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Scope of *OJMSHA*

The *Online Journal of Missouri Speech-Language-Hearing Association* is a peer-reviewed, interprofessional journal publishing articles that make clinical and research contributions to current practices in the fields of Speech-Language Pathology and Audiology. The journal is also intended to provide updates on various professional issues faced by our members while bringing them the latest and most significant findings in the field of communication disorders.

The journal welcomes academicians, clinicians, graduate and undergraduate students, and other allied health professionals who are interested or engaged in research in the field of communication disorders. The interested contributors are highly encouraged to submit their manuscripts/papers to msha@shomemsha.org. An inquiry regarding specific information about a submission may be emailed to Jayanti Ray (jray@semo.edu).

Upon acceptance of the manuscripts, a PDF version of the journal will be posted online during August or September. This publication is open to both members and nonmembers. Readers can freely access or cite the articles.

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Editorial Board (Peer Reviewers)

Carol Koch, EdD, CCC-SLP, is a professor at Samford University. She has been a practicing pediatric speech language pathologist for the past 35 years. She has also taught at the undergraduate and graduate levels for the past 18 years. Her areas of clinical expertise, teaching and research interests include early intervention, childhood apraxia of speech, autism spectrum disorders, early phonological acquisition, assessment and intervention of speech sound disorders, family and sibling experiences, and clinical education. Carol was a recent participant in the ASHA Leadership Development in Health Care Program. She currently has a publishing contract to write a textbook on the topic of speech sound disorders. Carol has also been serving on the Board of Directors for Children's TLC for the past 6 years.

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including two Foundation Awards for Excellence in Teaching (2009) and Research (2017) from Missouri State University, and the University 2016 Director's Award for Outstanding Faculty Research, Honors College. In 2019, she has been named as an accomplished professor at MSU. Regionally, she was awarded the Margo Skinner Award for Outstanding Audiologist in Missouri, Missouri Academy of Audiology. Nationally, she has been featured on the Hearing Health Magazine. Dr. Kaf's service to the profession is extensive and includes the appointed Program Chair, American Academy of Audiology (2020-2022), Audiology Track Chair, Missouri Speech-Language-Hearing Association Convention (2018-2020), and the President Elect/President of the Missouri Academy of Audiology (2015-2016). She has also served at several roles at ASHA and AAA Committees and is an expert reviewer at several professional journals and textbooks.

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Supervisor Chronicles – An original paper
Application of the Gibbs' Reflective Cycle in Clinical Supervision – A Tale of Two Students

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Statement of Purpose

To impart information to clinical educators in speech-language pathology about a written reflective practice method supported by evidence to facilitate deeper learning, resilience, and confidence within the construct of analyzing interpersonal relationships and feelings about experiences in addition to reflecting on discipline specific skills.

Abstract

Reflective practice is emphasized in speech-language pathology and the American Speech-Language Hearing Association (ASHA) encourages "a lifelong commitment to self-evaluation, (ASHA n.d., Practice Portal)" though evidence supporting specific protocols to implement with novice clinicians is limited (Caty et al., 2014). A review of the educational literature reveals reflection is not automatic nor intuitive (Sturghill, 2014), and that guided written reflection promotes integration of knowledge (Husu et al., 2008). This paper reviews the foundations of reflection practice, the use of reflective practice in clinical education, and supports the implementation of The Gibbs' Reflective Cycle (Gibbs, 1988) as a means of guided written reflection in clinical education based on the experience of two SLP graduate students as chronicled by their clinical educator.

Introduction

Clinical practicum is frequently perceived as a daunting and anxiety provoking aspect of students' graduate education in speech-language pathology (SLP). Anxiety and stress stems from personal issues as well as factors related to navigating supervisor expectations (Plexico et al., 2017). The transition from classroom to clinic is an unfamiliar landscape with a steep learning curve, exacerbated by chronic evaluation and persistent expectations for progressive independence. A 2020 study by Bogardus et al. surveyed stress, anxiety, depression, and perfectionism experienced by graduate students in occupational, physical, physician assistant, and speech-pathology programs in the United States. Results indicated that students across programs scored significantly higher than national norms for depression, anxiety, and stress, with students in SLP reporting higher levels of depression, anxiety, and stress than their peers in the other allied health programs, perhaps as a consequence of program structure and high stakes experiences requiring successful completion to advance toward degree completion (Bogardus et al., 2022).

Origin Story

My experience has been that most graduate clinicians understand the need for meaningful experiences in order to make sense of their reactions and behaviors when treating clients. As a university clinical educator for 15 years, I believe "meaningful reflection

ensures that we bring the future of our service delivery with us into our current practice" (Yocco, 2018). Toward this, student-self assessment has been a familiar and regularly practiced component of my instruction. For a student to reach self-supervision, they must participate in activities that foster self-awareness, and I like many clinical educators, have implemented a variety of methods. These techniques seemingly fulfilled their purpose as over the years, students authentically captured their skills, considered alternative actions, and steadily cultivated their professional persona. Cue the curve in the road. One fall, I was supervising two graduate students in their final semester of onsite practicum, typically a time when they have completed several clinical experiences and are more self-assured. Each student was assigned to work with an adult client with a progressive neurological disease that was slowly and steadily stealing their communication. While I anticipated the students would feel uncomfortable and even sad initially, I did not foresee the degree of distress that emerged from conversations with their clients. As sessions progressed, each student demonstrated above-level skill execution. Sessions were organized, materials were engaging, teaching was sequential, and the clients responded favorably. Between therapy tasks, the clients often shared their thoughts and perspectives about living with a progressive illness. Looking back, the clients likely felt safe and compelled to share sensitive information due to the high level of professionalism and compassion displayed by each clinician. Had I only been evaluating my students based on direct session observation, I would have missed a crucial crossroad in their professional development.

During our weekly collaborative meeting, each student revealed struggles that were not evident during therapy. For different reasons, they were uncomfortable managing their clients' remarks about their disorders and their impending losses. Each student said they felt incompetent and were at a loss with how to cope. From my perspective, the students were responding appropriately to client responses and concerns, especially considering their relatively limited clinical experience. They actively listened, offered to conduct research, and provide referrals for counseling, and provided appropriate verbal support. Check! Check! Check! However, each revealed to me what was termed a crisis of confidence, a critical self-evaluation of their perceived inability to solve a problem and to competently serve their clients (Schon, 1983). They spoke to their uncertainty regarding what to say to their client and how to say it, feeling dejected after a session, and often stewing in a negative space for days. Intellectually, they knew they were in no danger of failing practicum. Emotionally, they felt inept and ineffective and as one student said "heavy." In simple terms, they felt like a failure. Now, I was the one experiencing some crisis. Here I was with 15 years of instructional experience, and I was dangerously close to missing the mark. My customary reflection assignments felt inadequate and so did I. These students were self-aware, yet they could not work themselves out of damaging and lingering feelings about their abilities. I needed something evidenced-based and tangible to support their self-efficacy that reached beyond my typical tasks. Particularly as they were nearing externships, I wanted to give them a process they could rely on to navigate future difficult situations. Hastened by my need to quell my own discomfort, I concentrated on re-educating myself about self-assessment and self-reflection.

Roots of Reflective Practice

My search first led me to learn more about reflective practice in general and resulted in a hard truth. I quickly realized I had much to learn and that historically, I had been a surface learner. I had taken continuing education courses, read articles, and consulted industry websites, but this was truly the first time I dove deep, propelled by my gnawing unease. At the risk of stating the obvious, reflective practice is not new. It is ancient, with

Aristotle credited for discussing practical judgements and moral actions in the mid-300s B.C. (Boud et al., 1985). These ideas were foundational to reflective practice, leading one to question why they believe and act the way they do. In the 1930s, John Dewey was recognized with first crystalizing the learning process of trial and error and implementing reflective activity to facilitate learning, and he emphasized that states of perplexity, hesitation, and suspense most often served as the catalysts for reflection (Boud et al., 1985). He shifted the focus of learning to future outcomes versus mulling over the past, a necessary action in order to move on from a previous situation in order to resolved one's feeling of imbalance and instill confidence in future outcomes (Dewey, 1910). David Kolb in the 1970s emphasized experiential learning and reflective observation, and Shirly Grundy in the 1980s integrated the concept of free choice into reflecting, positing that after reflecting, the individual must feel free to make a choice separate from potential expectations of others (Boud et al., 1985), a key step toward self-efficacy. In the late 1980s, Graham Gibbs developed a guided reflective cycle to structure learning and experiences that culminated in an action plan for future behavior, thereby fostering self-supervision (Gibbs, 1988). He also emphasized the importance of acknowledging and reflecting on emotional states as an imperative part of the learning process (Gibbs, 1988). Rather than shelving one's feelings, one was to confront and analyze them as an early component of the reflection process. In the early 2000s, Carmel Herington and Scott Weaven provided evidence for how surface learning approaches direct students to merely rehearse and execute behavior whereas reflection resulted in deeper and longer-lasting learning (Herington &Weaven, 2008).

Collectively, the work of these individuals supported that reflection was imperative for an individual to understand their role in responding to a situation to become the best version of themselves as an agent of purposeful behavior. I felt some relief that reflection has been studied for eons by brilliant individuals, and yet, here we were, continuing to advance best practice. Simultaneously, though, I felt a tug of self-admonishment for taking so long to learn more. I forged ahead with my inner unrest gradually subsiding.

