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Natalie F. Douglas

Katie Squires

Jacqueline Hinckley

Erline V. Nakano

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Natalie F. Douglas

Central Michigan University, natalie.douglas@cmich.edu

Katie Squires

Central Michigan University, squir1k@cmich.edu

Jackie Hinckley

Voices of Hope for Aphasia, jackie@vohaphasia.org

See next page for additional authors

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# Narratives of Expert Speech-Language Pathologists: Defining Clinical Expertise and Supporting Knowledge Transfer

## Abstract

Clinical expertise is a component of evidence-based practice; however, relatively little attention has been paid to this phenomenon in the professional literature of speech-language pathology. This may have negative impacts on the training of pre-professional and novice speech-language pathologists. The purpose of this study was to examine professional narratives of expert Speech-Language Pathologists (SLPs) to consider applications for knowledge transfer between expert clinicians and novice clinicians. Collection of the professional narratives of 10 expert SLPs were obtained through in-depth interviews. Interviews were transcribed and coded for themes. Themes that impacted expertise in SLP included: training; work sites; individual and clinician traits; a holistic versus disorder-specific view; technical excellence; acknowledgment of and reflection upon mistakes; professional networking; peer and patient recognition; and, embracing the creative. Within the narratives, implications toward knowledge transfer for novice clinicians were evident. Narratives of expert SLPs may facilitate knowledge transfer of clinical expertise. Of the nine themes identified, seven were consistent with previous literature, and two were not. The themes provide an opportunity for further research and development, largely concerning knowledge transfer in clinical education.

## Keywords

speech-language pathology, expertise, clinical education, knowledge transfer, narratives, professional stories

## Cover Page Footnote

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## Authors

Natalie F. Douglas, Katie Squires, Jackie Hinckley, and Erline V. Nakano

## Introduction

Evidence-based practice (EBP) is the intersection of three elements: clinician expertise, client values, and scientific evidence (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Public discussions of EBP in speech-language pathology (SLP) have focused on the accumulation and assessment of scientific evidence. Equally important to our ability to implement EBP is an understanding of clinician expertise. This topic, however, has received relatively little attention in our professional literature. Though as a field we universally value clinical expertise, it appears difficult to transfer certain aspects of what we know of clinical expertise into our formal discourse, research, and education. One may also assert that checklists, definitions, and descriptions of clinical expertise in SLP simply fall short concerning knowledge transfer of such a phenomenon (Greenhalgh, 2018). Furthermore, as Dollaghan (2004) points out, at times the clinical recommendations of experts have been misguided when subjected to rigorous empirical study and thus need to be viewed with caution. Nevertheless, clinical expertise remains an integral part of the American Speech-Language and Hearing Association's (ASHA) definition of EBP (American Speech-Language-Hearing Association [ASHA], 2005), and thus an attempt must be made to define what constitutes expertise and how this knowledge might be transferred to novice therapists.

**Defining "expert."** The nature of expertise is not easily characterized but has an extensive literature outside of the field of SLP. Dr. Ericsson, a psychologist who studies expertise and human performance, has identified several traits of an expert. It is important to note that these traits do not cause a person to become an expert; rather, they are typical qualities an expert possesses. Experts typically perform accurately and easily across their domain (Ericsson, 2004; 2006). They have developed the ability to perceive important patterns across a variety of exemplars (Ericsson, 1998). Experts respond automatically in the area of their expertise and have superior memory in regard to their specialty (Ericsson & Lehman, 1996; Schneider, Gruber, Gold, & Opwis, 1993). Experts search through data forward rather than backward, and they have a sense of what kind of information they need to make clinical decisions. For example, expert SLPs anticipate barriers to treatment success prior to initiating therapy tasks; whereas, novice SLPs may only notice those barriers in hindsight (Ericsson, 2006). Finally, they perform consistently with predictable outcomes (Ericsson, 2004; 2006). In as much as this list is valuable in describing and possibly predicting expert behavior, transferring this knowledge to a novice practitioner remains unaddressed.

Ericsson (1996; 2006) additionally promulgated the idea that time on the job or practice alone does not equate to the highest possible levels of expertise. He further asserted that experience does not invariably lead people to become experts (Ericsson, 2004). He instead proposed the strategy of deliberate practice or practicing a task with specific effort and/or feedback (Ericsson, 2004; 2006). Along the same lines, Guilford, Graham, & Scheurle (2007) distinguished experts from experienced non-experts noting the importance of peer recognition in the identification of expertise in the field of SLP.

**Theoretically discovering themes in expertise.** In the 1970s Noel Burch developed the Conscious Competent Learning Model, which describes the four stages a learner must go through when learning a new skill (Elias, 2016). Because experienced clinicians tend to be "unconsciously competent," meaning that theory has become so embedded in their practice they are no longer

aware of decision-making process, it can be difficult for experts to explain the exact thought process they engage in while making decisions, making it challenging to "teach" novice clinicians what drives them to act or react in a certain way.

In an effort to inductively discover themes of expert performance, King and colleagues (2007) collected narratives from novice and expert pediatric clinicians in the fields of physical therapy, occupational therapy, speech-language therapy, and recreational therapy. Interviews were conducted with the emphasis being placed upon a "critical incident." A critical incident was defined as positive or negative experiences that had influenced thinking, such as an event or experience that made a difference in client outcomes, a situation or time that was memorable or particularly demanding, or an experience that taught them something new so that their subsequent practice was changed in some way (King et al., 2007). King and colleagues classified the performance of the clinicians according to novice, intermediate, or experienced based on peer nominations, self-nominations, peer ratings of the clinician's clinical skills, interpersonal skills and mentorship, a measure of critical thinking, and therapist and peer measures of family-centered behavior. Inductive analysis of the transcripts revealed the experienced therapists possessed changes in three types of knowledge. In the area of content knowledge, these experts embraced a supportive, educational, holistic, functional and strengths-based approach. They viewed themselves as "facilitating" or "enabling" as opposed to "fixing". They worked in the realm of the "big picture" and were less judgmental, more flexible and realistic, and set more modest goals than novice therapists. Experienced therapists also possessed changes in self-knowledge as they demonstrated heightened humility yet increased self-confidence. Finally, experienced therapists were noted to experience changes in procedural knowledge in that they embraced principles of change, enabling and customizing strategies (King et al., 2007).

