Yeah

4: So occasionally, with CNAs that have that kind of personality and that kind of relationship with their patient get a lot more buy in

N: Uh huh

4: But for the ones that are either new or don’t really understand the use of it entirely, I might get a little bit of lip service about how they’ll use it but then there really isn’t any follow through, I think that they’re seeing how it might slow down getting to this resident and this resident and taking care of all of their residents’ needs

N: Right
Appendix 3 (Continued)

4: So that’s kind of from the CNA’s point of view, from the resident care manager, uhm, standpoint, I think that I get uhm more consistent buy-in and agreement and support
N: OK
4: In terms of how great it would be if this was used, but then not a lot of facilitation on their part to make sure it’s used
N: Right, OK, OK
4: Does that make sense?
N: Absolutely, yes, absolutely, uhm, what can you tell me about the patient or caregiver experience with non-electronic external memory aids for residents with dementia?
4: I’d say that most of them have a pretty good idea of why they’re used and how they’re useful, uhm, I think that CNA’s appreciate kind of more that hands off memory aid as in there’s a poster on the wall
N: OK
4: That has pictures of the family
N: OK
4: And the written white board thing that talks about what day it is and the weather, that kind of stuff, I think that they get it when it comes to that but then with with the interaction with sitting down with a book with pages you know and you gotta find key things, maybe less of an understanding of why that would be important uhm kind of socially to the resident
N: Right, OK, what about the resident experience?
4: Uhm, sorry, was that the original question?
N: No, it was both. No, it was resident and caregiver
4: Laughter, [unintelligible] I think it’s variable based on level of dementia
N: Right
4: And most of the folks that I see actively in terms of speech caseload are kind of early in their disease process
N: OK
4: And so and often they’re not staying here
N: OK
4: And then the onus of therapy has been on, you know, maybe do modifications, environmental changes, training the family kind of on how to transition to the next step once they leave here, so for the residents that have remained, that have these memory tools in place in their room, they’re kind of in that late stage dementia uhm part of their lives, and so uhm, I feel like, I feel like at this point, I don’t have a good idea of how useful they think it is
N: Uh hum
4: Because they’ve been off my caseload now, for uhm, a long time
N: Right, right
4: And, you know, for whatever reason, I haven’t like followed up on it to see how well it’s being used or how well they’re responding to it. Uhm, so I feel like some of ours with mid-level dementia patients, it’s a good interactive tool and they’re able to become more involved when shown it, and they have the ability to work with it. Uhm, but it, it’s kind of out of sight, out of mind, kind of away in the drawer.
N: Right, exactly, OK, uhm, to what extent do you think there needs to be consensus among nursing, therapy and you about the use of memory aids for residents with dementia?
4: I think that there has to be 100% consensus on its use
N: OK
4: and the benefits that can come from it uhm, yeah, and I feel like, honestly, because I know that there is poor follow through for the longer term residents with dementia, uhm, developing these kinds of tools, unfortunately, I feel like it’s kind of an exercise in futility because I, my experience has shown that it, there isn’t a good follow-through on it, so if there was, kind of a system wide approval and appreciation and training on how these tools can be effective, the administrator, the nurse manager, the CNAs, the, all staff, laundry, the kitchen staff,
N: Right, right
4: Uhm, that it would, I think it would, could be a better utilized tool.
N: Uh hum, right, right, so how easy or difficult is it for you when you want to use this treatment with someone, how easy or difficult is it for you to do that?
4: I’m sorry, you are cutting out a little bit, I didn’t hear the last question.
Appendix 3 (Continued)