Modes and Methods of Reflection

Reflection can serve personal and professional purposes, and most, if not all of us, have likely engaged in what we would call "reflection" at some point in our lives. However, the word itself has perhaps become a bit overused and has lost some of its meaning in the process. Consider how often we say or hear someone say, "Let's reflect," or "I was reflecting." The truer statements may be that one was "thinking" or "considering." (Boud, 1985). I believed I had practiced reflection regularly, until research revealed otherwise. Reflection *is* a practice, which means it is methodical and strategic. Reflection also *takes* practice, which means it is something we need to learn, repeat, and attempt to master. Reflective practices are essential for learning and are cited in educational and professional literature as means to facilitate critical thinking, maintain, and develop clinical competence, and acquire skills needed to foster life-long learning (ASHA n.d.; Burrus et al., 2009; Gibbs, 1988; Gustafsson 2004). Importantly, reflective practice also provides a vehicle for navigating emotions that often accompany an experience, whether positive or negative (Gibbs, 1988). Reflective practice fosters professional and personal growth and can help one understand contextual factors, can help transform perspectives and build empathy, and can even help one appreciate or re-appreciate the job they do (Gustafsson, 2004). Reflection, for the purposes of effective service work, is action oriented. It requires active, persistent, and careful consideration of any belief or form of knowledge (Dewey, 1910). It is conscious and purposeful. It is deliberate and relevant to a specific experience. Further, while the need for

reflection is often apparent, the process is by no means automatic. Sturghill (2014) stated that this is especially true for students, and further, high quality reflection is a skill to be honed like any other as ineffective reflection incurs a high cost, potentially reinforcing flawed thinking. This last point hit me like an anvil. Clinical educators collectively shoulder a tremendous amount of responsibility for their student's education and for their overall well-being as they traverse graduate study. We are hard-wired to help them grow and succeed. To allow any of them to continue down a path of flawed thinking that resulted in poor service delivery and/or damaged their self-image, is well, unthinkable. My desire to acquire more information was bolstered and I continued to peel the reflection onion.

Before delving into specific methods, I reviewed the psychology behind reflection. The need to reflect is frequently organic, arising from discomfort. While one could successfully argue that reflecting on positive outcomes is just as important as negative ones, the truth is that as humans, we have an innate drive to achieve balance when thrown off kilter. We want others to see us as skilled, coordinated, even graceful (Bregman, 2019). Negative situations are what cause us to trip and stumble, but they also help us grow. Mature growth requires that one works through and then releases or moves on from an "event" in a productive way, and this necessitates retrospective thought leading one to become self-aware through critical analysis (Atkins & Murphy 1993). Active, intentional reflection, dictates that one does more than think quietly, ponder, mull over, consider or contemplate, though the process does indeed begin with "thinking." (Dewey, 1910 as cited in Boud et al., 1985). Effective reflection demands we take a serious look inward and confront shortcomings, but that we also determine how to adapt and overcome. To influence critical thinking and subsequent learning, reflective practices must move beyond what one may term the "post-mortem" where a situation is revisited and is then discarded with the hope that it will get better or improve the next time. Effective reflection is both retrospective and predictive, charting a map for future behavior (Jasper, 2003). When done intentionally, "research shows that fostering reflective practice can develop metacognitive ability, enhance critical thinking, and improve problem solving" (Tsingos, et al., 2015).

Boud et al. (1985) stated that the reflective process contains three central elements to stimulate learning. First, the individual must place themselves back into the situation. The initial experience needs to be revisited in an intentional and purposeful manner. Second, the individual must attend to their feelings before, during, and after the situation. Acknowledgement that one's own perceptions, past experiences, and biases can influence emotions is needed. It is only through feeling everything that one can develop emotional courage, an important driver of emotional intelligence (Bregman, 2019). Third, the individual must link their new knowledge to a potential future event. Behaviors and actions should be played out and rehearsed at this stage. Essentially, the individual needs to recapture the experience, consciously think about it, and then evaluate it and ask, "What would I do next time?"

Once I learned more about the foundation of reflective practice, I investigated reflection specific to clinical instruction. ASHA offers detailed information to clinical educators regarding this topic, with which I was familiar, and this provided me with renewed appreciation as I delved deeper. The information that follows will resonate similarly for those who are or have been clinical educators.

Reflection can occur "on" or "in" action. Schon (1983) specified that reflection "on" action involves reviewing one's actions after an event or situation. Outcome effectiveness can be determined, and one can start to think about what they may do differently (or the same) next time. Graduate clinicians are often frequently engaged in this type of reflection during their practicum experiences. Students will often discuss their sessions after the fact with their supervisors and will collaborate regarding ideas for changes and adaptations. This type of

reflection occurs during weekly meetings, via written correspondence, and via assignment such as written midterm or end-of-term reflection papers, just to name a few examples. Reflection "in" action, in contrast, involves reflecting on a behavior in real time, as it happens, drawing on one's stock of pre-acquired knowledge to implement immediate change (Schon, 1983). This "thinking on your feet" behavior is typically a later developing skill for graduate clinicians and suggests they are approaching self-supervision.

Sturghill (2014) found that both verbal and written modes offer benefits and drawbacks to the reflective practice and mode selection often depends on practice settings. Verbal reflection can emerge organically throughout the day and can be quick. Time for verbal reflection can be scheduled during a meeting, but there is a risk of being interrupted and of time elapsing prior to the process reaching a natural conclusion, leaving the process unfinished. There is also an inherent risk of embellishment with verbal reflection as research suggests that the more one talks, the more one forgets or inadvertently substitutes details (Sturghill 2014). Written reflection offers a means to objectify an experience, particularly if guided by question prompts and typically facilitates more accurate memory if event adjacent (Sturghill 2014). Written reflection preserves the experience over time and if repeated, provides a diary of knowledge and skill acquisition. The process can be more time intensive than verbal modes, however it is more effective at mapping underlying rules and theories of practice, thus theoretically leading to deeper, long-range learning (Allas et al., 2017). Written reflection content may also document a student's perception of task complexity and acquired knowledge, thereby serving as a means with which a clinical educator could base evaluations and determine learning needs (Burrus et al., 2009).

Whether verbal or written, reflection can take the form of "guided" or "free" (Sturghill 2014). Guided reflection includes prompts that serve to encourage the individual to reflect on matters that are relevant to the experience. The prompts should be organized and sequential. This type of reflection can be repeated over time and if written, can serve as a reference for discussions and to monitor growth. Free, as the name implies, relates to processes that have minimal to no guidance. Vehicles for free reflection typically include conversation, blogging, and unprompted journaling. Research supports that guided reflection yields more responses and more integration of knowledge than free, but that free reflection may lead the individual to offer information that was not invited via prompts (Sturghill, 2014).

Reflection Methods in Speech-Language Pathology

It was now apparent that historically, my assignments to students were a hybrid approach with a bit of verbal reflection here and a smattering of written questions here and there without substantial deference to the tenets of reflective practice. Based on the information I was reading, I needed to employ guided, written reflection for my students that could serve as a template across situations. Now that I knew what I was looking for and why, I turned my attention toward tools and techniques specific to SLP. I was taking demonstrable action, and I felt more empowered.

ASHA is typically my initial starting point for most exploratory professional pursuits, and they offer guidance and directives regarding the knowledge and skills needed to provide effective clinical education. In the Practice Portal for Clinical Education and Supervision (ASHA n.d., Practice Portal), clinical supervisors are tasked with "analyzing and evaluating the student clinician's performance," and this includes "assisting with self-reflections." Further, ASHA states that the goals of clinical education are to teach clinicians the following skills: to access knowledge, to determine how to apply knowledge clinically, and to evaluate outcomes, modify thinking, and make clinical adjustments. The latter speaks

specifically to the need for instructors to guide novice clinicians toward developing effective reflective practices that can generalize across clinical situations. To promote critical thinking, ASHA states that the clinical educator must also "provide a structure for student clinicians to connect theory to practice." However, the methods for clinical reflection are to be determined by the clinical educator, and options abound with "techniques dependent on the clinical situation, task, urgency and consequences," allowing freedom for clinical educators to adjust and adapt reflective practice as needed.

Speech-language pathologists are interested in and acknowledge the need for reflective practice; however, no single method has emerged as the gold standard. Caty et al. (2014) conducted a review of 42 international publications to assess the "current state of published literature on reflective practice in the field of SLP." While they concluded that the practice literature often references reflective practice and cited terminology related to reflective practice, the actual scholarship regarding how to select and implement reflective practices in SLP was limited. Caty, et al. found that critical reflection was considered to be an "essential skill." This skill, however, was practiced with a wide degree of variability. Practices included verbal discussion and written reflection (journals, logs, Q&A), and reflection was most often intentionally conducted in academic programs and during the clinical fellowship year. Reflective theories were based largely on various educational models. The review did not propose that practitioners were not invested in meaningful reflective practice; however, the results indicated that methods used in SLP lacked consensus regarding how to define and implement reflective practice.

Discovery and Implementation of The Gibbs' Reflective Analysis Tool

Given the variability found in the SLP literature, I revisited research related to teaching and learning and encountered Graham Gibbs' Learning by Doing (1988) and the Gibbs' Reflective Analysis Tool ("The Gibbs'" as cited in University of Edinburgh 2022). Graham Gibbs, sociologist and psychologist created a 6-step guided written analysis tool based on systematic reflection to manifest future changes. His reflective cycle (Gibbs, 1988 as cited in Jasper, 2013) showed that "just having an experience is insufficient for learning," and that "adaptations to new situations stem from reflection on action," with the ultimate goal for one to become "self-supervising." Gibbs was speaking SLP language, and I was hooked.

Based on cognitive learning theory, Gibbs posited that in order to make sense of our environment, one must think intentionally about the distinct phases of a total experience. His Reflective Cycle includes 6 questions, each of which has several sub-questions to guide the individual's responses. The steps are as follows (Jasper, 2003; The University of Edinburgh, 2022):

1. Description: Place yourself back into the situation with as much detail as possible
2. Feelings: Interpret your perceived gravity of the situation
3. Evaluate: Was the Experience was Good or Bad for you?
4. Analysis of Situation: Understanding
5. Conclusion: Highlight knowledge you have gained that will help you grow and improve
6. Plan of Action: Plan Positive change for future

Within these primary steps, Gibbs lists several questions to guide the individual toward deeper analysis (The University of Edinburgh, 2002). For my students, I modified some wording to relate to their clinical practicum, which is italicized in Table 1.