It is difficult to know from this study if any of these characteristics varied by profession or domain (e.g., recreational therapists vs. physical therapists vs. SLPs). As experts are studied empirically, there are obvious differences that occur between domains. For example, a chess player has a different expertise trajectory than a pilot (Lajoie, 2003). Although the study by King and colleagues (2007) is valuable in identifying differences between novices and experts across the pediatric rehabilitation spectrum, it also highlights the need for specific work in SLP.

Kamhi (1994; 1995) has published work that suggests the need for a theory of clinical expertise specific to SLP. He further asserts that clinicians should be the participants of research studies in this area. Data from these studies indicate the importance of self-monitoring skills as it impacts professional practice (Kamhi, 1995). Results of the studies also suggest that SLPs experience integration between their personal and clinical selves, contributing to the development of expertise (Kamhi, 1995). However, knowledge transfer of such identified skills was not explicitly mentioned within this work.

Another study described the nature of clinical expertise in SLP and found that knowledge, technical skills, and interpersonal skills are critical to expertise (Graham, 1998; Guilford et al., 2007). Factors identified in this study were interpersonal skills, such as personal traits and interactive skills; professional skills such as skills required for service provision and management of responsibilities; problem-solving skills; technical skills; and education and training (Guilford et al., 2007).

Prior work in clinical expertise in SLPs (Khami, 1995; Guilford et al., 2007) helps us categorize the different sources of knowledge, skills, and experience that are necessary for clinicians to become experts. However, these models are limited in that they do not help us understand details of how these domains of expertise are best acquired. In addition, all of the respondent SLPs in these studies would not meet criteria as experts as operationalized by other work (i.e. advanced training; specializations; advanced certifications). Furthermore, responses from participants with more or less experience were not differentiated. The survey and rating scale methods also restricted possible responses. Finally, limited questions and the limited duration of the interviews may have restricted the nature of the data obtained.

The purpose of this study was to explore the professional narratives of expert SLPs as a potential mechanism for knowledge transfer to both SLP students and novice SLPs. Although the scientific literature points to specific characteristics of experts, few of these studies included SLPs as participants. Thus, it is unknown whether the characteristics in existing literature transfer fully to SLPs. The known power of narratives to transfer knowledge also holds promise when considering expertise in the SLP domain. The specific research question posed was: What are the qualities of expert SLPs as expressed in their personal narratives and how do these characteristics compare with previous studies of expertise in other areas?

## Methods

**Qualitative approach and research paradigm.** Qualitative research methodologies have become widely recognized in many domains, including education and health care (Rikers & Verkoeijen, 2007). Qualitative research approaches are designed specifically to explore complex social phenomena (Damico & Simmons-Mackie, 2003). Clinical expertise is both complex and socially constructed, thus making it an appropriate topic for qualitative investigation. In the current study, the development of clinician expertise was explored through the use of narrative ethnographic interviews. Combining the qualitative approaches of ethnography and narrative research allowed for an increased exploration of the study of the development of clinical expertise anchored by an interpretivist paradigm (Creswell, 2009; Cao Thanh & Thi Le Thanh, 2015).

One way to explore a phenomenon such as clinical expertise is through the principles of grounded theory (Strauss & Corbin, 1994). Grounded theory also provides opportunities for conceptual development, refinement and organization (Strauss & Corbin, 1994; Miller & Fredericks, 1999). Although several factors contributing to expertise in SLP have been described (Kamhi, 1995; Guilford et al., 2007; King et al., 2007), our field will benefit from the exploration of the use of narrative in which to explicitly transfer such knowledge. Furthermore, Grounded Theory (Strauss & Corbin, 1994) enables researchers to develop a theory that is established by systematically gathering and analyzing data. It provides the ideal framework to inductively discover themes in an effort to define expert performance in different domains. Qualitative methodology such as interviewing clinicians allows researchers to discover trends in the way experts respond to situations, with the hopes these trends can be translated to learning experiences.

In the current study, experts were defined as clinicians who spent the majority of their work time in direct clinical care (>60%), possessed specialty recognition beyond the Certification of Clinical Competence from the American Speech-Language-Hearing Association (CCC), and had at least

ten years of clinical experience. These experts were interviewed about key events in their professional development. Narratives are an important way to transfer knowledge about specific, highly detailed, and contextualized situations (Hinckley, 2008). It is this explicit attention on the narrative as a way to transfer knowledge that makes this study unique and especially contributive to clinical education. Narratives can take the form of brief anecdotes that are told in passing between clinicians or be more formalized or elaborated, taking the form of clinical case studies or grand rounds presentations. In every case, the narrative form has the power to share the intuitive and emotional components of dealing with a particular case (Greenhalgh, 1999). They show how patterns between different case presentations are recognized (Hinckley, 2008). They can demonstrate how an expert clinician recalls certain pieces of information and applies them to a specific case. Narratives can show how expert clinicians navigate the myriad details of a case to extract the critical pieces needed for effective clinical decision-making. Indeed, narratives have been proposed as how individuals view the world and their experiences in it, including clinical experiences.

**Context and data recording.** The context for each interview was either the participant's workplace setting or home setting depending upon the participant's preference and convenience. Although participants did not have access to the questions ahead of time, they did recognize that the study involved reflecting upon their clinical practice and expertise in the field of speech-language pathology. All interviews took place in a quiet room, and all interviews were recorded. Four of the ten participants were interviewed face-to-face and videotaped using the Sony HDR-SR11, 60GB High definition Handycam Camcorder and an external, table-top microphone. One of the participants was interviewed over Elluminate Live! via computer internet connection due to geographic distance restrictions, while the remaining five participants were interviewed over the internet using the Zoom application.