N: Uhm, how easy or difficult is it for you to use this tool if you wanna use it with a resident with dementia?
4: I find it pretty easy.
N: OK
4: And it’s actually a pretty fun tool to be developing with patients uhm and I try to get family involved and use important pictures and kind of identifying pertinent events and uhm you know special things you know in order to make it the most useful tool that I can, you know I think that it’s really fairly easy and really kind of fun.
N: Great, great, so what is your perceived quality of the resources available to you in terms of materials and training to implement this treatment?
4: I think uhm, training in terms of going or continuing education opportunities?
N: Right, both, both I’d say
4: OK, uhm, schooling not so much. Uh, my program unfortunately did not have a good uhm kind of cognitive uh track in it, I mean there was adult neurological disorders but very little touching on cognitive changes and very little about dementia
N: OK
4: So, uhm, in that regard, not well trained. For continuing education opportunities, in my area, I would say that not, too terribly many, I kind of have to search out continuing ed opportunities for cog rehab and dementia, kind of personally a little bit more interested in it uhm so from that standpoint, it’s a little bit of a struggle. From a physical ability to put together a tool, uhm, pretty easy, I have a stash of materials that I can use and it’s also really simple too maybe take a couple pictures with my phone and then print them at the pharmacy down the street
N: OK
4: And put it together in that way, so actual physical tools, just fine. Uhm, kind of the better training on how and when and why to do it, uhm, is not that great.
N: Right, OK, OK, and then since you mentioned that you didn’t have the best program in this area, where did you first learn about this treatment and how to do it? OK, so the last question was, since you didn’t learn about this treatment in grad school, where did you first learn how to implement it?
4: Uhm, I think, I think it was probably touched upon in some graduate things, but no more than like a paragraph in a text about tools and things that can be beneficial with that kind of cognitive decline, uhm, it was really kind of a matter of once I got into working at the skilled level, doing my own research for best ways to kind of work with this population
N: Right
4: And uhm, so kind of a lot of either in facility like what’s gonna be best for this person?
N: Right
4: And knowing that memory books can be really beneficial and then developing one spontaneously uhm so kind of just on the job experience and figuring out some stuff on my own by kind of doing some more research and collecting some more tools
N: Right, right, OK, and then finally, I’d just like to know if there’s anything else you’d like to add about your experience with these treatments, in particular to your facility, or just in general? Anything that we haven’t touched upon in the interview so far?
4: Uhm, not really anything that I can think of.

Interview Five
N: OK, great, and I just, really, uhm, can you hear me OK?
5: Yeah, I can still hear you fine.
N: OK, great, I really appreciate you, uhm, participating in this and your time, so thank you so much.
5: Not a problem, I use memory books a lot, so I’m anxious to see what results you get
N: Oh perfect, great, OK, so before we get started, I was wondering if you could just tell me the number of years you’ve been working in your current skilled nursing facility?
5: Ok, well, I work in multiple skilled nursing facilities
N: OK
5: What I put down on the online survey, I kind of just counted one as my primary
N: Perfect
Appendix 3 (Continued)

5: And I’ve been working there for 3 years
N: OK, gotcha, and so then, how long have you been in this industry as a whole, the skilled nursing facility industry?
5: Uhm, let’s see, I’ve worked for about 5 and ½ years and 4 of those, I started out in pediatrics for 1 and ½ years
N: OK
5: So the past 4 years have been skilled nursing and long-term care
N: So you’ve been an SLP for about 5 and ½ years then?
5: Yeah, that would be total.
N: Perfect, and then how many hours a week do you work in your primary facility?
5: In the primary one, about 24
N: OK, and then with PRN, do you approach 40 with your other buildings?
5: 40-50, somewhere in there
N: OK, OK gotcha, OK, so a lot of these questions uhm sort of relate to the organizational culture in a certain building, so if you wanna just use your primary facility, then feel free to sort of share with some of your PRN facilities as well, that would be great.
5: OK, that’s good cus it’ll be a little hard to you know, there’s definitely different impressions in different buildings
N: Exactly, so if you could just, just please feel free to discuss all of those, that would be great
5: OK
N: Because as you know, you know, several people work PRN in different buildings and it’s so different in each one and that’s part of what we’re getting at
5: Yeah
N: So just feel free to talk about all of them, OK, so the first question is if you could describe your overall impression of the use of non-electronic external memory aids for your residents with dementia
5: OK I guess my overall impression from the work I’ve done and then covering PRN at other places, is that the research is great behind them, they seem promising and then there’s a lot of fizzle.
N: Right
5: They require enough carry through from caregivers, whether family, or the nursing staff, and then there’s other issues surrounding the time that it takes to create them and getting a hold of the materials to create them is uhm
N: Right
5: You know I’ve had very different experiences of having to buy things out of pocket versus uh, you know management being more supportive about reimbursing or paying for reasonably priced materials to make basic memory aids
N: Right
5: So, I either have to spend, I was, you know it was, it was interesting to see that that was the direction your online survey was going was
N: Right
5: How do all of these institutional factors into, how do these figure into our field’s implementation of a certain strategy that the research says is you know, is one of the best things you can do for this disorder
N: Right, yeah, exactly, exactly, what are, if any, some facilitators to your use of this treatment for residents with dementia?
5: A really involved family
N: Got it
5: That’s the best
N: OK
5: Because uhm, well, I guess I shouldn’t limit that, it’s not just family, it could be a very involved friend
N: OK
5: As well
N: OK, sure
5: Uhm, but basically, non-staff caregivers
N: OK
5: Because they are so much, not that the facility staff always lacks the motivation to carry though, but I, I just find that the carry through is more consistent if you have a family member or friend, who, who has attended a few sessions, and they get it. They get the concept, they get what we’re going for
Appendix 3 (Continued)