Description. At this level, the individual places themselves back into the situation or event with as much detail as possible. 1. When did this happen? *Reflect on the time of day, the point in the semester and the point in the session itself.* 2. What happened? *Explain the "situation."* 3. Who was present? 4. What did you do and/or what was your reaction or response? 5. What was the immediate outcome? *Reflect on your response and that of the client.*
Feelings: Interpret your perceived gravity of the situation 1. How were you feeling before the situation? 2. What were you feeling during the situation? 3. How did you feel after the situation? 4. What do you think others who were present were feeling after the interaction?
Evaluate if the Experience was Good or Bad for you: 1. What went well? 2. What didn't go so well? 3. What was good about the experience? 4. What was bad about the experience? 5. What did you and relevant others contribute to the situation that felt positive or negative?
Analysis of Situation: Understanding 1. Could I have responded in a different way? 2. Why did some things go well? 3. Why did some things go poorly? 4. What did I do to try to make sense of the situation? 5. What knowledge, my own or from others, helped me understand the situation?
Conclusion – Highlight knowledge you have gained that will help you grow and improve. 1. What did I learn from the situation? 2. What skills do I need to develop to help me manage a situation like this better in the future? 3. What else could I have done?
Plan of Action: Positive change for future 1. If I had to do the same thing again, what would I do differently? 2. How will I develop the required skills I need? 3. How can I make sure that I can act differently next time?

Table 1
Gibbs' Reflective Analysis Questions Used for Reflective Practice in SLP Clinical Practicum

The Gibbs' served as a template for documenting meaningful reflection in a structured and "action-oriented" manner, which as stated earlier is a necessary component of reflection for effective service work. A review of the steps revealed that the individual was to recapture

their experiences and consider their feelings and behaviors from multiple angles, both positive and negative. Notably, the reflection was finalized with a "Plan of Action" versus a "Conclusion." This last step enables learners to realize they are capable of learning and changing versus becoming mired down in what could have been if they had only known more, said something else, or had more support, for example. The Plan of Action represents the "self-empowerment" step that is so critical to facilitating self-supervision (Helyer, 2015).

I met with my two graduate clinicians and asked them to complete the tool as part of their clinical practicum. I explained my rationale for this new tool (read as my "plan of action) that included my realization (read as my "analysis" and "conclusion") that I as their mentor could do better by them. I feared that they may be resistant given the length of the tool and the time needed to complete it, however, they were enthusiastically agreeable.

They each selected a clinical "situation" of their choosing when prompted to "*Recall an experience that has "stuck with you" from working with your client from early in the semester from your memory as best you can. The word "situation" can be interpreted as a session, a specific interaction, communication, activity, etc. Answer the questions honestly, knowing that there are no right or wrong answers*."

Each student's complete reflection is in Appendix A. Their worry dripped from the pages. They felt inexperienced, feared appearing insensitive, were anxious and desired to say and do the right thing. Comments from student 1 included, "*I immediately started to tear up and could not even think of what to say*," "*The aftermath of the session was very awkward*," "*I'm anxious*," "*I did not feel confident and honestly felt a little hopeless*." Student 2 offered, *"I felt uneasy at the time and would continue to ruminate about my client's burdens and emotions after the session," "I was feeling anxious to present on the topic of the progressive of his illness, and "I was anxious to say the wrong thing that could be perceived as insensitive,"* The beauty of the Gibbs', though, was that their reflections did not end on processing the event. Once feelings were acknowledged and sorted, the students forged on, and I was impressed with their ability to extract both positive and negative perspectives and to document plans of action for positive changes. They appreciated supervisory support, realized they in fact had done several things well, and developed specific objectives to prepare for future events. Student 1 commented, *"I learned that it's okay to not have all the answers and just being present in the moment with the client and being a listener is 100% okay," "I plan to continue asking my supervisor ways to grow in those situations and continue researching best care methods for those with progressive disease,"* and *"I've also just been diving into articles and websites discussing therapy approaches for those with progressive diseases, which have been extremely helpful!, and I also am going to really take a moment when a heavy comment is made and just take a breath or two before I feel like I need to respond."* Student 2 reported, *"It was a good experience to have early on to better understand the experiences and burden I will face as a clinician. I am also glad I got to see my supervisor's response so I will know how to handle a situation like this again," "Experience and preparation are going to help me manage a situation like this. Preparation and being more thoughtful about how my client might be struggling is something to consider for those with especially tough illnesses,"* and *"Being more prepared and manufacturing scenarios in my therapy that I would be able to prepare for with difficult conversations in something I will do differently. Also, looking up ways to help with caregiver burden or how to recognize it will help me emotionally prepare for the future I will have working with clients like this one."* These comments and reflections revealed a depth of awareness, analysis, and planning that quite frankly would have been challenging to achieve within the confines of our typical weekly meetings often devoted to instructional nuts and bolts such as treatment planning, goal development, client progress and technical writing skills. Assigning this

written reflective practice allowed the students to take their time and to be intentional with the process of analyzing their discomfort, reviewing their actions, and acknowledging what they had done well in addition to what could be improved upon. I was particularly pleased to learn how the process helped them resolve emotions, their desire to self-study and their recognition that manufacturing scenarios and practicing outcomes could help them feel more confident across clinical situations. Significantly, the students realized plans for improvement on their own and gained needed confidence toward becoming self-supervising, not just with their technical skills, but also with their interpersonal needs and feelings, reflecting a mature growth mindset this is so critical for a career in service delivery (Geller & Foley, 2009).

After the reflections were submitted, I asked each student to complete a survey regarding their opinions about The Gibbs' (see Appendices B and C). Neither student had heard of Graham Gibbs or his method prior to this experience and both commented they would not have completed it if it had not been assigned. Evaluative comments included "*It was a lot more specific and intentional than reflecting exercises I had to do in the past*," and "*The cycle was specific and interesting."* One student remarked, *"Prior to the tool, I was overwhelmed and did not process the situation. I just noted it as something uncomfortable that happened."* Additional remarks included "*I felt better after having a plan of action," "I felt more empowered afterward and it made me want to analyze other situations,"* and *"It made me realize that processing difficult situations is important. I had not been provided with any type of information with how to help myself as a clinician when difficult things."*

Integrating the Gibbs' into my clinical education toolbox was a game-changer. The tool provided an organized method for facilitating students' critical thinking, as well as my own as I have used it for my own reflective practice and found it to be impactful. While this experience was limited to two clinicians, feedback was sufficient to convince me that the tool was effective and that it implemented several of the known tenets of best practice for reflection supported by research findings. First, reflection is not automatic. Students do spend extensive time thinking about their practicum and preparing for their clients. However, deep reflection is a more comprehensive process, and is one that needs to be instructed, modeled, and discussed. The Gibbs' tool, being a guided written reflection "on" action resulted in deep learning and retention of evaluating their experiences which confirmed evidence I had reviewed. The process enabled the students to return to their experience, address their feelings, and re-evaluate the outcome in a deliberate manner which aligned with Boud et al.'s (1985) practice of reflection. The tool was conscious and purposeful, and it promoted analysis, synthesis, and evaluation through its sequential prompts, providing a template that could be used for mapping reflection across different situations encountered in service work.

At the conclusion of the semester, I hypothesized that my students would not have come to this level of reflection on their own, and if they had not been given the opportunity to do so, their clinical experience may have been negatively impacted. They had taken a particularly important step toward self-supervision.

Potential Drawbacks and Limitations

While I am an earnest advocate for using The Gibbs', I would be remiss in omitting potential limitations. The tool takes considerable time for students to complete and for supervisors to review, which while needed to maximize benefit, may be unrealistic to fit into a busy schedule, particularly in offsite practicum placements. Both students commented that some of the question prompts were repetitive, though they acknowledged the redundancy encouraged them to consider their responses from different viewpoints. The tool is not only lengthy, but given its guided format, requires time be intentionally set aside to immerse oneself back into the situation being considered. Again, this may not organically fit into one's

day, requiring that time be devoted outside of school or work hours for the reflection to be completed as intended. To this point, during follow up meetings the next semester when they were at externship, my students reported they had not implemented the tool on their own in writing but were mindful of revisiting the question prompts in their mind's eye. An additional limitation could involve the need for repeated practice. While regular use of the Gibbs' across practicum and education experiences would maximize its utility and future use, it may be challenging for academic and professional SLP staff to reach consensus on using it exclusively. Given that ASHA's supervision guidelines encourage that a variety of reflection and self-assessment methods be considered as part of clinical education, one could maintain that novice clinicians should be exposed to a variety of reflective practices, allowing for accommodation of learning, teaching, and situational needs.