**Sampling strategy.** Recruitment for the study took place through email list serves of the American Speech-Language-Hearing Association's special interest groups. Inclusion criteria for the study included the following: majority of work time spent in direct clinical care (>60%); specialty recognition beyond the CCC; and at least ten years of clinical experience. Participants were excluded if the majority of their workload related to items other than clinical care such as administration or teaching. An additional goal of the sampling strategy was to acquire enough data to reach data saturation; that is, reasonable attempts were made to thoroughly explore all possible themes. Although in interview studies data saturation can be difficult to reach, there are mechanisms that facilitate data saturation (Fusch & Ness, 2015). For example, a homogeneous sample, as used in this study, lends itself to data saturation due to the similarity of responses across multiple participants. As Guest, Bunce, and Johnson (2006) discovered, as long as a study does not involve correlational analysis or assessing variation between distinct groups, researchers can reach data saturation with fewer participants than in other types of studies.

**Ethical issues pertaining to human participants.** This study was deemed exempt by the Institutional Review Board at the sponsoring university. Participants were also encouraged to use code names or initials in efforts to protect client privacy and confidentiality as the participants relayed their professional narratives to the researchers. The "teach back" method (Bass, 2005) in which participants were asked to reiterate the information they just received in their own words was implemented to ensure that participants understood the need to protect client confidentiality.

After informed consent, all participants participated in two semi-structured, in-depth interviews. Although the participants were instructed that they could discontinue the interview at any time, none of them chose to do so.

**Data collection methods.** Ten expert speech-language pathologists (SLPs) were asked to reflect on their own professional history during two in-depth interviews. In-depth interviewing is a widely accepted method of qualitative research and allowed for better understanding of each expert's professional narrative (Berg, 2007; Creswell, 2007). This research was conducted with a semi-structured interview to allow the narrative of the SLP to develop throughout the course of the interviews. A semi-structured interview also allowed for flexibility in the wording of the questions with clarifications and/or probes as needed (Berg, 2007). The first interview introduced the topics for discussion; whereas, the second, follow-up interview was conducted in order to give the participant time to reflect upon the first interview and add any additional pertinent information. Table 1 outlines a list of the interview questions that were asked during every interview. The initial interview ranged in time from 60-120 minutes. The second, follow-up interview allowed the participant to reflect upon matters from the first interview and add any other information. The second interviews ranged in time from 30-60 minutes.

Table 1

*Semi-Structured Interview Questions*

Tell me your professional story.
How did you get to become an expert in your field?
Please tell me about a "critical incident" that has shaped your practice and decision-making.
Discuss 1 or 2 clinical events that have stood out.
How has this experience changed the way you practice?
If you could have changed something during this incident, what would it be?
Please provide some key examples and stories about what made you an expert in the field.
From your experience, describe in detail a case you have treated in the past 4 weeks.
What words of wisdom would you give to a new therapist starting out?

**Participants.** A total of ten participants achieved the recruitment criteria for this study and volunteered to participate. Table 2 summarizes the demographic information for each participant, and interview transcripts were used in analysis. Participant checking was completed to ensure that transcripts appeared accurate to participants. Participants were given a pseudonym to protect their identity and to connect their voice to the data.



Table 2

*Summary of Participant Demographics*

Participant	Education	Years Experience	Specialty Credential	Additional Experiences
Jalisa	Master's	28	Board Certified, Swallowing-Adults	Site surveyor for ASHA's Council on Accreditation of Academic Programs; Consultant/trainer for tracheotomy supply companies; adjunct university instructor
Marissa	Master's	18	Board Certified-Fluency	Site surveyor for ASHA's Council on Accreditation of Academic Programs
Kristen	Ph.D.	12	Ph.D., Adult neurogenics	Lead clinician at site
Andrea	Master's	25	Board Certified, Swallowing-Pediatric	Frequently organizes state conventions
Thomas	Master's	29	ANCDS board certified-Adults	University clinical faculty
Isabel	Ph.D.	>40	Board Certified-Child Language	Owns a private practice
Cassidy	Master's	20	Board Certified – Child Language	Lead SLP for a state
Shawna	Ph.D.	>40	Board Certified – Child Language	University faculty
Maria	Ph.D.	39	Board Certified – Child Language	University faculty
Josephine	Master's	17	Board Certified – Child Language	University clinical faculty

**Data processing.** Nineteen of the twenty interviews were orthographically transcribed. There was an audio-recording problem with one of the follow-up interviews, and the notes of the primary

investigator were used as content for this interview. Fifty percent of the transcriptions were transcribed a second time by an investigator other than the original transcriber for reliability purposes. For these transcriptions, a word by word analysis was conducted (Stuckey, 2014). The total number of words in the transcripts that matched the actual words during the interview resulted in a 97.29% agreement between two of the authors. All names were changed again upon completion of transcription to further protect privacy and confidentiality. Data was stored on password-protected computers in locked rooms. Twice weekly security checks were in place to manage data and ensure security.

**Data analysis.** Following the suggestion of Creswell (2009), data were open coded for themes by the authors separately through line-by-line analysis. Each author provided detailed descriptions of these themes separately as well. As recommended by Braun & Clark (2006), transcripts were reviewed at least twice by the authors to ensure nothing was overlooked. After this portion of data analysis was complete, the authors met to discuss findings. Themes were discussed throughout the course of data analysis until 100% consensus and data saturation was met.

## Results

Nine themes were identified from the data with several conceptual indicators for each area. Table 3 summarizes the results of the study. The following paragraphs explore each theme and its conceptual indicators.

Table 3

### *Summary of Results*

Theme Number	Theme	Indicators of Theme	No. of Participants Who Noted Indicator of Theme
1.	Training is critical in the development of expertise in SLP.	Broad, specific, extensive college education; good professors; life-long learner; new technology; textbook use; clinical supervision and teaching; learning from patients; up to date with current treatment research; CFY supervisor was on site and significant	10/10
2.	Individual clinician traits and actions impact expertise in SLP.	Flexibility; respect; continuous self-assessment; confidence; honesty; empathy; ethics; motivation; compassion; resourcefulness; service orientation; knows limits; seek advice; code-switching roles (SLP, counselor, friend)	10/10
3.	Work sites impact expertise in SLP.	Job satisfaction; varied clinical experiences; colleagues and facilities with good	9/10

