

SPEECH-LANGUAGE PATHOLOGISTS' ASSESSMENT AND TREATMENT OF DEMENTIA: A MIXED METHODS STUDY

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BACKGROUND: DEMENTIA



- Dementia: broad category of acquired brain diseases that cause progressive loss of cognitive functions (Bourgeois, 2011)
- Alzheimer's Dementia
- Vascular Dementia (VaD)
- Lewy Body Dementia (Alzheimer's Association, 2017; Bayles & Tomoeda, 2014)

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BACKGROUND: SLP ROLE AND EBP



- Speech-language pathologists (SLPs)
 - Impact of communication
 - Screening, assessing, and treating people with dementia (PWD) (ASHA, 2016)
- ASHA mandate of evidence-based practice (EBP) in 2005
- EBP
 - 1. published literature (external evidence)
 - 2. needs and preferences of the patient (internal evidence)
 - 3. clinical expertise (internal evidence) (Paul 2014)

Northern Speech Services (2019). Online SLP ASHA CEUs. Retrieved from <https://www.northern-speech.com/year/03/online-ccca/dementia>

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RELATED RESEARCH: PAUL AND MEHRHOFF (2015)

Results

- Direct interventions: specific verbal instruction, cognitive stimulation, memory wallet, spaced retrieval, and errorless learning
- Indirect interventions: caregiver training, prospective memory aids, linguistic manipulation
- Influencers: 1) continuing education, 2) peers/co-workers, 3) published research evidence, 4) client preference

Barriers to dementia treatment

- 1) caregiver related 2) therapy implementation 3) policy barriers

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PILOT STUDIES: BUHR ET AL. (2015)

- Concurrent embedded design
- 5 semi-structured interviews with SLPs with open ended questions
- Likert scale: familiarity with, frequency of use of common treatment methods by Academy of Neurologic Communication Disorders and Science's EBP guidelines (ANCDS, n.d.)
- Terminology differences: memory aids

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PILOT STUDIES: MOUNT & WEISSLING (2017)

- Extended Buhr et al. (2015)
 - Additional interviews → combined with Buhr et al. for 10 total
 - Refined codes
 - Treatments indicated by ANCDS unfamiliar/infrequently used
 - Some SLPs unfamiliar, but familiar after a definition → terminology?





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CURRENT STUDY

- Overcome limitations of Buhr et al. and Mount and Weissling
 - 1) inter-rater reliability not completed on coding
 - 2) small sample size
 - 3) selection of treatment approaches not systematically identified


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STATEMENT OF THE PROBLEM

-  Barriers to EBP into clinical practice
-  Relevance of research incompatible (Dodd,2007; Ratner, 2005)
-  Lack of time most significant barrier (Zipoli & Kennedy, 2005)
-  17.7% of SLPs implemented research into clinical practice during past 6 months (Zipoli & Kennedy,2005)

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RESEARCH PURPOSES

-  Identify if gap exists between external evidence and SLPs' actions with PWD
-  Identify size and potential sources of gap

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HYPOTHESES

1. SLPs are engaging in dementia assessment and treatment procedures from the external literature.

2. In some cases, SLPs are doing what aligns with the literature, but may use different terminology.

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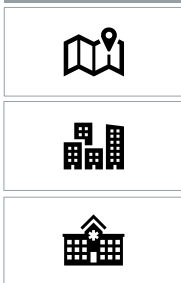
HYPOTHESES CONT.

- 3. SLPs who fall under the following demographics will be more confident working with PWD, familiar with top-five treatment approaches, and frequently use those strategies:
 - a) more years of clinical experience
 - b) more dementia-related CEUs
 - c) higher percentage of PWD on caseload
 - d) taken a dementia course
 - e) report using journals/CEUs
 - f) report being prepared for dementia practice

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HYPOTHESES CONT.

- 4. SLPs who fall under the following demographics will report similar levels of confidence, familiarity, and frequency of use
 - a) geographical regions
 - b) work settings
 - c) population density



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LITERATURE
REVIEWS:
TREATMENT

Databases: EBSCOhost, PSYC
Info, World of Science, PubMed

ASHA Dementia Evidence Map

Hand search of textbooks


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LITERATURE REVIEWS:TREATMENT


- Spaced Retrieval/Errors Learning- 43
- Cognitive Stimulation- 41
- Reminiscence- 38
- Caregiver Training- 34
- External Memory Aids- 16
- Reality orientation- 7
- Montessori Intervention- 6
- Computerized Cognitive Intervention- 5
- Vanishing Cues- 5
- Multidisciplinary Approaches (Walking/Talking programs, exercise and social groups)- 4
- Communication Aids- 2
- Simulated Presence- 2
- Validation Therapy- 2
- Non-Reminiscence Group (Story-telling group)-1
- Language intervention-1


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LITERATURE
REVIEWS:
ASSESSMENT