Applications in Clinical Education

Functional applications and research opportunities to determine outcomes abound. The Gibbs' can be used for reflection on specific clinical experiences, for specific skills sets (goal conferences, execution of treatment methods, parent conferences), and even in group assignments. Helyer (2014) encouraged "Communities of Practice," citing work by Wenger (1998) to promote learner-to-learner support, for example. Groups of students could apply the Gibbs' when working with clients with similar communication disorders and then meet to collaborate and discuss their reflections, fostering perspective taking in a low-risk and supportive environment. Given evidence for how written reflections can be integrated as part of the evaluation process (Burrus et al., 2009; Meilijson & Katzenberger, 2014), The Gibbs' may also be useful as a tool for remediation to help a struggling student identify their specific strengths, challenges, and opportunities for learning, though challenges may arise if the student is not aware of their abilities or lack thereof. I posit that the tool is most effective for those capable of genuinely reviewing experiences, including shortcomings and inadequacies. As practice is an imperative component to developing high level reflection skills, the Gibbs' should ideally be regularly implemented throughout a student's course of study, providing a written journal of experiences, and hopefully, growth toward self-supervision. As I am not a research scientist by trade, I will leave specific investigations regarding long-range benefits for the utility of the Gibbs' in reflective practice for SLP students to experts in that domain. General ideas for study however could include comparing the Gibbs' to other well-researched reflective tools or conducting longitudinal studies of how the Gibbs' impacts clinical growth and emotional maturity across a cohort's graduate clinical experience. Interdisciplinary collaboration with psychology scholars could prove beneficial if administration of the Gibbs' could be paired with a companion tool to correlate perceptions of a clinician's stress, emotional state, and mental health. For example, as the graduate clinician reflects that they are working through situations more confidently and with more knowledge, do measures of their self-esteem and mental health also improve?

Closing Thoughts

"Effective reflection results in "praxis" – informed, planned and committed action (Boud et al., 1985)." What a wonderfully applicable statement on which to conclude this tale. As one student succinctly stated, *"Processing difficult situations is important.* "Graduate clinicians deserve and need meaningful methods for working through such events to help set their path toward processing "how" to learn and to help them develop professional identity and personal agency through self-awareness (Helyer, 2015). This need extends to most if not all adult learners, including clinical educators like myself.

Clinical education is demanding, and it is comfortable to focus on the teaching of skills, but as I have learned, such a mindset limits growth for both the supervisor and supervisee. Geller and Foley (2009) wrote about the significance of relationships in clinical education, stating that "all learning is embedded within a relational matrix, and thus the quality of the relationship can support or impede change and growth." Historically, supervisors have been focused on teaching and developing clinical skills in their supervisees, perhaps giving less attention toward addressing interpersonal aspects of clinical experiences and also minimizing the influence of the supervisee toward transforming the supervisor (Geller & Foley 2009). I agree and I am grateful that my experience forced me to revisit my knowledge, which led me to recalibrate and transform my approach to reflective practice. I am extremely appreciative for my students' cooperation and for their influence which improved my process along the way. I have committed to integrating the Gibbs' more regularly into my clinical instruction, assigning students to complete a reflection using this analysis at critical points in the semester, depending on their level of experience. I have shared my rationale for selecting this specific method and that I myself have experienced growth and confidence implementing the tool over time. I will no doubt face future encounters that cause discomfort and uncertainty, and I look forward to future needs-based discoveries with a renewed sense of self-assuredness.

Given this overall positive experience, I felt compelled to share my journey, and I thank you for taking time to read my story. Whether readers experienced validation for their current reflective practice, curiosity to try something new, or a spark to design a formal research study, I hope this paper has left clinical educators with something useful to reflect upon (see what I did there?).

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Appendix A

SLP Graduate Clinician Gibbs' Reflective Analysis Samples

Level 4 Grad SLP Student Example 1

Retrospective Analysis:

Recall an experience that has "stuck with you" from working with your client from early in the semester from your memory as best you can. The word "situation" can be interpreted as a session, a specific interaction, communication, activity, etc. Answer the questions honestly, knowing that there are no right or wrong answers.

1. **Description:**
    1. When did this happen? Reflect on the time of day, the point in the semester and the point in the session itself.

This happened during a Monday afternoon session at 3 P.M. on teletherapy. The discussion happened towards the end of the session (in the last 15 minutes or so) and about 3 weeks into the semester.

2. What happened? Explain the "situation."

I was speaking with my client about certain scenarios in which she begins to feel overwhelmed when talking to people. We also were talking about times when she begins to feel excluded. She then began to tear up and made the comment of **"I just don't understand why God would allow this diagnosis to happen to someone."**

3. Who was present?

Only the client and I were present for this conversation.

4. What did you do and/or what was your reaction or response?

I immediately started to tear up and could not even think of what to say. I acknowledged her sadness and said how awful of a diagnosis this is and how I don't understand what she's going through, but I want to walk beside her.

5. What was the immediate outcome? Reflect on your response and that of the client.

The aftermath of the session was very awkward since it was at the end of the session. You could sense the high of emotions during the rest of the session and when time was up, I didn't love that our session had to end that way that day.

2. **Feelings: Interpret your perceived gravity of the situation**
    1. How were you feeling before the situation?

Honestly, I've always been a little on edge when working with this client. At the beginning of every session, I'm still a little anxious because I just never know what the conversations during the session are going to hold.

2. What were you feeling during the situation?

I did not feel confident at all and honestly felt a little hopeless. I knew what I wanted to say, but I just didn't know exactly how to say it. Especially on teletherapy, the awkward silence felt so painful and long.

3. How did you feel after the situation?

Following the situation, I just had a really heavy heart. I went out and took a walk on campus just to get out of the clinic for a while, but I felt heavy. I also was nervous for the next session and how I would start it out with how the last session had ended.

4. What do you think others who were present were feeling after the interaction?

I think my client probably felt very vulnerable in that situation, but she honestly might've felt relief in talking about that with me. She's been very open during our sessions which I love, I just sometimes feel as if I'm not adequate enough to be providing services for her.

3. **Evaluate if the Experience was Good or Bad for you**:
    1. What went well?

It was a very good learning experience for me, especially in counseling. I love that I acknowledged her feelings and didn't just burst out in tears when I heard that comment.

2. What didn't go so well?

I basically froze after acknowledging her feelings and didn't know what else to add to my comment. I also felt like I had to keep filling the space with "answers", but now I know that sometimes just nonverbal communication of a nod and not needing to fill the silence is 100% okay!

3. What was good about the experience?

I was able to receive really great feedback from my supervisor. I also loved that my supervisor didn't just jump in and save me in this situation, but really allowed me to learn and grow from it.

4. What was bad about the experience?

I did not feel confident and felt like I didn't help my client in the situation a whole lot. I also didn't love that it was at the end of our session, and we couldn't end on a high note.

5. What did you and relevant others contribute to the situation that felt positive or negative?

My supervisor provided great feedback that allowed me to learn from the situation and how to handle it better next time we have a deep conversation such as that one. My client also said the next session that she appreciates being able to be honest with me, and I feel as if this situation allowed us to grow a deeper connection and rapport right from the beginning of the semester.

4. **Analysis of Situation: Understanding**
    1. Could I have responded in a different way?

I think I did a good job of acknowledging my client's feelings and how hard this must be to go through, but I wish I would've added some knowledge of my field and how we can use speech and communication skills to come up with strategies when we feel super down or depressed.

2. Why did some things go well?

I think some things went well because I have had previous knowledge on counseling caregivers and parents of children, so I at least knew the first step of counseling. I also think the situation went okay because of rapport that had already been made between the client and I.

3. Why did some things go poorly?

Some things went poorly because I'm very inexperienced in working with this population. I remember learning about counseling in class, but it's a totally different story when you're in a conversation with someone and they make a comment such as that.

4. What did I do to try to make sense of the situation?

I made a bad choice in this situation and just kept feeling like I needed to fill every silent moment in the conversation with an "answer" that I wasn't even certain of.

5. What knowledge, my own or from others, helped me understand the situation?

I personally have never had a close family member or friend suffer from a progressive disease, but we have talked about them in multiple courses in both the undergraduate and graduate levels. I really think also just being an emotional person in general helped me understand the weight of the situation and how much my client's diagnosis is really impacting her everyday life.

5. **Conclusion – Highlight knowledge you have gained that will help you grow and improve**.

1. What did I learn from the situation?

I learned that it's okay to not have all the answers and just being present in the moment with the client and being a listener is 100% okay.

2. What skills do I need to develop to help me manage a situation like this better in the future?

Counseling with adults and their caregivers. Another skill would be just listening and not needing to talk all the time or provide an answer to every question. I need to become better at saying "I'm not 100% sure of the answer I want to give you right now, so please let me think on it and I will get back to you."

3. What else could I have done?

I could have asked my client what strategies she uses to cope so I could gain knowledge on how we can utilize those in our sessions.

6. **Plan of Action: Positive change for future**

1. If I had to do the same thing again, what would I do differently?

I would not fill every second of silence with talking and just nod and see if my client went deeper in the conversation. I also would have started the activity at the beginning of the session versus in the last 15 minutes to make sure enough time was allotted for a full discussion.

2. How will I develop the required skills I need?

I plan to continue asking my supervisor ways to grow in those situations and continue researching best care methods for those with progressive disease. I've also just been diving into articles and websites discussing therapy approaches for those with progressive diseases, which have been extremely helpful!

3. How can I make sure that I can act differently next time?

Honestly, I think I might practice just listening when I'm with my friends to work on not needing to fill the silence in a conversation. I also am going to really take a moment when a heavy comment is made and just take a breath or two before I feel like I need to respond.

Grad SLP Student Example 2

Retrospective Analysis:

Recall an experience that has "stuck with you" from working with your client from early in the semester from your memory as best you can. The word "situation" can be interpreted as a session, a specific interaction, communication, activity, etc. Answer the questions honestly, knowing that there are no right or wrong answers.

1. **Description:**

1. When did this happen? Reflect on the time of day, the point in the semester and the point in the session itself.

Around mid-term (mid-late October) I had to have a conversation about possible therapy recommendations in the future. This was during our regularly scheduled 9:00 AM session. The "situation" itself happened about halfway into the session.