		reputations; opportunities for on the job training and mentorship; opportunities to pursue research questions while on the clinical job; culture of respect; more than one SLP on site	
4.	Having a holistic versus disorder-specific view contributes to expertise in SLP.	Incorporate personal background and experiences; person centered goals; viewing patient as family member; client-clinician relationship; rapport; patient rights; patient advocacy; patient progress with goals; acknowledge patient efforts	9/10
5.	Professional networking contributes to expertise in SLP.	Professional involvement at local, state, national levels; Presenting clinical work professionally; Relationships with other health-care professionals, including physicians	8/10
6.	Peer and patient recognition can confirm expertise in SLP.	Board certification; feedback from patients and families; recognition from colleagues both formally and informally	8/10
7.	Embracing the creative/mysterious contributes to expertise in SLP.	Professional mystery; Creativity, imagination, curiosity outside of the field of SLP	8/10
8.	Technical excellence is critical to expertise in SLP.	Patient outcomes; technical practice; specializing allows for increased technical skills; find the motivator for your patient; explain without jargon; change techniques as needed; collect accurate therapy data; parent/family training in addition to direct treatment; broad assessment; the continuum of aggressive and simple interventions; qualified and careful prognosis; different angles for communication; balancing hope and realistic expectations	7/10
9.	Experts in SLP acknowledge and learn from their mistakes.	Opportunities to make, remember and adjust to mistakes; negative and shocking experiences linger but can motivate more training; challenging patients; wrong clinical decisions	7/10

**Training is critical in the development of expertise in SLP.** All ten participants noted the necessity of education in expertise development. Participants ranged in their ideas concerning the value of a broad versus specific education at the pre-professional level. One of the participants noted the importance of interdisciplinary coursework in both linguistics and psychology and the positive influence of quality professors. Equally valuable to their college education was the expert

view that one learns from their patients and clients throughout the therapeutic process. Most participants mentioned realizing the need for more training after graduating and working with clients. The participants further stay up to date with current research journals, mostly through the American Speech-Language Hearing Association (ASHA) and the Academy of Neurologic Communication Disorders and Sciences (ANCDS). Jalisa stated the importance of continuing education in the development of expertise:

If you have the opportunity to attend any sort of grand rounds at the medical facility you work at...if you have an opportunity to go to interdisciplinary education activities...social work, occupational therapy, physical therapy, speech pathology, physical medicine rehabilitation and psychology...have an idea of...what's out there and what's being offered in other professions because I think that gives you things to bring back to your clinical practice.

Shawna, Thomas, and Josephine noted practical tips while attending continuing education activities. Shawna explained:

But one of the things that I did was to go with your peers and learn as a team... Be participatory in terms of state and national conferences, both as a learner and as a presenter. I was interested in this topic. I learned as much as I could. I went to conferences. I hung out with smart people who knew more than I did.

Finally, most of the experts described a strong clinical fellowship year experience, with an on-site, competent supervisor, contributing to a foundation for which to form their expert knowledge. Kristen further elaborated, "I did my CFY in a [strong health system] and worked with research clinicians and speech-language pathologists." Along the same lines, Cassidy states, "...what has shaped my thinking was, believe it or not, my clinical fellowship year. Because I was extremely fortunate to work with very competent people in the field..."

**Individual clinician traits and actions impact expertise in SLP.** All ten of the participants discussed the importance of individual traits in expertise development in SLP. There were several traits of the clinician that arose as conceptual indicators of expertise throughout the data analysis. Traits such as flexibility, respectfulness, confidence, honesty, empathy, determination, and resourcefulness were common indicators within the data. The participants all noted the importance of continuous self-assessment. The participants were also well aware of their own limitations and when to seek help or advice from others. Cassidy advised, "Be open to exploring new endeavors. You know when someone says, 'Would you be interested in this?' going 'Sure!' And I can fake it until I make it. I mean that. I think that attitude has served me well." The participants additionally positioned themselves from a point of service in respect to their clients. They were comfortable with the variety of individual traits that may need to be exemplified throughout the course of the workday as seen in Kristin's quotation:

So I think, you know I think that there were times that I needed to be his friend and often at times I needed to be a counselor and most importantly, I needed to be a speech pathologist so that he could talk again and swallow again...

Andrea recalled an experience, in which the theme of the importance of individualized character traits was exemplified in terms of what **not** to do,

They [new client's family] were not happy with the services they were getting in the outpatient department of one of the rehab centers...the clinician was just not very patient... she had gotten frustrated with the client and actually just threw her pen down in frustration because the client couldn't do some of the speech production tasks that were being done...I was just horrified...

**Work setting impacts expertise in SLP.** Nine of the ten of the participants also reported their work setting was a contributing factor to their expertise. They discussed the importance of both a wide variety of clinical experiences and the opportunity to specialize to a specific population. The reputation of their particular facility was also notable. For example, Marissa explained:

I think it's unfortunate because so many times...rehab departments might be run by someone that doesn't know what a speech pathologist should really do or what the standard is...they might be just focused on statistics or revenue...as opposed to other things...so... when I was...looking for a job, I was specifically looking for and focusing on places that had good reputations...of people that I knew that did good work.

Cassidy detailed her experiences in state-run institutions that exposed her to individuals with significant communication disorders and unique populations such as infants with varying degrees of ability. She expressed that she believed her employment within those state-run institutions provided her experiences that she would not have had otherwise.

Many of the participants described a career trajectory in which they transitioned from a certain work setting if they did not feel challenged or supported. Other participants explained how their job setting enabled them the opportunity to interact with other disciplines. For example, one SLP described a shared therapy room with an occupational therapist. The two therapists brainstormed ideas for working with particular clients. Opportunities for on the job training and mentorship were also noted as valuable. Most participants additionally mentioned the importance of time to pursue clinical research questions while on the job. Kristen explained, "We don't always have time for research – that's frustrating," but Cassidy was excited to tell us, "We're putting a journal article together."

Finally, many participants discussed the importance of more than one SLP being on site as critical to his or her expertise development. For example, Maria expressed this idea as below:

But one of the things that I didn't like.... is that I was the only speech pathologist there... that's one of the things I've appreciated about all my other jobs, it's just so nice to have that support and camaraderie and all the other things that go along with it...

**Having a holistic versus disorder-specific view contributes to expertise in SLP.** Nine of the ten participants described assessment and treatment activities that were of a holistic nature instead of disorder specific. This appeared to facilitate the client-clinician relationship. For example, the

importance of establishing rapport and advocating for each patient's needs were noted in the data. Isabel poignantly described a scenario with a family.