 Databases Searches

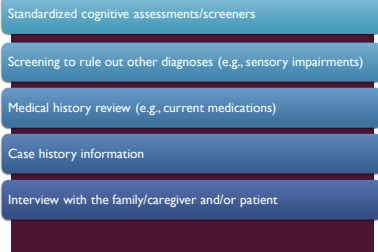
 Hand searches of 5 textbooks/textbook chapters

 ASHA Evidence Map

 Total of 7 sources of information: 5 textbooks,
ASHA Evidence Map, Database search articles

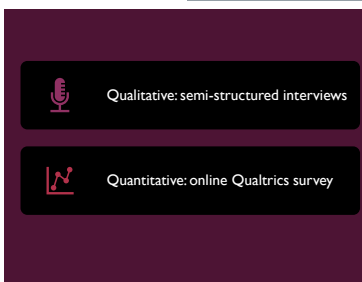
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LITERATURE
REVIEWS:
ASSESSMENT
MOST IMPORTANT
COMPONENTS (AT
LEAST 3 OUT OF 7
SOURCES)



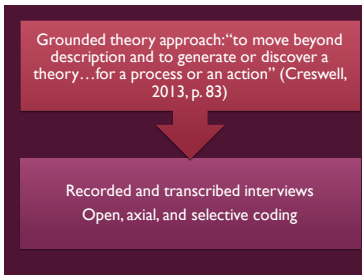
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MIXED METHODS
DESIGN



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QUALITATIVE:
GROUNDED
THEORY



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QUANTITATIVE: ONLINE SURVEY

54 questions: multiple choice, multi-select, rate (i.e., scale from 0 to 100), and short answer

Content:

- Demographic
- Dementia practice questions: assessment and treatment
- Short answer
- Questions from: Evidence-Based Practice Confidence Scale (EPIC) (Salbach & Jaglal, 2011)
- Dementia-related confidence
- Familiarity of top 5 treatment approaches
- Frequency of use of top 5 approaches

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INCLUSION CRITERIA



1) CERTIFIED BY ASHA



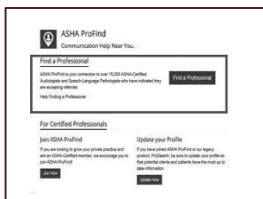
2) PRACTICING WITH PWD FOR 4+ YEARS



3) RESIDE IN U.S.

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RECRUITMENT



- IRB approval
- Convenience sample
- ASHA Profind and messaging feature
- SLPs listed under Dementia (n = 338)
- 50% of SLPs listed under Cognitive Communication Disorders (n = 933)

Total: 1,515

Response rate: 3.5% for surveys; 0.6% for qualitative interviews

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CATEGORIES, SUBCATEGORIES, AND DIMENSIONALITY

- Category
 - Ex: Informal procedures/measures
- Subcategory
 - Ex: Caregiver input/interviewing family
- Dimensionality category:
- Ex:



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MAJOR THEME: EVALUATION

Number of Sources and References by Category and Subcategory (n = 10)

Major Theme	Category	Subcategory	Sources	Reference
Evaluation	Formal Testing		10	56
		Formal testing reasoning	9	29
	Informal procedures/measures	Caregiver input/interviewing family	10	25
		Specific questions/information	8	13
		Interview patient	9	12
		Considering safety/behaviors	6	8
		Assessment decisions based on level	8	16
	Evaluation reasoning		8	34
	Frequency (evaluation)	Never	3	3
		Maybe	7	14
		Typically	7	20
		Always	6	12

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MAJOR THEME: TREATMENT

Major Theme	Category	Subcategory	Sources	Reference
Treatment	Top 5 Strategy		10	72
		Description of caregiver training	9	27
	Non-top 5 strategy		9	35
		Negative approach	7	11
	Cognitive target	Reasoning against	8	14
			9	29
	Language/communication target		8	29
	Safety-behavior target		10	31
	Treatment reasoning		10	66
	Frequency (treatment)	Don't do	8	18
		Maybe	10	30
		Always	10	56
			7	13
	Extent of success	Not or minimally successful	4	11
		Can make progress	4	6
		Extremely successful	1	1
	Theory/principles		10	35
	Decision making based on level	Functional or individualized	10	45
			5	11
		Trend at early stage	7	9
	Measuring outcomes description	Trend at late stage	5	10
		Source (patient)	8	19
		Source (caregiver)	5	7
	Reasoning behind outcomes	6	8	
	Description of expected progress	7	18	

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QUALITATIVE RESULTS: AXIAL CODING



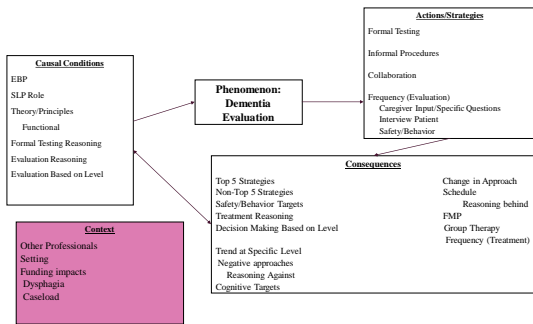
"Our focus is on specifying a category (phenomenon) in terms of the conditions that give rise to it; the context (its specific set of properties) in which it is embedded; the action/interactional strategies by which it is handled, managed, carried out; and the consequences of those strategies (Strauss & Corbin, 1990, p. 96)."