2. What happened? Explain the "situation."

When discussing possible future therapy recommendations, the topic of next semester came about. The client mentioned that he was thinking of dropping out of speech therapy entirely, which was not something I expected to hear. It was at this point that I heard my client's voice break when discussing how he might want to spend his limited time differently. This was the first time I had seen or heard my client react emotionally towards his diagnosis. Normally he had a happy affect and jovial spirit in speech. This revealed to me that even though he had a happy affect, there were still a lot of emotions he must be feeling when facing the reality of his condition and its progression in the future.

3. Who was present?

His wife, myself, and my clinic supervisor were present.

4. What did you do and/or what was your reaction or response?

My clinic supervisor acknowledged this thought and validated his response that he might want to spend his time differently. My client moved on from his point once he was acknowledged. I immediately felt empathetic and sad internally about his situation once I realized his emotional reaction to discussing the future. For the remainder of the therapy session, I tried not to think about this moment in time but for the rest of that day I kept reminding myself of their situation and how they must be feeling.

5. What was the immediate outcome? Reflect on your response and that of the client.

The immediate outcome was a shift in the conversation, but an understanding that the question of them coming to therapy in the next semesters is something they will have to think about. My supervisor empathized and validated my client, which he seemed to feel understood by shaking his head 'yes' and being able to move on from his point. I felt uneasy at the time and would continue to ruminate about my client's burdens and emotions after the session had ended that day.

2. **Feelings: Interpret your perceived gravity of the situation**

1. How were you feeling before the situation?

I was feeling anxious to present on a presented topic regarding the progression of his illness, but not any type of negative emotion. I was anxious to do or say the wrong thing that could be perceived as insensitive.

2. What were you feeling during the situation?

I was first surprised by his comment and his voice breaking when describing what he was thinking of doing. I went into empathizer mode and started visualizing what their future could look like when he progresses much worse and how his wife and family must be feeling as well. I then also considered his thoughts and feelings towards his condition and realized I was ruminating on this point. The situation made me sadder and more thoughtful, and I did not feel anxious at that time.

3. How did you feel after the situation?

I continued to ruminate about his feelings towards his diagnosis in general and the realization that just because he had his diagnosis for a while, did not make him 'okay' with it. I began to visualize what that situation might look from day to day in both his wife's mind and his. I am continuing to process their feelings they might have towards his condition and them having to decide how he will spend his time with the remaining years.

4. What do you think others who were present were feeling after the interaction?

I think the others involved were sad and recognized this sadness in my client. However, I don't think this was a surprise to the wife or my supervisor, I am sure they have seen an emotional reaction like this in therapy prior to me being his clinician.

3. **Evaluate if the Experience was Good or Bad for you**:
    1. What went well?

My supervisor modeled a good response that I know can use in the future to use on my own clients with progressive illnesses. Also, my client seemed to have respond positively to what my supervisor said and hopefully provided him some relief regarding his thoughts.

2. What didn't go so well?

I wish I would have acknowledged his comment when I was speaking and mentioned my own personal experience going through the same thing right now in my own family.

3. What was good about the experience?

It was a good experience to have early on to better understand the experiences and burden I will face as a clinician. I am also glad I got to see my supervisor's response so I will know how to handle a situation like this again.

4. What was bad about the experience?

The bad part of the experience was my surprise and realization towards my client being upset with his illness and this affecting him in his everyday life. It is/was also hard to recognize this is something I will be facing my entire career with lots of difficult situations.

5. What did you and relevant others contribute to the situation that felt positive or negative?

My supervisor speaking and validating him was positive. He also had a positive reaction to what my supervisor said. The negative aspect was his emotion towards the progression of his illness.

4. **Analysis of Situation: Understanding**
    1. Could I have responded in a different way?

I could have acknowledged him as well. I could have mentioned how I have empathy for this situation considering my dad is currently experiencing something similar.

2. Why did some things go well?

Things went well because my supervisor was there to help through a tough situation brought up in therapy. My client responded well because his feelings were validated and acknowledged.

3. Why did some things go poorly?

I was disappointed in myself for not recognizing their feelings earlier and wish I had been more sensitive and supported up until that point. I also felt like I should have spoken up but was too scared too. It also made me anxious that if my supervisor were not there, I am not sure how I would have responded, and it would not have been as good as a response.

4. What did I do to try to make sense of the situation?

I acknowledged and validated my own feelings of disappointment and being upset and allowed myself the grace of feeling that way due to inexperience. I am also trying to come up with ways in future therapy sessions where I can provide opportunities for my client to discuss his feelings towards his illness and his future at therapy.

5. What knowledge, my own or from others, helped me understand the situation?

I have known a lot of healthcare workers in the past and caregiver burden is not something that was talking about. Recently, my friends who are nurses recently all

graduated and that is something every single one of them has expressed being surprised by (the caregiver burden). This helped me think about how my own feelings towards this situation are normal and something I am going to have to learn to cope with in the future due to it being a part of my job.

5. **Conclusion – Highlight knowledge you have gained that will help you grow and improve**.

1. What did I learn from the situation?

I learned what caregiver burden may feel like and how I respond to it. I also learned that in times that my patient expresses negative emotion that it might be best to simply acknowledge and validate their feelings rather than kick in 'problem-solving' mode. I do want to integrate working on more advocacy statements and communicating about their illness as a potential therapy target for those with conditions like xx as well.

2. What skills do I need to develop to help me manage a situation like this better in the future?

Experience and preparation are going to help me manage a situation like this. Preparation and being more thoughtful about how my client might be struggling is something to consider for those with especially tough illnesses. Also, experience and having more hard conversation will better help me understand what to say, but also hopefully impact me less in a negative way.

3. What else could I have done?

Beginning in therapy this semester I could have probed better to understand my clients and his wife's thoughts and feelings towards their illness. I could have also spoken in the situation to relieve my own conscious and not feel like I shied away from a challenging thing to do.

6. **Plan of Action: Positive change for future**

1. If I had to do the same thing again, what would I do differently?

I would speak up and try to empathize more. I feel like I shied away from saying anything too sentimental or validating him simply because I was scared to say the wrong thing. Also, opening the door for him to make statements and have opinions on plan of care is something I should have implemented better. He had to interrupt us and advocate for himself because I had not given him the opportunity to do so.

2. How will I develop the required skills I need?

Researching on potential therapy targets to incorporate when targeting communication for those with progressive illness's would better prepare me for situations like this and open the door for my client to communicate any negative thoughts or feelings they may have.

3. How can I make sure that I can act differently next time?

Being more prepared and manufacturing scenarios in my therapy that I would be able to prepare for with difficult conversations in something I will do differently. Also, looking up ways to help with caregiver burden or how to recognize it will help me emotionally prepare for the future I will have working with clients like this one.

Appendix B
Student 1: Follow Up Questions to Gibbs' Cycle Questions:

Please answer the questions below with as much detail as you would like to provide. Your responses should relate to your specific experience that you documented and should also consider the context of the demands of your semester.

Had you even completed the Gibbs' Cycle of Questions before this semester?

- No - had never even heard of it!

How did you feel about your situation before you wrote out your responses?

- I felt very overwhelmed about the situation and had sort of talked about it with some people, but not to the extent that I wrote it out in my responses.

How did you feel during?

- It was honestly really nice to write out my responses and see them on paper. It made me really think about the emotional and mental stress this client has put on me this semester (not necessarily in a bad way), but it was nice to know I had a safe place to write out my responses and that I was being listened to.

How did you feel afterwards?

- I feel relieved just knowing it's okay to have the emotions I'm feeling and I was able to really think through the situation and recognize the people that helped me grow through the situation and gave me knowledge to help me get through! It also just felt a sense of peace knowing I had written about it and it wasn't just kept bottled up in my mind and consistently coming up during random times.

Would you typically complete a written reflection or journaling exercise if it was not assigned or requested of you?

- I honestly journal every single morning, but it's more for scriptural and faith-based purposes, not with client or in my work setting! I honestly might start journaling about my work/school experiences now though, because there was a sense of peace that came with this.

In what way(s) was this reflective exercise similar to other written self-reflections or journaling you have done in the past?

- It really made me think through the situation as a whole. It made me really pick my own brain and not just stay surface level with the situation.

How was it different?

- The questions really made me think and go deep in my thoughts. I had to sit and ponder with some questions, which normally doesn't happen in my past journaling/self-thought experiences. Many of my journaling things that I do only have minimal prompts, which this exercise has a bit more. Not a good or bad thing, just different!

What, if any, benefit(s) did completing the exercise have for you?

- As said before, I've never done any journaling or self-thought exercises when it comes to school, so it was really nice to just write all of my feelings out, especially with a certain situation with a very emotionally overwhelming client and just helped me put it into perspective that what I'm feeling is okay and to learn how to grow from the experience and not just be overwhelmed by it.

What drawbacks, if any, were there to completing this type of written reflection?

- None.

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this as a *written exercise in the future to reflect on your clinical work*?
1 2 3 4 5 6 7 **8** 9 10
On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this as a *written exercise in the future as a means to reflect on your personal life situations* outside of work?
1 2 **3** 4 5 6 7 8 9 10

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this tool in the future but *"in your mind's eye" w/o writing out responses to reflect on your clinical work*?
1 2 3 4 5 6 7 **8** 9 10

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this tool in the future but *"in your mind's eye" w/o writing out responses to reflect on your personal life situations outside of work*?
1 2 **3** 4 5 6 7 8 9 10

Other Comments:

- Thanks for allowing me to be a part of this research! It really was awesome and I definitely will be using it as a tool to reflect on my clinical work! Hope you have a great and relaxing Christmas break! ☺

Appendix C
Student 2: Follow Up Questions to Gibbs' Cycle Questions:

Please answer the questions below with as much detail as you would like to provide. Your responses should relate to your specific experience that you documented and should also consider the context of the demands of your semester.

Had you even completed the Gibbs' Cycle of Questions before this semester?