I always like to ask families what matters to them. And you know, we get so caught up in our goals that are only written for other SLPs, right? No one else half the time would understand our statements. And it's important to me that our students understand how to talk to families in family friendly language and find out what matters.

Isabel continued telling the story of a young child who had been expelled from several preschools. He was completely unintelligible and had outrageous behavior. She found out from interviewing the family that their goal was for him to be able to enjoy his birthday party and go to Disney World. She said, "He met his speech and language goals, but I don't even care about that. It's the other stuff that matters the most I think."

Some participants mentioned therapy doesn't always just involve the person with the communication or swallowing disorder. Sometimes, they have to consider the impact of the disability on other family members, Shawna told a story of a mom who had trouble bringing her son with multiple impairments to therapy consistently. "Mom's probably just exhausted... You gotta look at the whole thing."

Maria expressed this teachable moment as she observed one of her student clinicians in an interaction with a patient:

And she [the student] just...kept going on and on about how important nutrition was, and I could tell that he [the patient] was getting angry, so I ...just...chimed in and...tried to turn it around...I suspected that possibly there were other reasons... he was hospitalized was for dehydration and malnutrition...I couldn't help but wonder if maybe something else was going on at home, like maybe he didn't have the money to buy stuff or maybe he didn't have anybody to go to the grocery store...

Finally, a common theme was not making treatment recommendations based on one particular weakness or symptom. Rather, the expert clinician considered not only the client's needs but also the client's motivations and strengths. Combining test results with past history, observations, and client motivation was suggested as a way to holistically assess and treat a client. However, Jalisa noted, this is not always easy. "That's why our profession is a little bit of medically oriented scientific, but it also is a little bit of art. You have to use your judgment which may not be always scientific."

**Professional networking contributes to expertise in SLP.** Eight of the ten participants are heavily involved in professional organizations. They take advantage of opportunities networking provides them such as being mentored by more seasoned professionals and being able to see another perspective. Josephine expressed: "That networking piece is really important. You're going to learn a lot just directly from other people, especially people whose work you respect, and who are doing interesting work, which is a whole lot of people in our field."

Be it at the local, state or national level, the participants are well known among their peers. Marissa explained:

...I think it's important to get involved with your state association...you know network with the people that do what you do and then be able to collaborate on things, participate in research...I know every speech pathologist in the state of [state in the United States left out to protect confidentiality of participant] that changes a voice prosthesis, because if my patient travels somewhere else or if a person has a problem...to develop that collegiality, I think is really important.

The participants noted the importance of presenting their work clinically such as a grand rounds or poster presentation format. The participants further had relationships with other health-care professionals, including physicians. They understood the importance of cultivating these relationships. An example of a cultivated physician relationship was provided by Marissa:

And so for example, I was saying...write the report, it gets in the system, but there's some special issues about this patient so I'm gonna e-mail that physician and I'm gonna say...I saw your patient today, she could really use this or that or give him the heads up...They, he, responded back and I said, look, look at the e-mail! He wrote, 'really appreciate it, thanks for giving me the heads up on that one.'

Kristen also noted, though: "You don't wanna bother physicians with garbage."

**Peer and patient recognition can confirm expertise in SLP.** Eight of the ten participants noted the importance of peer recognition. Maria noted that the acceptance and validation of their peers gave them confidence in their expertise development. Thomas mentioned being nominated by his peers for an award. Isabel recalled an encounter after she had presented a case study at a state meeting:

And [insert name of famous SLP expert here] is very well-known, very good and what I would consider a real expert in the field...published books and things like that...when I started the presentation he was up there taking pictures with this big old camera...as if I wasn't nervous to begin with you know...He came up afterwards and he said that was really great...and that meant the world to me...

Evaluative experiences, such as board certification, were noted as valuable, even after years of experience in the field. Recognition from patients was also a conceptual indicator in the data, such as when Andrea was recognized by a family member of a former client in a grocery store. She further explained, "I kept seeing such good progress and it was reinforcing, they're getting back to their diets, they're getting back to their lives. They're going back out to restaurants, they're spending time with their families..."

Shawna shared how a former client expressed her appreciation in a unique way:

She's now in high school and I saw her when she was one and a half, two. And she reached out to me through my website and said she had an art project in her high school to draw a

picture of someone who had a big impact on their life, and she drew me and wanted to send me a copy of this, so she did, and I've got this picture.

Many participants mentioned that being viewed as an expert also came with a responsibility. Thomas shared, "I think as people look to me as an expert, I have to be able to design professional development or answer questions in a way that makes sense to them."

**Embracing the creative/mysterious contributes to expertise in SLP.** Eight of the ten participants expressed being curious and fascinated by the unknown. For many of them, this curiosity led them to cultivate creative interests outside the field of SLP. Areas of interest included the arts or creative writing. Jalisa nicely summarized this sentiment in the following:

Develop an outside interest or hobby that you are passionate about because it's going to give you a broader frame of reference to refer to your patients if it's a shared interest...But more importantly it's going to give you a better understanding of how language and cognition can have impact outside the treatment room.

The experts additionally were noted to embrace the professional mystery of not knowing exactly what to do with every client but working it through anyway. This is exemplified by Kristen below:

It was that sense of, I don't understand this, I want to know more...and sometimes you're gonna ask some questions and don't be afraid to do that...If I see something that's not normal function...and I look at what I know of the patient's history... and I can't find a diagnosis or a history that could explain that symptom...then I want to know more...It's a weakness that's not explained, it is...a cognitive change without either a diagnosis of dementia or a history of a stroke...I can't explain why this problem's occurring so I wanna know a little bit more about it.

**Technical excellence is critical to expertise in SLP.** Seven of the ten participants noted the importance of technical excellence. Specifically, participants noted the importance of basing decisions off of the best available evidence and operating within the realm of preferred practice patterns for the profession. For example, Andrea said:

I think it's critical that you videotape or you make a copy of a swallow study to analyze it afterwards. I know people that do not record any of their swallow studies.... I mean I've been doing what I do for a long time, and I still can't get it on the first blink of a look. And so I review them all [the swallow studies] and I miss certain things...