Two phenomena: dementia evaluation and dementia treatment

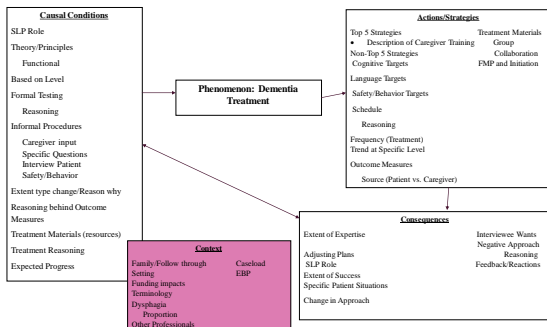
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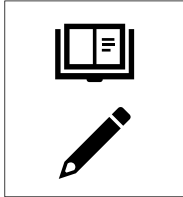
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QUALITATIVE RESULTS: SELECTIVE CODING



- Selective coding
 - Core category: "Dementia Practice"
 - Phase 1: evaluation
 - Phase 2: treatment
 - Wrote storyline or narrative of phenomenon

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THE THEORY OF DEMENTIA PRACTICE: PHASE 1

"The phenomenon and process of dementia practice can be understood to occur in two broad phases: evaluation (Phase 1) and treatment (Phase 2). In Phase 1, SLPs have specific **evaluation and/or formal testing reasoning** that give rise to the actions of their evaluation. An SLP may have formal testing reasoning that is grounded in the specific content of the test (i.e., what skills they want to test) or the properties of the test (e.g., short or thorough). Evaluation reasoning can also be based in the anticipated level of the PWD. An SLP's reasoning based on the level of a PWD can result in a change to the eventual actions of formal testing or informal procedures in the case of formal testing. SLPs select a different test, or choose not to do a standardized test because of a PWD's level. Reasoning that guides an SLP's actions can stem from a hope to make therapy functional for a PWD or based on their remaining abilities. This also may take the shape of asking PWD and their families what is important to them. For some SLPs, this is also done by having a mindset of building rapport with the client during evaluation.

The actions of Phase 1 of dementia practice all occur within the context of an SLP's **setting**, which in the evaluative phase, can be impacted by other professionals, the **caseload** of their given setting, and **funding** impacts (e.g., Medicare regulations). In an SLP's setting and funding situation, how guidelines, who can create different causal conditions that give rise to eventual actions. For example, this may occur in a situation where a standardized test score is required to bill for an evaluation session. Other professionals also exist in the context of an SLP's specific setting in Phase 1. This may occur when an SLP is skeptical of a physician or neurologist's diagnosis. When an SLP encounters a situation where they question a medical diagnosis of a client, they will continue to be skeptical in future circumstances. In addition to impacts of other professionals, there may also be setting-related differences in availability to interview caregivers and amount of time to assess PWD.

The actions that rise from the phenomenon of dementia practice in Phase 1 include **formal testing** measures and receiving **caregiver input**. Formal measures in this sample most often included the MOCA, SLUHLS, and Allen Cognitive Levels. If SLPs interview the family or caregivers, then they typically have specific **questions** or areas of interest that guide their interview, which may include asking about: (a) concerns or problems; (b) behaviors; or (c) the change in communication regarding the PWD. Caregiver input falls under the realm of "informal assessment measures," and can contain other actions such as **interviewing the patient** and **considering safety and/or the behaviors** of the patient. When an SLP describes doing a chart review or reads background history of a patient, they use terminology such as "of course" or "obviously," indicating it to be a necessity of the evaluative process. Actions of evaluation are completed at a certain frequency which is determined by the SLP and ranges from "never" to "always." These actions of Phase 1 cause the consequences of **treatment strategies**, **targets of therapy**, **outcome measures**, and establishing a **schedule of treatment** with a patient.

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THE THEORY OF DEMENTIA PRACTICE: PHASE 2

Phase 2 of dementia practice includes the dementia treatment process. One condition that gives rise to dementia practice in Phase 2 includes an SLP's **theory or guiding principles**. In this sample, all SLPs discussed an emphasis on **functional treatment**. Functional or individualized approaches often focus on client's current abilities or activities that may be used to support the client. Phase 2 is a progression of actions, **expected progress** (i.e., expected progress for the PWD), **intentional treatment** (i.e., intentional treatment as a degenerative disease and adjust the expected progress accordingly). Another aspect that influences treatment actions for an SLP is the **level of the PWD** (i.e., the severity of the dementia). Similarly, the type of dementia often has treatment decisions for some SLPs but not others. They state that the type of dementia influences treatment that exists at a dimension ranging from "does not change" to "definitely changes." For example, if an SLP believes that a diagnosis of PPA should change the treatment approach, it usually results in an approach more focused on language than cognition. If an SLP believes that a diagnosis of every body is unique, their approach changes to an increased focus on response behavior and/or hallucinations, impacting the actions of Phase 2 (treatment). Dementia practice in Phase 2 is also often influenced by the **formal testing and/or caregiver input** that were revealed in actions during Phase 1. This can occur as the SLP utilizes formal testing to gauge the PWD and/or uses the information provided by the caregiver to select targets for therapy. An SLP's **treatment reasoning** and **outcome measure reasoning** also give rise to the eventual actions they take. This reasoning is judged to be unique and highly individualized based on the SLP.