N: Yes
5: And then they can take it and run with it
N: Right, ok, ok, on the other hand though, what are some barriers that may inhibit your use of non-electronic external memory aids for residents with dementia?
5: That would inhibit my use of them?
N: Right, any barriers to your use of them
5: Uhm, let’s see. Are we talking about, of course they have to be a good candidate for it at all
N: OK
5: You know someone who, someone who’s in the right stage of dementia to benefit from it, you know at least some receptiveness to it, that kind of thing, so the things that are really the obstacles are sometimes, the time it takes to make it
N: OK
5: Uhm, I ended up just having to use sessions to do that
N: Yeah
5: And then that always gets a little bit sticky because you know even though it was valid use of time, sometimes it feels weird writing up the note
N: Yes
5: When like we haven’t really you know worked on each and every goal
N: Right, right
5: So
N: Yeah
5: Time and materials, just getting a hold of materials, to make it, and getting information, sometimes there’s, you’re playing phone tag with the family or the only times that the family comes into visit are times that you the speech therapist isn’t in the building
N: Uh huh, yep
5: And not having enough information to make a good one, only more of a generic one
N: Right
5: Is difficult as well, and that’s what, you know I hate it when that happens but sometimes you know the ones that I’ve done with people are, they do feel kind of generic and then you know in the absence of time, it’s not quite as helpful as it could be
N: Sure, right, right, OK, To what extent do you think your Facility Rehab Director is knowledgeable about this treatment technique?
5: Very generally
N: OK
5: Uhm not, the manager at my specific facility is a PTA
N: OK
5: And we’ve worked together long enough that she certainly, you know she respects my experience in the field
N: Uh huh
5: And so I feel like, I think her, I think her acceptingness of it is predicated on our relationship kind of you know, Heather knows what she’s doing, if she says there’s research behind this, go for it.
N: Right, OK
5: But I don’t feel as far as knowledge in the principles behind it and why it’s such a good intervention, I think that’s a lot more nebulous
N: OK, and then along the same, this is a very similar question, to what extent does she support your use of the treatment?
5: I think that they make a good faith effort to, you know like if I go to her and the COTAs who are at that facility, it’s a very small facility
N: OK, uh huh
5: Those are the 2 main people that are there aside from me, you know, they, if I explain, you know every time, like let’s say we’re trying to cut down on repetitive questioning and I tell them, OK, if it happens during your session, every time they ask that, you know, can you tell, it’s gonna be up to you, can you tell them, uhm you know, where can you look to help, to remember you know kind of whatever
N: Right
Appendix 3 (Continued)

5: Whatever response they can read on for redirection through the memory aid
N: Right
5: Then I think they try, they try to do that.
N: OK, OK, what about other key stakeholders? So kind of starting maybe from the top and then all the way down, so thinking about people starting at the administrator level, down to maybe to the DON, to unit managers, all the way down to nursing assistants, to what extent do you think they value this treatment that you’re implementing with some of these residents?
5: I think before we get to value, we have to talk knowledge.
N: OK
5: Because I think, I think administrators
N: Go for it
5: I think administrators
N: Uh huh
5: I feel like they have so many bigger fish to fry
N: Yes
5: That they’re not aware of specific interventions and by the same token, I don’t think that’s just our field, I think, you know I think if they were pressed to down I name, unless they are a therapist themselves and also an administrator
N: Right
5: I bet they would be hard pressed to name specific interventions that each discipline does
N: Right
5: And that facility is not, it doesn't have any special credentialing or you know anything like that in dementia care
N: OK
5: Facilities that are you know that, that say that they specialize in dementia and, and go through staff training programs with everybody, I think they have a little more awareness
N: Right
5: We are kind of the general skilled nursing facility, we don’t have a specific dementia care unit, so I think they just don’t know, they know that the residents get therapy, they want them to get therapy
N: Yes
5: They want the therapy to be good quality
N: Right
5: But I don’t think they know a lot about what specifics we do
N: OK, OK, gotcha, so because of that lack of knowledge, you’re sort of maybe, I don’t wanna put words in your mouth, but are you like slightly skeptical of their value of it, being as they lack the knowledge base, or they know that?
5: Yeah, I would have to say
N: Yeah
5: To answer the value question, I would have to say that they don’t
N: Yeah
5: Just because they’re not aware of it
N: Right
5: I think they don’t know enough about it to, to value it
N: Right, right, I definitely see what you’re saying, absolutely, uhm so to what extent do you think there needs to be consensus among nursing, other therapy staff and you about the use of non-electronic external memory aids for residents with dementia?
5: I think it, I think it needs to be pretty high
N: Uh hum
5: Because if, the whole thing, especially in the training phase, is it being consistently implemented?
N: Right
5: Cus you know if you’re trying to do it an errorless learning fashion and really let’s say, let’s take the example of someone with repetitive questioning again
N: Uh hum
Appendix 3 (Continued)