Cassidy expressed, "It's really important to be able to defend your decisions and to be able to have evidence to support your recommendations and why you are suggesting what you are suggesting."

Many participants expressed the importance of deliberate practice, accurate therapy data, and beneficial patient outcomes. They explained the significance of talking to patients without jargon. They noted the critical nature of training the patient and family, the continuum of aggressive to simple interventions, and balancing hope and realistic expectations.



**Experts in SLP acknowledge and learn from mistakes.** Seven of the ten experts shared an experience where they made a clinical mistake. The key was their reaction to the mistake and their reflection and adjustment to those mistakes. Negative and shocking experiences were noted to linger but motivate one toward more training. Challenging patients and wrong clinical decisions contributed to the expertise development of these participants. Being aware of personal biases was also mentioned as a catalyst for learning from mistakes. When telling a story about a clinical mistake about prognosis, Andrea reflected:

“And not only the disappointment from the family, but kind of...their sense of betrayal with me because I had promised, essentially promised several things that I could not deliver.”

The participants were quick to acknowledge their own limitations. For example, Thomas noted: “I think the biggest part maybe of being an expert is being honest with yourself about your own limitations...you can’t be an expert on everything... part of being an expert is knowing when it’s time to defer or refer...”

## Discussion

By analyzing the professional narratives of expert SLPs, a portrait of expertise can be painted, thereby demystifying the "clinical expertise" branch of EBP. Of the nine themes identified, seven were consistent with previous literature. On the other hand, two identified themes have not been discussed within the literature (e.g. work sites impact expertise in SLP; embracing the creative/mysterious contributes to expertise in SLP). All of the themes provide an opportunity for further research and development, largely concerning the knowledge transfer of expertise clinical education. Likely due to the design of the study allowing for depth of discussion as opposed to a survey or rating scale methodology, themes were identified from the data that were not identified formally in other models of expertise development. As Ericsson (2004) indicated, it is not experience alone that defines an expert, leaving the possibility for even the newest graduates to have a level of clinical expertise as they embark in their careers. Of the nine themes identified in this study, all can be cultivated during the undergraduate and graduate preparation programs. Furthermore, if practicing clinicians are made aware of these expert qualities, they can intentionally seek out opportunities to develop them. The following paragraphs will further discuss each theme with recommendations for undergraduate, graduate programs, and clinical fellowship supervisors.

**Training is critical in the development of expertise in SLP.** Preparatory programs should include opportunities for SLP students to engage in interdisciplinary activities in which students are able to teach and learn from other disciplines such as doctors, occupational therapists, psychologists, teachers, and physical therapists. The Council of Academic Accreditation in Audiology and SLP (CAA) now requires an interprofessional standard for education (Kirsch, 2017) consistent with results of this study, and future work may explore the ‘how’ of this standard to support the implementation of interdisciplinary activities with fidelity.

Novice clinicians should also be encouraged to learn from their clients. A reflection journal can help guide clinicians to think about the lessons they learn from working with others. Indeed, self-reflection is correlated with clinical expertise in other professions and training SLPs to self-reflect should be incorporated into clinical training programs. Clinical psychology, for example, provides

a structured framework for embedding reflective practice into training programs (Cooper & Wieckowski, 2017).

**Individual clinician traits and actions impact expertise in SLP.** Students and novice clinicians should be aware of the traits that expert SLPs have identified as being positive influencers in their careers. Knowing what personality characteristics are associated with expertise will help clinicians intentionally develop those areas in which they are less confident. For the purposes of this study, these traits included flexibility, respectfulness, confidence, honesty, empathy, determination, resourcefulness, continuous self-reflection, and awareness of limitations.

All 10 participants expressed the importance of the clinician to the therapeutic process. Beyond personality traits, experts in SLP also embody a service orientation and are comfortable switching among roles such as counselor, friend, and teacher. Similar to the experts in the work by King et al. (2007), expert therapists demonstrated heightened humility. It has recently been suggested that the level of clinician engagement influences the rehabilitation outcomes of people with aphasia (Bright, Kayes, Cummins, Worrall, & McPherson, 2017). As such, experts in SLP are cognizant of their own behaviors and the contribution of those behaviors to the therapeutic process.

**Work sites impact expertise with SLP – not identified in prior literature.** In order to increase expertise, students should be offered not only a variety of clinical experiences, but they should also be given the opportunity to delve deep into one area of practice they find particularly intriguing. In this way, students will be able to build breadth and depth. Novice clinicians should be encouraged to start exploring more deeply their particular areas of interest by joining special interest groups through ASHA, becoming involved in organizations at the state and national levels, and staying abreast of the current literature in order to supplement their work experiences. For example, the themes found in this data pointed to the development of expertise in SLP within the context of community.

The majority of the experts spent most of their careers with other SLPs, learning and benefitting from peers. For example, one of the participants in this study remarked that she had a friend who completed a clinical fellowship year in a skilled nursing facility (SNF). The participant went on to express how the friend's supervisory experience consisted of a full-time school-based SLP coming over to the SNF to meet minimum ASHA requirements for clinical fellowship supervision. Results of this study suggest examination of clinical fellowship supervisor guidelines considering the frequency of this theme with experts in this study.

**Having a holistic versus disorder-specific view contributes to expertise in SLP.** Although most universities teach in a "silo" approach (that is, there is a course dedicated to motor speech disorders, and another course dedicated to phonology, and yet another one focused on child language), the truth is that clients do not fit in a silo and their cases are much more involved than the sum of their parts. Students and novice clinicians should be encouraged to think about the whole person and not just the one area that manifests itself as the area of greatest need, keeping in mind that the cause of the greatest need might be something unrelated to the communication disorder.

Kahmi (1995) also described the holistic view SLP experts held of their clients. Along the same lines and consistent with the model of expert practice for a variety of pediatric rehabilitation therapists proposed by King and colleagues (2007), a holistic rather than symptoms view of the client was also found in the data. Consistent with definition of disease in the World Health Organization's International Classification of Functioning, Disability and Health (World Health Organization [WHO], 2007) and additional work in aphasia, there is a need to examine the impact of the communication disorder at the level of the person's environment, identity, and participation in life activities (Kagan, 2011).