As in Phase 1, Phase 2 exists in the context of an SLP's **setting**. The way that setting impacts an SLP can range from being negative to positive. SLPs from rural settings more often report negative consequences of being in a new area than positive impacts due to resource availability. An SLP's setting is often impacted or even guided by funding, either through billing or insurance regulations or funding within their facility itself. An SLP's dementia practice can be defined by the **caseload** of individuals they see, which adds a uniqueness to their situation, such as in the case of treating PWD with a wider range of severities. The context of an SLP's setting that can include the level of other professionals who the SLP works with. One example occurs when an SLP's colleague does not believe in treating dementia. This professional difference impacts treatment decisions of other SLPs. **Family impacts** or the concept of **follow-through** in response to yet another concept in the context of an SLP's setting, **impacts** from the family are positive, while other family impacts are negative. The SLP role is also frequently part of a clinical setting, meaning that the practice is situated by the personnel in a given workplace.

Another factor of an SLP's setting is the emphasis put on **orthopedics** within the realm of dementia practice. If an SLP works in an acute or hospital-based setting, they are much more likely to be treating orthopedics (i.e., ranging from "a lot of the treatment" to "all of treatment") in the realm of dementia or hospital-induced delirium. Dementia practice is also revealed in the context of an SLP's understanding of **awareness of ERP**, which can range from **unaware** of doing actions that are not evidence-based to having considerable amounts of knowledge of the evidence base. Terminology utilized by an SLP can influence the context for their dementia practice. The realm of terminology in dementia practice can range from not having a clear label for an approach to having a specific name for an action, such as a "daily memory notebook."

During Phase 2, SLPs engage in treatment strategies, which most frequently fall under the **top-five strategies** (i.e., caregiver education/training, cognitive stimulation, reminiscence therapy, social memory aids, and errorless learning), but may be accompanied by **newtop five strategies** (e.g., memory techniques, internal memory strategies, environmental modification, and Promoters). One top five strategy is caregiver training. When an SLP engages in caregiver training, they discuss specific skills or topics they educate and/or train caregivers about. Common and specific strategies discussed include ways to communicate, how to provide assistance, how to provide assistance, how to understand behaviors. SLPs also select targets of therapy which include cognitive and/or language/communication, and safety/safety/handbook. The realm of cognitive targets can include problem solving, establishing routine, orientation, memory attention, and processing skills. Language and/or communication targets can include a variety of expressive and receptive targets. Safety targets can take many different forms, such as include medication management or ensuring fall, or ensuring negative behaviors. These actions of Phase 2 are also typically done alongside informal treatment materials. If the materials are a target orientation, they might involve another calendar, a whiteboard, notebook, or printed schedule. The previously described concept of decisions based on the level of the client can raise a variety of actions in Phase 2. These actions are often specific and range from certain environment actions for PWD in early stages to PWD in later stages of the disease process. SLPs most typically see PWD individually, however, under the right context and settings, they may engage in group therapy with PWD. If SLPs conduct group therapy for PWD, they most often discuss engaging in reminiscence based or social-communication groups.

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LONG STORY SHORT
PHASE 1: EVALUATION

- Influenced by:
 - Evaluation and/or formal testing reasoning
 - Anticipated level of PWD → formal testing/informal procedures
 - Making therapy functional
- Context
 - Other professionals
 - Caseload
 - Funding impacts

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PHASE 1: EVALUATION

- Actions
 - Formal testing/screening (always)
 - MOCA, SLUMS, Allen Cognitive Levels
 - Receiving caregiver input (always)
 - E.g. behaviors
 - Interview patient (sometimes)
 - Considering safety and/or behaviors
 - Chart review

- Consequences:
 - Treatment strategies
 - Targets of therapy
 - Outcome measures

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PHASE 2: TREATMENT

- Influencers
 - SLP's theory (functional)
 - Expected progress
 - Level of patient
 - Type of dementia ("does not change" to "definitely changes")
 - Lewy Body and PPA
 - Formal testing/caregiver input
 - Treatment and outcome measure reasoning (highly individualized)
- Context
 - Work setting (negative to positive)
 - Population density
 - Funding
 - Caseload
 - Other professionals
 - Family impacts/follow through (negative to positive)
 - Dysphagia
 - EBP
 - Terminology

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PHASE 2:TREATMENT

- Actions
 - Treatment strategies
 - Top 5
 - Caregiver training: stimulation tasks, information about disease, understand behaviors
 - Non-top 5
 - Targets of therapy
 - Cognitive and/or language/communication (always)
 - Problem solving, establishing routine, orientation, memory, attention, processing skills
 - Safety/behaviors (always)
 - Med management, preventing falls, managing negative behaviors