5: If half the staff is redirecting them to their memory aid when they come up and ask, what time do I get my medication and I ask this every 5 minutes,
N: Yes, right
5: And the other half of the staff is, is just answering them and not redirecting them to their memory aid, then, they’re not, you know, they’re not learning to use their memory aid
N: Right, Right, OK, and so what can you tell me, for one about the resident experience with these types of tools, and then the caregiver experience? So maybe first talk about what you know about the resident experience and then the caregiver experience?
5: Well, I think the resident experience really varies depending on their, their own perception of their abilities, you know if they’re even in the stage where they can have those type of metacognitions about what they’re doing
N: Right, right
5: Some of them like it, you know and make very positive comments, you know like, oh, I really like these pictures
N: OK
5: You know, thank you for the book that you made
N: Right
5: You know things like that and others are just more kind of ambivalent, like, yep, OK, this is in front of me right now, you know
N: Right
5: They live in the moment
N: Right, right
5: Oh, OK, we’re looking at this now, all right
N: Right, right, yes exactly, and then what about maybe, first talk about family caregivers, and then uhm staff caregivers. What do you think their experience with this is like?
5: Yeah, I think with family it really depends, it really depends on uhm if they, I forget what I want to say completely, what to articulate here, uhm I think it really depends how much they get the concept of it
N: Yeah
5: I think too, you know and I focus a lot on I always feel like if they don’t, they don’t, they don’t, are they not buying it all?
N: Yes
5: Am I not explaining it as best I could, like you know
N: Yeah
5: Am I overwhelming them with specific information
N: Right
5: Or did I not give them enough information, you know
N: Uh hum
5: Or it might just be, I think, oh, all those caregiver factors play into that, are they just so overwhelmed from working a full time job and taking care of mom
N: Yes
5: That this is, this is
N: Right
5: This is not gonna happen right now because you know it’s that one more thing that is too much for them
N: Yeah, absolutely, absolutely, OK, anything about the staff experience, if they do happen to follow through with something you have implemented? Have they made any comments or anything along those lines?
5: A few of them
N: OK
5: Yeah, a few of them have really, there’s been a few sort of STNAs and just floor STNAs who you know have either happened to catch part of a session
N: OK
5: Or we were typically doing training with them
N: Uh hum
5: For restorative and you know when you get those really good candidates for this treatment who respond really well, that’s impressive to see
N: Yeah
Appendix 3 (Continued)

5: So, and then there, you know their general, you know their, it’s, I’d hate to use a word like good but you know
N: Yeah
5: Like a good STNA
N: Right
5: And they are a caring person in general
N: right
5: They’re very happy to see the person you know not asking so many repetitive questions, being able to find it for
themselves, that kind of thing
N: Right, right, right
5: But then I think a lot of that tendency to just jump in and be a good caregiver and give them the answers
N: Yes
5: Sometimes it
N: Yes, Yes
5: It backfires
N: Right
5: When the STNA isn’t using it kind of thing
N: Right, right, OK, OK, so how easy or difficult is it for you to use non-electronic external memory aids? Maybe
you can talk about your primary facility first and then if there’s any differences in some of your PRN facilities?
5: OK, so how easy is it for me?
N: Right how easy or difficult
5: To implement it?
N: Right
5: Uhm with me, it’s very easy
N: OK
5: because I can control pretty much all of the variables
N: Right, right
5: because I get to make it with them
N: right, right
5: You know, you know we got whatever information we could from family, maybe they helped as well
N: Uh huh
5: Then in my session, I make it very easy to use it with them
N: Uh huh, uh huh great
5: I don’t know if you’re getting at something else there
N: No, no, you’ve got it, you’ve got it.
5: I find that, I feel like I have a lot of control over that situation
N: Right
5: And the hardest part is just getting that generalization
N: Absolutely and it seems like you have some experience with it, it’s easy for you to do it, cus you know what
you’re doing, you’ve done it before and no, that’s exactly what we’re getting at, absolutely, so what about
5: And I specifically, I mean I bought Michelle Burgiss’s book
N: Uh huh
5: About the uh making, I forget the whole title, but the memory aids and other graphic cueing systems
N: yes, uh huh
5: So, and I’ve done some continuing ed specifically to know OK, you know what is the process of doing this, what
works the best, what does the research really say?
N: right, right, that sounds awesome, so as far as resources, what is the perceived quality of the resources available
to you in terms of materials or training for you to implement this type of treatment?
5: Pretty much all on my own
N: OK
5: A lot of buying things out of pocket, a lot of pursuing continuing ed on my own
N: OK, OK, do you, can you tell me some of the things that you’ve bought that’ve been helpful material wise out of
pocket?
5: Yeah, I would say as far as memory books, Michelle Burgiss’s book would be the biggest thing
Appendix 3 (Continued)