- No.

How did you feel about your situation before you wrote out your responses?

- I did not process it. I just noted it as something uncomfortable but tried to not analyze the situation.

How did you feel during?

- I was surprised by how much I remembered of the actual situation, and at some of the emotions I was feeling. I also did not ever consider what I would do in the future, and I was surprised by that as well.

How did you feel afterwards?

- I felt more empowered that I had analyzed the situation and it made me want to analyze other counseling conversations I had as well. It also made me more aware of how I should deal with uncomfortable situations in therapy in the future instead of trying to forget it happened.

Would you typically complete a written reflection or journaling exercise if it was not assigned or requested of you?

- No.

In what way(s) was this reflective exercise similar to other written self-reflections or journaling you have done in the past?

- It was similar to other experiences I had in the past due to it having more open-ended style questioning.

How was it different?

- This cycle of questions was interesting due to it had some type of process going into it. It was a lot more specific and intentional than reflecting exercises I had to do in the past.

What, if any, benefit(s) did completing the exercise have for you?

- It had benefits regarding the certain situation I had written about, but more importantly made me realize that processing difficult situations in therapy is important. I had not been provided with any type of information with how to help myself as a clinician when dealing with difficult things. Also, I felt better after writing about the situation due to feeling like I had a plan of action the next time I experience something similar.

What drawbacks, if any, were there to completing this type of written reflection?

- Some of the questions seemed repetitive, but that is all I noticed.

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this as a *written exercise in the future to reflect on your clinical work*?

1 2 3 4 5 6 7 **8** 9 10

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this as a *written exercise in the future as a means to reflect on your personal life situations* outside of work?

1 2 3 4 5 6 7 8 9 10

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this tool in the future but *"in your mind's eye" w/o writing out responses to reflect on your clinical work*?

1 2 3 4 5 6 7 8 9 10

On a scale of 1 to 10 with 1 being "never" and "10" being frequently, how likely are you to use this tool in the future but *"in your mind's eye" w/o writing out responses to reflect on your personal life situations outside of work*?

1 2 3 4 5 6 7 8 9 10

Other Comments:

None

Factors Influencing Self-Efficacy of Speech-Language Pathologists Regarding Evidence-Based Practice

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Abstract

Purpose: The purpose of this study was to explore evidence-based practice (EBP) self-efficacy of speech-language pathologists (SLPs) to determine if differences exist in SLPs' self-efficacy ratings based on setting, education, practice category, and experience.
Method: In this mixed-methods study, EBP self-efficacy of master's level SLPs was compared across settings, degree held, practice category, and experience level. Participants (n = 342) completed a survey containing 10 demographic questions, 11 items from Salbach and Jaglal's (2010) Evidence-Based Practice Confidence (EPIC) scale, and 2 open-ended questions regarding factors impacting self-efficacy. Participants (n=34) completed semi structured interviews to further explore factors influencing self-efficacy.
Results: No significant difference was noted in self-efficacy of master's level SLPs across settings. A significant difference in self-efficacy was found based on degree held, experience, and practice category (i.e., identification of knowledge gap, critical appraisal of research, development of treatment plans based on evidence, clinical judgment, and client preferences). Qualitative analysis revealed graduate program and post-graduate factors (e.g., experiences following graduation such as continuing education, mentoring, etc.) impacting self-efficacy.
Conclusions: Results support previous findings regarding EBP self-efficacy, adding factors not previously explored including setting, experience level, degree obtained, and practice category. Further, this study provided details regarding barriers and facilitators to EBP implementation. More research is warranted to determine the relationship between self-efficacy and competence.
Keywords: speech-language pathologist, self-efficacy, confidence, evidence-based pract

Introduction

Evidence-based practice (EBP) has roots in the field of medicine, but has been adopted by other fields, including speech-language pathology (Brackenbury et al., 2008; Dollaghan, 2004; Vallino-Napoli, 2004; Vallino-Napoli & Reilly, 2004). Sackett et al. (1996) identified evidence-based medicine as "the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients" (p. 71). The American Speech-Language Hearing Association (ASHA; 2005) released a position statement regarding use of EBP, suggesting that all speech-language pathologists (SLPs) integrate external evidence, clinical experience, and patient preferences into clinical decision making to provide the best care. Still, some SLPs do not use EBP (Fulcher-Rood et al., 2018; Riedeman & Turkstra, 2018; Vallino-Napoli & Reilly, 2004; Ward et al., 2008; Ward et al., 2012) and results from other studies support the notion that neither practitioners nor students are confident in their ability to implement EBP (Blood et al., 2010; Muncy et al., 2019; O'Donoghue & Dean-Claytor, 2008; Pasupathy & Bogschutz, 2013). Since ASHA formally identified the need for evidence-based practice in the field of speech-language pathology (ASHA, 2005), little work has been done to explore whether SLPs understand evidence-based

practice. A recent study demonstrated the lack of understanding of the definition of EBP, as most SLPs surveyed identified part of ASHA's EBP definition, but few identified all three parts of EBP when defining (Thome et al., 2020). Several authors have identified challenges of implementing EBP within the field, including lack of available or high-quality evidence that practitioners feel apply to current caseloads (Elliott, 2004; Enderby, 2004; Reilly, 2004), lack of skills to find or critically evaluate research (Elliott, 2004; Finch et al., 2015; Reilly, 2004), and insufficient time or resources including access or finances required to implement research into practice (Alhaidary, 2020; Cheung et al., 2013; Elliott, 2004, Fulcher-Rood et al., 2020; Vallino-Napoli & Reilly, 2004).

Some literature exists exploring confidence of SLPs, but most have focused on a single population and most examined school-based SLPs (Blood et al., 2010; Davis & Murza, 2019; Hutchins et al., 2011; Muncy et al., 2019; O'Donoghue & Dean-Claytor, 2008; Plumb & Plexico, 2013). Little data exist regarding confidence of SLPs in medical settings (Caesar & Kitila, 2021; Morrow et al., 2021; Ward et al., 2008; Ward et al., 2012) and only one study (Teten et al., 2016) compared self-efficacy between medical and school based SLPs.

Results from some studies have shown that confidence levels of SLPs vary significantly based on several factors. O'Donoghue and Dean-Claytor (2008) found SLPs receiving the least continuing education related to swallowing disorders and those who did not take a graduate course on the subject rated confidence higher than those with more training. If SLPs do not attempt to maintain current knowledge, they may overestimate knowledge which is likely to be reflected in inflated confidence levels. More recent studies have indicated positive effects of exposure to EBP in graduate school, the clinical fellowship (CF), and EBP training on the job (Greenwell & Walsh, 2021). Others have identified a clear positive relationship between confidence and training of professionals and students (Blood et al., 2010; Clyde et al., 2016; DeCleene Huber et al., 2015; Doble et al., 2019; Mickan et al., 2019).

For the purpose of this study, self-efficacy referred to the confidence of an individual to implement EBP within one's current employment setting(s). Bandura's Self-Efficacy Theory (1977) guided this study. Bandura (1982) defined self-efficacy as one's perception of how well a task can be executed, regardless of knowledge or skill related to the task. A person with high self-efficacy ratings is more likely to attempt a task, resulting in corrective feedback. This feedback reinforces the individual's self-efficacy. In contrast, those with low self-efficacy for a task may avoid that task. Therefore, it is likely that SLPs who possess higher self-efficacy for a task (i.e., EBP) are more likely to implement it into patient care. As individuals gain experience doing so, feedback from the situation reinforces that self-efficacy.

An understanding of SLP self-efficacy ratings using EBP will provide valuable information to academic programs to determine areas in which curricular revision is warranted, as results from previous research indicate prior exposure to research and EBP were more likely to use research during the clinical decision-making process (Alhaidary, 2019). This information will be valuable to guide future focus of continuing education as well.

Purpose of the Study

The purpose of this study was to examine self-efficacy for implementation of EBP and to determine factors that influence SLPs' self-efficacy ratings. The author also sought to determine if differences exist in self-efficacy for EBP implementation based on setting, education level, practice category, and years of experience (Tilmon, 2020). To accomplish

this, a mixed methods design was utilized combining responses from a survey and semi-structured interviews.

Methods

Participants

A total of 342 SLPs completed the survey. All participants had a minimum of a master's degree in communication sciences and disorders, graduated from a program in the United States, and held a Certificate of Clinical Competence. A total of 310 participants held a master's degree and 31 held a doctoral degree. Years of experience following CF completion ranged from 1-50 years (M = 12.78, SD = 11.11). Out of all participants, 166 were employed at least 80% of the time in medical settings (inpatient hospital, outpatient hospital or clinic, skilled nursing facility, long term acute care, home health) and 107 were employed at least 80% of the time in educational settings (early intervention, preschool, K-12). The remaining 67 participants were classified as employed in other settings (i.e., private practice, part-time in any setting, multiple settings, university clinic, day programs). Two survey respondents provided employment settings that did not fit into the above defined categories and were excluded from all analysis related to setting. A total of 34 masters-level SLPs completed interviews. Years of experience ranged from 1-20 years (M =5.3 years).

Procedure

The author used a mixed methods design. Study approval was obtained from the Institutional Review Board at the University of Missouri-Columbia. Prior to distributing the survey, a pilot survey was sent to a convenience sample comprised of 11 SLPs (5 educational, 3 medical, 3 university clinic) to ensure questions were easily understood by those with a variety of backgrounds and that no questions would be misinterpreted. Demographic questions were modified based on feedback. The survey was disseminated using an anonymous link and was posted on ASHA Community sites, Special Interest Groups (SIGs), and Facebook groups for SLPs. In addition, several academic programs with which the researcher had some connection agreed to distribute the link to alumni.