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PHASE 2:TREATMENT

- Actions
 - Outcome measures (PWD as source or caregivers)
 - Functional Maintenance Plans
 - Frequency ("do not do" → "always")
 - Treatment materials
 - Calendars, whiteboard, notebook, schedule
 - Early stage vs. later stage
 - Typically individual
 - Collaboration (minimal → co-treatment groups)

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PHASE 2:TREATMENT

- Consequences
 - Change in approach/treatment procedure
 - Input from caregivers
 - Discovering negative approach → reasoning against
 - Negative feedback or negative reaction
 - Spread word about role of SLP
 - Wanting more research
 - Advocating role
 - Extent of expertise ("not an expert" to "area of speciality")

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QUANTITATIVE RESULTS: PARTICIPANTS

- 125 surveys submitted
 - 37 did not complete (30% attrition rate)
 - 6 surveys eliminated
 - 5 participants withdrew by question 7
- Total = 114 participants (included all data provided by them)

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SURVEY DEMOGRAPHICS



Years as a practicing clinician

M = 19.20, SD = 12.71
Range: 4 to 51 years



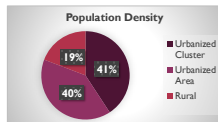
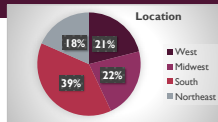
Years as a clinician for PWD

M = 14.81, SD = 9.97
Range: 4 to 47 years

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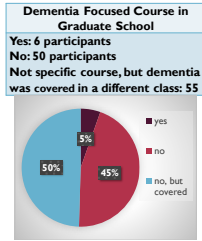
SURVEY DEMOGRAPHICS

- Geographic location
 - Southern- 39%
 - Midwest- 22%
 - Western- 21%
 - Northeast- 18%
 - Population Density
 - Urban Cluster (2,500-50,000 people)- 41%
 - Urbanized Area (50,000+ people)- 40%
 - Rural (Less than 2,500)- 19%
- (Health Resources & Services Administration, 2018)



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SURVEY DEMOGRAPHICS



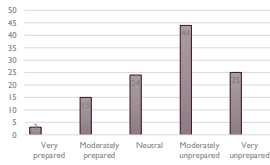
*CEUs = Continuing Education Units

# of CEUs that Addressed Dementia	n (%)
0	5 (4.5)
1-10	38 (34.2)
11-20	34 (30.6)
21-30	12 (10.8)
31-40	15 (13.5)
41-50	2 (1.8)

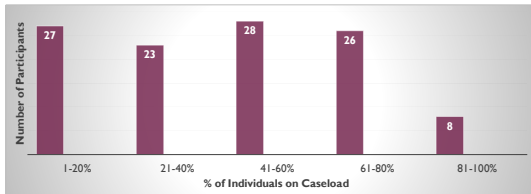
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SURVEY DEMOGRAPHICS

Extent of Preparedness for Dementia	Number of participants (percentage)
Very prepared	3 (2.7%)
Moderately prepared	15 (13.5%)
Neutral	24 (21.6%)
Moderately unprepared	44 (39.6%)
Very unprepared	25 (22.5%)



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SURVEY DEMOGRAPHICS

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Resources Used by Survey Participants in Past Year for Dementia (n = 110)		
Resource	n =	Percentage of Participants
Conferences/CEUs	90	82%
Peers/other professionals	86	78%
Research journals	49	45%
Comprehensive textbooks	44	40%
Social media	36	33%

GENERAL
DEMENTIA
QUESTIONS:
RESOURCES OF
PRACTICE

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Evaluation Task	Yes (I Would Do This)	No (I Would Not Do This)
Review medical history	90	0
Review case history	82	3
Family interview	77	5
Interview family with patient	71	9
Standardized tests	67	11
Observation in natural environments	67	12
Complete dynamic testing	56	17
Informal tests	56	7
Interview patient alone	53	22
Differential diagnosis	38	37
Screeners	35	24
Refer for hearing evaluation/provide hearing screen	31	49

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Standardized Tests/Screeners by Survey Participants	
Standardized Tests/Screeners	n
Ross Informal Processing Assessment (RIPA)	17
Cognitive-Linguistic Quick Test (CLQT)	14
Saint Louis University Mental Status (SLUMS)	12
Arizona Battery for Communication Disorders of Dementia (ABCD)	11
Montreal Cognitive Assessment (MOCA)	10
Brief Cognitive Assessment Tool (BCAT)	8
Allen Cognitive Levels	6
Brief Cognitive Rating Scale	5
Functional Linguistic Communication Inventory (FLCI)	5

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DEMENTIA ASSESSMENT: OTHER EVALUATION CONSIDERATIONS

- Safety (n = 27)
- Caregiver support/availability (n = 23)
- Medical considerations
 - Hearing (n = 21)
 - Vision (n = 15)
 - Pharmacology (n = 8)

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DISCUSSION QUESTION

- What is a perceived barrier to working with PWD?