**Professional networking contributes to expertise in SLP.** Students and novice clinicians should be given the opportunity to network with other SLPs outside their particular university or work setting. This could take the form of attending conferences at the state or national level, helping to review manuscript articles, or becoming involved with their local National Student Speech-Language Hearing Association chapter or state organization. Although not stated explicitly in any of the prior mentioned models of expertise development in SLP, this notion has been established in discussions of clinician expertise in other disciplines such as psychotherapy (Overholser, 2010).

Within this theme, a practical suggestion is to volunteer for various service positions within the profession. National, state, and regional organizations are often searching for volunteers to serve on committees and leverage resources to otherwise advocate for the profession. Participation in one of ASHA's leadership or mentorship programs is another practical recommendation in this regard.

**Peer and patient recognition can confirm clinical expertise in SLP.** It is reasonable to connect theme 5 with theme 6 when considering peer recognition. Authentic engagement in service opportunities within the profession allows one to not only learn from peers but it also provides a mechanism for recognition from peers. Most organizations have opportunities to nominate peers for various awards highlighting clinical and other achievements.

It is important for even our most novice SLPs to be recognized for the contributions they make to the field. Students should be identified in university materials, state, and national publications when they achieve milestones such as co-authoring a journal article, presenting at a conference, or winning an award. Work sites can help their new clinicians gain recognition by highlighting them in an employee newsletter. Novice clinicians should be encouraged to keep notes of support and gratitude from clients in a special file.

**Embracing the creative or mysterious contributes to expertise in SLP.** Students and novice clinicians should be encouraged to cultivate interests outside of the field of SLP. Time should be scheduled on a weekly basis to pursue a sport, a hobby, or an interest of some kind. For example, creativity and innovation are one of the core values of ASHA's Council on Academic Accreditation of speech-language pathology and audiology programs (Council on Academic Accreditation, n.d.) as they encourage new ideas, approaches, and diversity. Results of this study highlighted areas that also point to the importance of imagination or creativity in expertise development. For example, one of the participants was enrolled in a regular creative writing class; another one of the participants was deeply in touch with spiritual practices. The value of active engagement in creative practices has been associated with improved attention, social well-being

and a sense of calmness in other disciplines (Cantu & Fleuriet, 2018), and SLPs may benefit from such engagement as well.

In addition to cultivating interests outside of the profession, most experts in this study felt comfortable not having all of the answers. They were relaxed with the fact that not every aspect of one's communication disorder can be explained and that there are often elements within the therapeutic process outside of his or her control. Experts in this study were comfortable being uncomfortable to approach problem-solving in creative ways.

**Technical excellence is critical to expertise in SLP.** Because students and novice clinicians are not at the level of being "unconsciously competent," they need to be able to articulate how they came to their decisions. They need to have an answer for why they are choosing to assess or treat in a specific way. They need to understand the importance of data-driven decisions and perform skills with accuracy.

Conducting assessments according to standard protocols, implementing published treatment protocols with fidelity, and referring to others when a client's needs are outside of one's competencies are consistent with technical excellence. Adhering to principles of evidence-based practices by ensuring that all clients are receiving optimal services is the responsibility of all SLPs, novices and experts. This may involve referring to others, reaching out to a supervisor or colleague, or completing continuing education in area if technical excellence in an aspect of clinical care is not achieved.

**Experts in SLP acknowledge and learn from mistakes.** Students and novice clinicians need to admit when they make an error and take precautions so the same type of mistake does not happen again. One way to bring attention to areas that can be improved is to record sessions and view them at a later time. Overholser (2010) notes that the American Board of Professional Psychology requires objective evaluation of the applicant's clinical skills via videotaped samples of their treatment sessions. The stories of experts provided depth of insight into the process of making, and then subsequently learning from, clinical mistakes.

Consistent with theme number 3, 'Work sites impact expertise with SLP,' aspects of the work site can contribute to whether or not individual clinicians feel comfortable to acknowledge mistakes. For example, organizational cultures and climates that are collaborative, empowered, participatory, innovative and flexible are associated with learning environments that support learning from mistakes (Douglas & Hickey, 2015). If a clinician is part of an organization that is stressful, hierarchical, rigid or resistant, he or she may lack the benefit of learning from mistakes (Douglas & Hickey, 2015).

## Conclusion

Future work in this area could investigate the range of factors that have now been identified as those that contribute to expertise in SLP. In addition, pedagogical research in clinical training could focus on one or more of these factors to determine whether or how manipulation of these factors could facilitate expertise development. Given limited resources of all kinds, it will behoove us to understand how to best transfer such knowledge of clinical expertise in SLP. Narratives may provide the avenue for such a critical task.

In summary, although clinician expertise is one of three main tenets of EBP, there has been little research to date to qualify what behaviors constitute expertise for the population of SLPs. This research builds on the general findings of others and specifically investigates the themes that experts include in their personal narratives. In addition to supporting several themes already documented in literature, this study adds two important components to include when thinking about what types of qualities and/or experiences lead to expertise in speech language pathology. Several practical suggestions were provided to start to build expertise in our newest clinicians.

## References

- American Speech-Language-Hearing Association. (2005). Evidence-based practice in communication disorders [PDF]. Retrieved from <https://www.asha.org/policy/ps2005-00221/>
- Bass, L. (2005). Health literacy: Implications for teaching the adult patient. *Journal of Infusion Nursing, 28*, 15-22.
- Berg, B. L. (2007). *Qualitative research methods for the social sciences* (6<sup>th</sup> edition). Boston, MA: Pearson.
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101. doi: 10.1191/1478088706qp063oa
- Bright, F. A. S., Kayes, N. M., Cummins, C., Worrall, L., McPherson, K. M. (2017). Co-constructing engagement in stroke rehabilitation: A qualitative study exploring how practitioner engagement can influence patient engagement. *Clinical Rehabilitation, 31*(10), 1396-1405. doi: 10.1177/0269215517694678
- Cantu, A. G. & Fleuriet, K. J. (2018). Making the ordinary more extraordinary: Exploring creativity as a health promotion practice in among older adults in a community based professionally taught arts program. *Journal of Holistic Nursing, 36*(2), 123-133. doi: 10.1177/0898010117697863
- Cao Thanh, N. & Thi Le Thanh, T. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science, 1*(2), 24-27.
- Cooper, L. D. & Wieckowski, A. T. (2017). A structured approach to reflective practice training in clinical practicum. *Training and Education in Professional Psychology, 11*(4), 252-259. doi: 10.1037/tep0000170
- Council on Academic Accreditation (n.d.). *Core values* [Webpage]. Retrieved from <https://caa.asha.org/?s=core+values>

- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2<sup>nd</sup> edition). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3<sup>rd</sup> edition). Los Angeles, CA: Sage Publications.
- Damico, J. S. & Simmons-Mackie, N. (2003). Qualitative research and speech-language pathology: A tutorial for the clinical realm. *American Journal of Speech-Language Pathology*, 12, 131-143. doi: 10.1044/1058-0360(2003/060).
- Dollaghan, C. (2004). Evidence-based practice in communication disorders: What do we know and when do we know it? *Journal of Communication Disorders*, 37(5), 391-400. doi: org/10.1016/j.jcomdis.2004.04.002
- Douglas, N. F. & Hickey, E. (2015). Creating positive environments in skilled nursing facilities to support best practice implementation: An overview and practical suggestions. *Seminars in Speech and Language*, 36, 167-178. doi: 10.1055/s-0035-1551838
- Elias, L. (2016). Cognitive task analysis: An innovative methodology for learning needs analysis. *Training & Development*, 43(5), 16-17.
- Ericsson, K. A. & Lehmann, A. C. (1996). Expert and exceptional performance: Evidence of maximal adaptation to task constraints. *Annual Review of Psychology*, 47, 273-305. doi: 10.1146/annurev.psych.47.1.273
- Ericsson, K. A. (1998). The scientific study of expert levels of performance: General implications for optimal learning and creativity. *High Ability Studies*, 9, 75-100. doi: 10.1080/1359813980090106
- Ericsson, K. A. (2004). Deliberate practice and the acquisition and maintenance of expert performance in medicine and related domains. *Academic Medicine*, 79, S70-S81. doi: 10.1097/00001888-200410001-00022
- Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In Ericsson, K. A., Charness, N., Feltovich, P. J., Hoffman, R. R. (Eds.) *The Cambridge Handbook of Expertise and Expert Performance* (pp. 683-704). New York, NY: Cambridge University Press.
- Fusch, P. I. & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20(9), 1408-1416.
- Graham, S. V. (1998). *Quality treatment indicators: A model for clinical expertise in speech-language pathology* (doctoral dissertation). Retrieved from science index. (Publication No. AAT 9911494).
- Greenhalgh, T. (1999). Narrative based medicine in an evidenced based world. *British Medical Journal*, 318, 323-325.
- Greenhalgh, T. (2018). *How to implement evidence-based healthcare*. Oxford, UK: Wiley Blackwell.
- Guest, G., Bunce, A., and Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, 18(1): 59-82.
- Guilford, A. M., Graham, S. V., & Scheurle, J. (2007). *The speech-language pathologist: From novice to expert*. Upper Saddle, NJ: Pearson Education, Inc.
- Hinckley, J. J. (2008). *Narrative-based practice in speech-language pathology: Stories of a clinical life*. San Diego, CA: Plural Publishing.
- Kagan, A. (2011). A-FROM in action at the aphasia institute. *Seminars in Speech and Language*, 32, 216-228. doi: 10.1055/s-0031-1286176

- Kamhi, A. G. (1994). Toward a theory of clinical expertise in speech-language pathology. *Language, Speech, and Hearing Services in the Schools, 25*, 115-118. doi: 10.1044/0161-1461.2502.115
- Kamhi, A. G. (1995). Defining, developing, and maintaining clinical expertise. *Language, Speech, and Hearing Services in the Schools, 26*, 353-356. doi: 10.1044/0161-1461.2604.353
- King, G., Currie, M., Bartlett, D. J., Gilpin, M., Willoughby, C., Tucker, M. A., Strachan, D., & Baxter, D. (2007). The development of expertise in pediatric rehabilitation therapists: Changes in approach, self-knowledge, and use of enabling and customizing strategies. *Developmental Neurorehabilitation, 10*, 223-240. doi: 10.1080/17518420701302670
- Kirsch, T. (2017). IPE/IPP in academic and clinical curriculum [Webpage]. Retrieved from <https://caa.asha.org/news/ipeipp-in-academic-and-clinical-curriculum/>
- Lajoie, S. P. (2003). Transitions and trajectories for studies of expertise. *Educational Researcher, 32*, 21-25. doi: 10.3102/0013189X032008021
- Miller, S.I. & Fredericks, M. (1999). How does grounded theory explain? *Qualitative Health Research, 9*(4), 538-551.
- Overholser, J. (2010). Clinical expertise: A preliminary attempt to clarify its core elements. *Journal of Contemporary Psychotherapy, 40*, 131-139. doi: 10.1007/s10879-009-9129-1
- Rikers, R. M. J. P. & Verkoeijen, P. J. L. (2007). Clinical expertise research: A history lesson from those who wrote it. *Medical Education, 41*, 1115-1116. doi: 10.1111/j.1365-2923.2007.02920.x
- Sackett, D., Rosenberg, W., Gray, J., Haynes, R., & Richardson, W. (1996). Evidenced-based medicine: What it is and what it isn't. *British Medical Journal, 312*, 71-72.
- Schneider, W., Gruber, H., Gold, A., & Opwis, K. (1993). Chess expertise and memory for chess positions in children and adults. *Journal of Experimental Child Psychology, 56*, 328-349. doi: 10.1006/jecp.1993.1038
- Strauss, A. & Corbin, J. (1994). Grounded Theory Methodology. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 217-285). Thousand Oaks, CA, Sage Publications.
- Stuckey, H. L. (2014). The first step in data analysis: Transcribing and managing qualitative research data. *Methodological Issues in Social Health and Diabetes Research, 2*(1), 6-8. doi: 10.4103/2321-0656.120254
- World Health Organization. (2007). *ICF-CY, International classification of functioning, disability, and health: Children & youth version*. Geneva, CH: World Health Organization.