At the end of the survey, participants were asked if they were willing to participate in an interview. If they agreed, the researcher sent an email to schedule the interview. The consent document was attached in the scheduling email. All interviews were conducted via Zoom web conferencing software and participants were given the choice to turn the camera on or off. Participants were given the opportunity to enter a drawing for a gift card for survey participation and all interview participants were entered into a different drawing for another gift card.

Instruments

To answer the research questions, quantitative data were obtained using a Qualtrics survey containing nine demographic questions (see Appendix A) to ensure participants met inclusion criteria and determine years of experience, employment setting, and employment status. Next, 11-items from the Evidence-Based Practice Confidence (EPIC) scale (Salbach & Jaglal, 2010) followed along with two, open-ended questions regarding factors impacting confidence (see Appendix A). Follow-up semi-structured interviews containing eight pre-determined questions (see Appendix B) were conducted with participants who agreed. The EPIC scale (Salbach & Jaglal, 2010) contained 11-items which allowed participants to rate their confidence completing a variety of practice activities on a scale of 0% ("No Confidence") to 100% ("Completely Confident"). The 11 items from the EPIC scale (Salbach

& Jaglal, 2010) were divided into four practice categories including: (a) ability to identify knowledge gaps and locate information related to that gap, (b) ability to critically appraise research and standardized assessment measures and statistical analyses, and (c) the ability to develop treatment plans based on evidence, clinical judgment and patient preference and evaluate treatment effects on outcomes.

Data Analysis

Survey responses were analyzed using IBM SPSS (Version 26) to determine if differences exist in self-efficacy ratings of SLPs employed across settings. Self-efficacy ratings for all 11 items of the EPIC scale were averaged to obtain an overall self-efficacy score. Averages were also obtained to determine an overall score for each category in the EPIC scale. Ratings on questions 1-3 were averaged to obtain self-efficacy score for Practice Category 1 (i.e., ability to identify a knowledge gap and locate information related to the gap); ratings on questions 4-7 were averaged to obtain a self-efficacy score for Practice Category 2 (i.e., critical appraisal of research and standardized assessment measures and statistical analyses); and ratings on questions 8-11 were averaged to obtain a self-efficacy score for Practice Category 3 (i.e., develop treatment plans based on evidence, clinical judgment, and patient preference and evaluate treatment effects on outcomes). Descriptive statistics including frequency, mean, standard deviation, skewness, and kurtosis were reported (Field, 2018). Data were not normally distributed so nonparametric statistical analyses were completed to answer all quantitative research questions. A Kruskal-Wallis *H* was used to determine if differences existed in self-efficacy ratings based on setting for each experience group. A Mann-Whitney *U* was conducted to determine self-efficacy differences based on education level. A Friedman two-way ANOVA was used to determine if there were differences in self-efficacy ratings based on EPIC practice categories.

Responses from each qualitative interview were transcribed and assigned a unique identifier to protect participants' identities. The primary researcher completed open coding of all responses and themes emerging from the coding process were provided for a second researcher to assign all responses to themes (Creswell, 2004). Check-coding was completed to ensure interrater reliability (Miles & Huberman, 1994). Initial agreement was 77.8%, but the two researchers met to discuss themes and responses, eventually reaching 100% agreement on all responses and themes. Response themes for open-ended survey questions were merged into interview response themes. Responses were assigned to multiple themes if they included information from numerous themes (e.g., "I think having real world experience really helped. That, and my professors were so supportive and knowledgeable").

Results

Setting

As data were not normally distributed, a Kruskal-Wallis *H* was conducted to compare self-efficacy levels of SLPs across settings in each experience group (see Table 1). Self-efficacy ratings did not differ significantly among settings across experience groups.

Table 1

Average Self-Efficacy Ratings for Each Experience Group by Setting

	Setting								
	Medical			Educational			Other		
Experience Group	*n*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
1-5 years	64	72.74	14.49	40	71.09	14.80	16	76.19	16.66
6-10 years	35	71.38	14.57	14	69.09	15.83	9	72.32	14.88
11-20 years	29	73.35	15.36	23	75.85	17.00	7	75.71	16.21
21+ years	34	79.06	13.93	24	72.12	17.07	13	82.31	13.98

Note. Average self-efficacy ratings were obtained from all 11 items on the EPIC scale.

Education

Because data were not normally distributed, a Mann Whitney *U* was completed to determine whether there was a significant difference in self-efficacy ratings based on degree held. SLPs with doctoral degrees had significantly higher self-efficacy ratings than those with master's degrees ($U = 1849.5$, $p < .01$). See Table 2 for average self-efficacy ratings of participants based on education level.

Table 2

Average Self-Efficacy Ratings by Education Level

Education Level	*N*	*M*	*SD*
Masters	310	73.85	15.20
Doctorate	31	88.94	8.93

Note. Average self-efficacy ratings were obtained from all 11 items on the EPIC scale.

Practice Categories

As data were not normally distributed, a Friedman's two-way ANOVA was conducted to determine if practice categories identified by the EPIC scale had a significant impact on self-efficacy ratings for SLPs in each setting. In medical settings, a significant difference ($\chi^2(2) = 234.349$, $p = < .001$) was noted between practice categories. A post hoc Dunn's test with Bonferroni correction was completed to determine the categories in which significant differences existed. In medical settings, a pairwise comparison indicated significant differences between Practice Category 1 (identify knowledge gaps and locate information related to that gap) and Practice Category 2 (critically appraise research and standardized assessment measures and statistical analyses; $p < .01$); Practice Category 2 and Practice Category 3 (develop treatment plans based on evidence, clinical judgment and patient preference and evaluate treatment effects on outcomes; $p < .01$); and between Practice Category 1 and Practice Category 3 ($p < .05$). These results indicate that significant differences were noted in self-efficacy ratings of all EPIC practice categories for SLPs employed in medical settings.

A significant difference was noted in self-efficacy ratings among practice categories of SLPs employed in educational settings ($\chi^2(2) = 118.751$, $p = < .001$). A pairwise comparison revealed significant differences between Practice Category 1 and Practice Category 2 ($p < .01$); Practice Category 2 and Practice Category 3 ($p < .01$). Significant differences in self-efficacy ratings among practice categories on the EPIC scale were noted

for those employed in other settings ($\chi^2(2) = 61.318$, $p = < .001$). A pairwise comparison revealed significant differences between Practice Category 1 and Practice Category 2 ($p < .01$) as well as Practice Category 2 and Practice Category 3 ($p < .01$). See Table 3 for average self-efficacy ratings in each practice category for all settings.

Table 3

Average Self-Efficacy Rating by Practice Category Across Settings

	Medical			Educational			Other		
Practice Category	*n*	*M*	*SD*	*N*	*M*	*SD*	*n*	*M*	*SD*
1	162	81.91	15.77	101	79.04	16.27	45	16.38	82.67
2	162	55.28	22.52	101	56.53	24.72	45	26.90	60.83
3	162	86.47	11.26	101	82.57	13.56	45	10.16	89.56

Note. Practice Category 1= Identification of knowledge gaps and locating information related to that gap; Practice Category 2=Critically appraise research and standardized assessment measures and statistical analyses; Practice Category 3=Develop treatment plans based on evidence, clinical judgment, and patient preference and evaluate treatment effects on outcomes; Average self-efficacy ratings for Practice Category 1 were obtained from responses to questions 1-3 on the EPIC scale; Average self-efficacy ratings for Practice Category 2 were obtained from responses to questions 4-7 on the EPIC scale; Average self-efficacy ratings for Practice Category 3 were obtained from responses to questions 8-11 on the EPIC scale.

Experience

A significant difference was found in self-efficacy ratings of speech-language pathologists among the four experience groups ($H = 16.081$, $p = .001$). See Table 4 for average self-efficacy ratings across each group. A Dunn's post hoc analysis with Bonferroni correction was completed, revealing significant differences between Group 1 (1-5 years) and Group 4 (21+ years) as well as Groups 2 (6-10 years) and Group 4 (21+ years). This indicates self-efficacy ratings were not significantly different until individuals had been practicing for more than 20 years in the field.

Table 4

Average Self-Efficacy Rating by Experience Group

Experience Group	*N*	*M*	SD
1-5 years	127	73.45	14.94
6-10 years	60	71.20	14.73
11-20 years	68	76.90	16.04
21+ years	86	75.22	15.36

Note. Average self-efficacy ratings were obtained from all 11 items on the EPIC scale.

Facilitators and Challenges for Implementation of EBP

Responses to qualitative survey questions 10 and 11 (see Appendix A) were divided into two broad categories: graduate program and post-graduate factors. Post-graduate factors from survey responses were merged into specific themes identified from interview responses.

Six dominant graduate program themes and 13 subthemes emerged from participant responses to interview questions (see Table 5). Interview participants (n = 14) most frequently responded with "real world" experience and variety of experiences (settings, populations, supervisors) as impactful. The second most reported graduate program factors were clinical supervisors (n = 12) and placements (n = 12). Several other clinical experiences were reported as influential to self-efficacy. The most frequently reported graduate program factor outside of clinical placements was coursework or program emphasis (n = 11) followed by professors (n = 7). The most common negative influencer of self-efficacy related to graduate programs was inadequacy of coursework or inappropriateness of program focus (n = 7).