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SHORT ANSWER: BARRIERS TO DEMENTIA PRACTICE



Caregiver-related

Reduced caregiver support/buy-in
Lack of carryover/follow through
Lack of understanding or training by staff



PWD

Poor patient insight
Progression/severity
Frustrations or behaviors
Comorbidities/medical status
Motivation/participation



Facility-related

Time
Staff turnover/understaffing
Resources/funding

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DISCUSSION QUESTION

- What is a perceived barrier to implementing EBP in general?

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Time limits/productivity	Lack of family support/carryover	Research not applicable/doesn't match individual	Lack of materials/resources
Patient constraints (inconsistency, motivation, participation)	Limited evidence	Lack of staff	Lack of access to research

SHORT ANSWER: BARRIERSTO EBP

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- What do YOU call memory aids you use? (think of one example if you use several)

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Memory Aid Terminology Reported by Survey Participants (2+ mentions) (n = 86)

Term	n =	Term	n =
Calendars	19	Alarm	4
External memory aid/EMAs	18	Memory journal	3
Memory book	13	Daily log	3
Visual aid	7	External aids	3
Memory aid	7	Visual supports	3
Written cues/prompts	5	Compensatory strategies	3
Compensatory memory strategies	5	Sign/signage	2
Visual cues	4	Times/audible timers	2
Pictures	4	Lists/checklists	2
Clock	4	Visual memory aids	2
		Environmental modifications	2

SHORT ANSWER:
MEMORY AID
TERMINOLOGY

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SHORT ANSWER:
MEMORY AID
TERMINOLOGY

- BOOKS/NOTEBOOKS**
- Communication book
- Memory wallet
- Personalized memory book
- Communication books
- Communication notebook
- Communication journal
- Memory notebook system
- EXTERNAL MEMORY/MEMORY TERMS**
- External memory strategies
- External memory tools
- External memory compensatory strategies
- External compensatory strategies
- External memory device
- External cues and stimuli
- Memory tools
- Memory compensation

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Question	M	SD
Identify a gap in your knowledge related to a client situation?	85.03	16.12
Formulate a question to guide a literature search based on a gap in your knowledge?	80.53	22.47
Effectively conduct an online literature search to address the question?	78.17	23.56
Critically appraise the strengths and weaknesses of study methods (e.g., appropriateness of study design, recruitment, data collection and analysis)?	68.57	23.99
Critically appraise the measurement properties (e.g. reliability and validity, sensitivity and specificity) of standardized tests?	69.01	24.53
Interpret study results obtained using statistical tests such as t-tests or chi-square tests?	48.04	31.01
Interpret study results obtained using statistical procedures such as linear or logistic regression?	47.12	30.90
Determine if evidence from the research literature applies to your client's situation?	80.90	18.77
Ask your client about his/her needs, values and treatment preferences?	93.46	11.61
Decide on an appropriate course of action based on integrating the research evidence, clinical judgement and patient or client preferences?	88.23	14.64
Continually evaluate the effect of your course of action on your client's outcomes?	91.75	10.59
EPIC Average <small>(Fishback & Inghel, 2011)</small>	75.53	

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Question	Min	Max	M	SD
Assess an individual with dementia?	40	100	90.14	11.65
Clinically treat an individual with mild dementia?	50	100	92.50	10.48
Clinically treat an individual with moderate dementia?	61	100	90.63	10.89
Clinically treat an individual with severe dementia?	5	100	82.16	21.02
Treat an individual with dementia presenting with severe behaviors (i.e., aggressive and combative)	6	100	77.71	22.03
Provide counseling to family members of an individual with dementia	25	100	88.32	16.67
Dementia-Related Confidence Average			86.91	

DEMENTIA-RELATED CONFIDENCE

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Survey Participants' Familiarity with Top-Five Dementia Strategies				
Strategy	1 Familiar (%)	2 Not Familiar (%)	M	SD
Caregiver Training	91 (100%)	0	1.00	0
External Memory Aids	90 (100%)	0	1.00	0
Cognitive Stimulation	87 (94.6%)	5 (5.4%)	1.05	0.23
Reminiscence Therapy	85 (92.4%)	7 (7.6%)	1.08	0.27
Errorless Learning	83 (90.2%)	9 (9.8%)	1.10	0.30

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Survey Participants' Familiarity after Provided Definition/Other Terminology			
Strategy	No, still unfamiliar	I do this but no name	Different name
Errorless Learning	2 (2.2%)	7 (7.6%)	0
Reminiscence	1 (1%)	5 (5.4%)	1 (1%) • Memory Therapy
Cognitive Stimulation	1 (1%)	3 (3.3%)	1 (1%)