N: Uh huh
5: I’ve purchased a spaced retrieval manual also because I just think when you’re training use of a memory aid, is,
   OK, they have to know that they have it
N: Right
5: They have, when they you know
N: Uh huh
5: Ask questions, they know where to look for it
N: Right
5: You know, know to pull out their planner and look at it
N: Right
5: That kind of thing and then I usually go to my state convention
N: Uh uhm
5: And try to do any geriatric dementia related course work there
N: OK
5: And I do some, some of the speech pathology .com courses as well
N: Right, right, OK, so where did you first learn about this treatment?
5: Uhm, I think I think I had at least heard of it generally when I was in my master’s program, which was at Case
   Western in Cleveland.
N: OK
5: So, but at that point, I was mostly pediatric, but I kind of knew it was out there, but I didn’t pay it much mind, but
   uh, Jennifer Brush was a Case Western graduate, she was one of the people who worked on spaced retrieval
N: Right, right, OK
5: And that technique was pioneered in Cleveland so we knew a lot about that
N: uh huh
5: And we knew that one of the uses for it was training things like use of memory aids
N: right, right, OK, so is there anything else that you would like to add concerning use of this treatment in your
   building or any of your other buildings?
5: Uhm, not, not really, I have a lot of general things
N: Go for it
5: When we get to talking about this, and support for various services and there could be a lot of good things, but I
   think in general, especially with as much outcomes based the field is becoming in response to Medicare and 3rd
   party payers in really determining the value of our services, I think that fizzle that I described earlier
N: Yeah
5: Is something that we really need to be concerned about, uh, yeah, you know people that we pick up for these
   services, they’re probably appropriate, you know, if they’re at the right stage of dementia where they can benefit
   from a memory aid
N: Right
5: But they’re not getting good follow through
N: Yeah
5: Their outcomes are not gonna look good and then, then we’re gonna get, really saying but the research supports it
   and Medicare and insurance will come back and say, theoretically the research might support it, but the outcomes
   don’t support it, so you’ve got problems
N: Right
5: You know, you had 3 weeks of 5 sessions a week, and you got no where cus at the end of those 3 weeks, the
   person isn’t using it consistently.
N: Uh hum, Uh hum. I think that’s an excellent point.
5: And, yeah, that’s just a little bit, that’s kind of sobering to think about.
N: Yeah, sure, it is, and we know all these changes are coming down the pike with value based service and uh, it’s
   extremely relevant right now, I think, absolutely
5: Yeah
N: So anything else that you’d like to add?
5: Uhm, I think that’s pretty much it, you know unless you have any more specific questions, that’s most of it.
N: OK, OK, let me take you off recording here.
Appendix 4: IRB Approval

3/7/2013

Natalie Douglas, M.A.
Communication Sciences and Disorders
4202 East Fowler Ave.
Tampa, FL 33620

RE: Expedited Approval for Initial Review
IRB#: Pro00009172
Title: Factors supporting speech-language pathologist evidence-based practice use: A mixed methods study within the promoting action on research in health services framework

Study Approval Period: 3/6/2013 to 3/6/2014

Dear Ms. Douglas:

On 3/6/2013, the Institutional Review Board (IRB) reviewed and APPROVED the above application and all documents outlined below.

Approved Item(s):
Protocol Document(s):
Natalie Douglas Study Protocol

It was the determination of the IRB that your study qualified for expedited review which includes activities that (1) present no more than minimal risk to human subjects, and (2) involve only procedures listed in one or more of the categories outlined below. The IRB may review research through the expedited review procedure authorized by 45CFR46.110 and 21 CFR 56.110. The research proposed in this study is categorized under the following expedited review categories:

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your study qualifies for a waiver of the requirements for the documentation of informed consent
as outlined in the federal regulations at 45CFR46.117(c) which states that an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects.

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval by an amendment.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board