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Frequency of Use of Top-Five Treatment Strategies							
Strategy	1 Always (% Participants)	2 Often	3 Some- times	4 Never, Could Be Applicable	5 Never, Not Applicable	M	SD
Caregiver Training	70 (76%)	16 (17.4%)	5 (5.4%)	0	0	1.29	0.56
External Memory Aids	58 (64.4%)	24 (26.7%)	7 (7.8%)	1 (1%)	0	1.46	0.69
Cognitive Stimulation	54 (58.7%)	16 (17.4%)	15 (16.3%)	1 (1%)	1 (1%)	1.61	0.89
Reminiscence	29 (31.5%)	30 (32.6%)	25 (27.1%)	1 (1%)	0	1.98	0.83
Errorless Learning	28 (30.4%)	22 (23.9%)	28 (30.4%)	4 (4.3%)	1 (1%)	2.13	0.98

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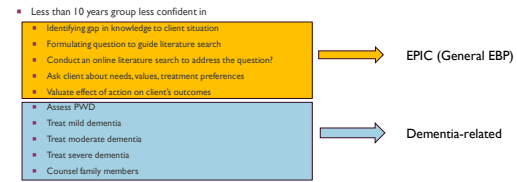
STATISTICAL ANALYSIS



- Non-parametric testing
 - Chi-square
 - Mann-Whitney U
 - Kruskal-Wallis
- Effect Size
 - Relative Risk Ratio
 - Common Language Effect Size
 - Epsilon Squared
- A priori alpha level: 0.05

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STATISTICAL ANALYSIS: YEARS AS AN SLP (LESS THAN 10 VS. 10+) CONFIDENCE



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STATISTICAL ANALYSIS: YEARS AS AN SLP (LESS THAN 10 VS. 10+) FAMILIARITY & FREQUENCY OF USE

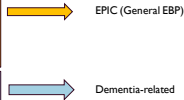
- Familiarity: no significant differences
- Frequency of use:

Strategy	Chi Square	p
Errorless Learning	11.74	.01*

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STATISTICAL ANALYSIS: YEARS SLP FOR PWD (LESS THAN 10 VS. MORE THAN 10)

- Confidence: Less than 10 years group less confident in
 - Identifying gap in knowledge to client situation
 - Formulating question to guide literature search
 - Conduct an online literature search to address the question
 - Determine if research evidence applies to client
 - Ask client about needs, values, treatment preferences
 - Decide an action based on research, clinical judgement, and patient preferences
 - Evaluate effect of action on client's outcomes
- Familiarity and frequency of use: no significant differences



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STATISTICAL ANALYSIS: YES DEMENTIA COURSE VS. NO COURSE

Confidence and frequency of use: no significant differences

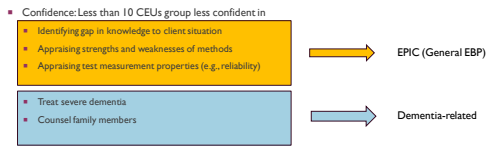
Familiarity:

Dementia course (n = 3) vs. No course (n = 42)

Strategy	Chi Square	p
1. Errorless Learning	10.04	.002*

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STATISTICAL ANALYSIS: NUMBER OF DEMENTIA-RELATED CEUS CONFIDENCE



70

Less than 10 CEUs (n = 35) vs. More than 10 CEUs (n = 57): Familiarity

Strategy	Chi Square	p
1. Errorless Learning	10.94	.0009*
2. Reminiscence	12.34	.0004*

*Significant at p < .05

STATISTICAL ANALYSIS: NUMBER OF DEMENTIA-RELATED CEUS FAMILIARITY

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Less than 10 CEUs (n = 35) vs. More than 10 CEUs (n = 57): Frequency

Strategy	Chi Square	p
5. External Memory Aids	11.72	.008*

*Significant at p < .05

STATISTICAL ANALYSIS: NUMBER OF DEMENTIA-RELATED CEUS FREQUENCY OF USE

72

Confidence and Frequency of Use: No significant differences

Familiarity: Errorless learning (0-40% caseload less familiar)

0-40% of Caseload Dementia (n = 40) vs. 40-100% of Caseload Dementia (n = 52): Familiarity

Question	Chi Square	p
1. Errorless Learning	4.78	.03*

STATISTICAL ANALYSIS: PERCENTAGE OF CASELOAD PWD

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STATISTICAL ANALYSIS: NO SIGNIFICANT RESULTS



- No significant results:
- Journals/CEUs vs. Social media, textbooks, peers
 - Level of Preparedness: Prepared vs. Unprepared
 - Level of Confidence: Confident vs. Less Confident
 - Work Setting
 - Geographical Location
 - Rural vs. Urban

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QUESTION	MIN STRONGLY DISAGREE	MAX STRONGLY AGREE
Have colleagues (e.g., other SLPs) with whom I can consult with to give me input in my practice	1	7
Have enough resources to treat my clients with dementia	1	7
Have enough opportunities to receive in-person continuing education credits	1	7
Have enough resources to assess my clients with dementia	1	7
Overall, I have enough resources (e.g., materials and funding for assessment/therapy, access to current literature, access to colleagues/other professionals, time, access to continuing education) available to me to enhance my daily practice	1	7

RURAL VS. URBAN: RESOURCE QUESTIONS

- No significant results
 - Interviews: negative connotations
 - Discrepancies not specific to speech pathology?

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DISCUSSION: HYPOTHESES

- 3. SLPs with the following demographics will be more confident working with PWD, familiar with top-five treatment approaches, and frequently use those strategies:
 - a) more years of clinical experience **SOME SUPPORT** ✓
 - b) more dementia-related CEUs **SOME SUPPORT** ✓
 - c) higher percentage of PWD on caseload **SOME SUPPORT** ✓
 - d) taken a dementia course **NO SUPPORT**
 - e) report using journals/CEUs **NO SUPPORT**
 - f) report being prepared for dementia practice **NO SUPPORT**

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DISCUSSION: HYPOTHESES

- 4. SLPs with the following demographics will report similar levels of confidence, familiarity, and frequency of use
 - a) geographical regions **SUPPORTED** ✓
 - b) work settings **SUPPORTED** ✓
 - c) population density **SUPPORTED** ✓

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DISCUSSION: HYPOTHESES

1. SLPs are engaging in dementia assessment and treatment procedures from the external literature

- Evaluation
 - **SUPPORTED** for 4/5 prominent procedures
 - 1) cognitive assessment 2) interviews 3) analyzing/gathering case history 4) reviewing medical history
 - Screening to rule out other diagnoses: not prominently reported
 - **SUPPORTED** Informal procedures aligned with lit review
 - Observation, considering behaviors, collaborative approach, informal sequencing, informal reading task, counseling, orientation, memory, considering language

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DISCUSSION: HYPOTHESIS I CONT.

I. SLPs are engaging in dementia assessment and treatment procedures from the external literature

- SOME SUPPORT: Treatment
 - Using 1+ of top five strategies in daily practice
 - 60%+ of participants reported using caregiver training, external memory aids, and cognitive stimulation "always"
 - 51% use at least 3 out of 5 strategies in daily practice
 - "Non top-5" from literature review: Montessori, validation therapy, multidisciplinary approaches

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SUPPORT AGAINST HYPOTHESIS I

I. SLPs are engaging in dementia assessment and treatment procedures from the external literature.

Evaluation

- 47% of reported formal tests
- Reasonable procedures:
 - introducing self, describing SLP role, building rapport, informal measures (e.g. naming, auditory comprehension)

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SUPPORT AGAINST HYPOTHESIS I

- Not engaging in evaluation procedures from lit review
 - Reviewing medical history/case history: 3 interviewees (but all survey participants)
 - Ruling out hearing/vision: 1 interviewee; more survey participants marked "would not do"
 - "Vision/hearing": two most frequently mentioned additional evaluative considerations
 - Differential diagnosis: 0 interviewees; 51% of survey participants

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Not enough information	Memory techniques Auditory cues Circumlocution strategies Communication strategies	General cueing systems Talk therapy
Supported by literature	Environmental manipulation Procedural memory Causes of negative behaviors Patient education Monitoring non-verbal behavior Internal memory strategies	
Studied outside of speech pathology	Touch therapy Using oils (aromatherapy)	
Not or minimally supported	"Agree and redirect"	

SUPPORT AGAINST HYPOTHESIS 1 ■ Treatment: 19 strategies not from lit review

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DISCUSSION: HYPOTHESIS 2

SLPs are doing what aligns with the literature, but may use different terminology to describe it

- SUPPORTED ✓
- Memory books: 11 variations
 - Survey: similar features
 - Interviews: different components and uses
- Functional Maintenance Plans, Reminiscence therapy, Cognitive stimulation
- Implement without having term
 - Cognitive stimulation, Errorless learning, Reminiscence



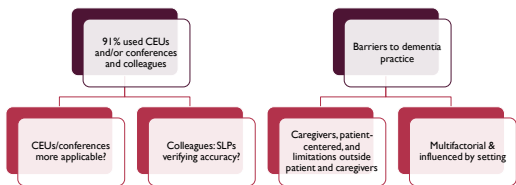
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DISCUSSION: EBP AND PERCEIVED BARRIERS

- EPIC questions (Salbach & Jaglal, 2011)
 - Lowest confidence: completing and analyzing external literature
- 45% survey participants used research journals for dementia in last year
 - Barriers: lack of applicability/access

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DISCUSSION: EBP AND PERCEIVED BARRIERS



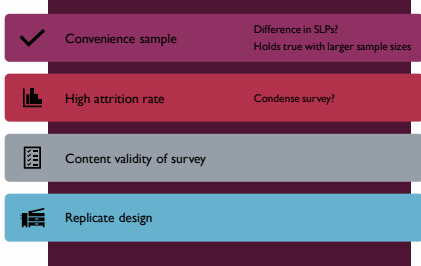
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MAIN CONCLUSIONS




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LIMITATIONS AND FUTURE DIRECTIONS



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REFLECTION

- Do I have terminology to describe what I am doing with PWD?
- How confident am I in my ability to assess and treat PWD?
 - What can I do to boost my confidence?
- How would I feel if a medical professional matched my confidence level when working with a loved one of mine?
- Am I too confident in my practice patterns that I ignore new evidence in the field?
- Do I have reasoning behind why I am not implementing the most commonly recommended strategies?

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