Table 5

Graduate Program Factors Affecting EBP Self-Efficacy

Response theme	*n*	%
Clinical placements		
"Real world" experience	14	41.18
Variety of experiences (setting, populations, supervisors)	14	41.18
Clinical supervisors	12	35.29
Placements	12	35.29
Documentation experience	8	23.53
Supervisory style	5	14.71
Learned to ask questions/seek knowledge	3	8.82
Inadequate supervision/guidance in external placements	3	8.82
Collaboration with other students in cohort	2	5.88
Setting/population not for me	2	5.88
Placement was not in setting I did not seek employment	1	2.94
Did not learn enough about billing	1	2.94
Collaborating with other professionals	1	2.94
Coursework/program emphasis (e.g., EBP, thorough nature, research)	11	32.35
Coursework not adequate or current/focus of program not appropriate	7	20.59
Professors	7	20.59
Not confident in first job/clinical placement	3	8.82
Not taught to apply knowledge	2	5.88

Survey responses related to undergraduate or graduate program factors included both positive and negative influencers as well. Of 342 survey participants, approximately 12% (n = 40) reported that components of their undergraduate or graduate programs had a positive impact on self-efficacy, while 2% (n = 8) reported these had a negative impact.

Twenty-three post graduate themes emerged from survey and interview responses (see Table 6). Greater than half of interview participants (61%; n = 21) and just under 30% (n = 100) of survey respondents felt that time and experience were factors influencing self-efficacy. Reading research was reported as a factor impacting self-efficacy positively by 26% of interview participants (n = 9) and 22% of survey participants (n = 74). Another frequently reported theme was continuing education with 56% of interview participants (n = 19) and 18% of survey participants (n = 62) reporting. Collaboration with others (non-SLPs) and with SLPs

were the next most reported themes followed by mentor and supervisor models. The remainder of themes reported related to advanced coursework, feedback from others, resources, personal or environmental (employer related) themes.

Table 6

Post-Graduate Factors Affecting EBP Self-Efficacy

	Interview participants		Survey participants		Total participants
	N	%	*n*	%	*N*
Response theme: Positive					
Time/experience (exposure to clients/Tx methods/settings)	21	61.76	100	29.24	121
Reading research	9	26.47	74	21.64	83
Continuing education	19	55.88	62	18.13	81
Collaboration with others in my Setting (OT, PT, school/medical staff)	14	41.18	43	12.57	57
Collaboration with other SLPs	20	58.82	18	5.26	38
Mentor/supervisor model	13	38.24	15	4.39	28
Advanced degree/coursework			23	6.73	23
Positive tx outcomes/pt or family feedback	6	17.65	17	4.97	23
Access to resources (e.g., ASHA Practice Portal, SIGs, literature)	2	5.88	22	6.43	22
	Interview participants		Survey participants		Total participants
	N	%	*n*	%	*N*
Personal desire to learn/provide the best care	2	5.88	20	5.85	22
Self-reflection			20	5.85	20
Support from employer/other Professionals (non-SLPs)	4	11.76	14	4.09	18
Supervising students, SLPAs, teaching, leadership	2	5.88	14	4.09	16
Relying on others who understand research/researchers I trust			14	4.09	14
Conducting research			11	3.22	11
Field is too expansive	2	5.88	8	2.34	10
Clinical decision-making/critical thinking skills	6	17.65			6
Learning to problem solve/be independent	3	8.82		0.00	3

Response theme: Negative					
Unable to access research or materials/unable to understand research			37	10.82	37
	Interview participants		Survey participants		Total participants
	N	*%*	*n*	%	*N*
Time constraints			23	6.73	23
Not enough use EBP/not enough EBP in the field			21	6.14	21
Unsure how to apply evidence to clinical practice			11	3.22	11
Lack of mentorship or others to collaborate with/employer challenges	3	8.82	7	2.05	7
Not confident	2	5.88	2	0.58	2

Note. OT = occupational therapist; PT = physical therapist; pt = patient; tx = treatment; ASHA = American Speech-Language Hearing Association; SIG = special interest group; SLPA = speech-language pathology assistant; EBP = evidence-based practice

Those who reported negative impacts to self-efficacy most frequently cited the inability to access research or materials or to understand research (11%; n = 37 interview participants). Time was the next most frequently reported barrier to EBP implementation followed by complaints that not enough SLPs use EBP or that too few resources for EBP exist within the field.

Discussion

Setting

The author of this study aimed to determine if significant differences existed in self-efficacy ratings of master's level SLPs across settings within each experience group of SLPs participating in the study. No significant differences were found in self-efficacy ratings for EBP implementation across settings for SLPs in any of the experience groups (i.e., 1-5 years, 6-10 years, 11-20 years, 21+ years). This suggested that facilitators for implementation of EBP were consistent across settings (e.g., time/experience, reading research, collaboration) and barriers for implementation of EBP were not isolated to setting or patient population. Rather, issues related to either graduate preparation or issues that span SLP practice across settings (e.g., access to resources, time constraints, inability to understand research) were contributors, which is consistent with findings of studies (Alhaidary, 2019; Cheung et al., 2013; Dollaghan, 2004; Elliott, 2004; Enderby, 2004; Fulcher-Rood et al., 2018; Fulcher-Rood et al., 2020; Reilly, 2004; Vallino-Napoli & Reilly, 2004).

Education

Another aim of the study was to determine if significant differences existed in self-efficacy ratings of SLPs based on degree held. There was a significant difference between self-efficacy ratings for implementation of EBP when master's and doctoral level SLPs were compared. This finding was consistent with previous studies, which indicated that confidence

ratings for EBP on the EPIC scale were related to education level or degree held (Clyde et al., 2016; DeCleene Huber et al., 2015; Salbach et a., 2013) and others which have revealed positive relationships between SLPs', SLP students', and others' confidence and education or training (DeCleene Huber et al., 2015; Doble et al., 2019; Hutchins et al., 2011; Mickan et al., 2019). The difference in self-efficacy ratings in participants demonstrate the importance of continuing education and education in EBP. However, these findings conflicted with those of Blood et al. (2010) which found no relationship between confidence and academic or clinical training.

Practice Categories

The EPIC scale was divided into three practice categories to determine if there was a significant difference in self-efficacy ratings among the three practice categories in each setting. Only master's level SLPs were included in this analysis, as it is expected that those with terminal degrees have extensive education in Practice Category 2. Significant differences were present among the three practice categories in all settings. In the medical setting, there was a significant difference between all practice categories (Practice Categories 1 and 2; 2 and 4; 1 and 3). Significant differences were noted in educational and other settings between Practice Category 1 and 2 and 2 and 3, with no significant differences between Practice Category 1 and 3.

The lowest self-efficacy ratings for all settings were in Practice Category 2 (i.e., ability to critically appraise research and standardized assessment measures and statistical analyses). Difficulty understanding statistical analyses has been documented previously (Doble et al., 2019; Elliott, 2004; Finch et al., 2015; Metcalfe et al., 2001; Reilly, 2004). Doble et al. (2019) found significant improvements in the self-efficacy of undergraduate speech pathology students for critically evaluating research following training, which underscores the importance of EBP instruction during academic preparation. Findings from the same study by Doble et al. (2019) revealed similar trends among undergraduate students to ratings of participants in the current study, with higher self-efficacy in identifying knowledge gaps and developing a treatment plan and reduced self-efficacy interpreting statistical analyses. Results suggest a lack of these skills originating from early experiences in academic programs where many practitioners do not receive formal training in statistics. Increased exposure and instruction for interpreting and applying statistical results in academic programs is warranted. A standalone statistics course was not required for SLP students until changes were made to certification standards in 2014 and less rigorous courses were accepted prior to that time (Council for Clinical Certification in Audiology and Speech-Language Pathology of ASHA, 2013). It is possible that SLPs applying for certification prior to 2014 may not have taken a course that taught skills necessary to critically appraise research design, statistical analyses, and other details of literature. Many study participants reported this as an area of deficit, as many graduated prior to this change. Higher ratings for Practice Categories 1 and 3 of the EPIC scale identify possible strengths for academic programs. Higher ratings for practice categories 1 (identification of knowledge gaps and locating information related to that gap) and 3 (development of treatment plans based on evidence, clinical judgment, and client preferences) provide evidence of the effects of academic preparation, experience with the skills, or both.

Bandura (1977) indicated that individuals with low self-efficacy are likely to avoid tasks. It seems relevant to consider that SLPs may avoid tasks from Practice Category 2 (critically appraising research and standardized assessment measures and statistical analyses) but are unable to avoid the other two categories (identification of knowledge gap and development of treatment plans based on evidence, clinical judgment, and client preferences).

Treatment plans are a required part of assessment and treatment and therefore, SLPs are required to complete and submit for all clients receiving services. Because SLPs complete these tasks daily, self-efficacy for these tasks is reinforced by repeated completion (Bandura, 1997). In most cases, they are not required to appraise research further perpetuating the cycle and reducing the likelihood of increasing self-efficacy in this area.

Experience

Self-efficacy ratings among SLPs in the four experience groups (i.e., 1-5 years, 6-10 years, 11-20 years, 21+ years) were analyzed. Statistically significant differences in self-efficacy ratings were noted among groups. A post hoc analysis revealed statistically significant differences between Groups 1 (1-5 years) and 4 (21+ years) as well as Groups 2 (6-10 years) and 4 (21+ years). These findings were consistent with other studies supporting the idea that self-efficacy increases with experience (DeCleene Huber et al., 2015; Muncy et al., 2019; Ward et al., 2012).

These findings contradicted those by Davis and Murza (2019), which indicated that as years of experience increased, confidence levels decreased. Although a statistically significant difference was not noted, there was a reduction in average self-efficacy ratings between Groups 1 (1-5 years) and 2 (6-10 years), consistent with Davis & Murza (2019) and O'Donoghue and Dean-Claytor (2008) findings. However, the increase in self-efficacy ratings in the current study beginning in Group 3 (11-20 years) disputed these results.

Although there was a slight decrease in average confidence ratings from Group 1 (1-5 years) to group 2 (6-10 years), there was an increase with every other experience group when compared to the group before with less experience (see Table 4). Higher confidence ratings of the least experienced group (group 1) may be attributed to the Dunning-Kruger effect (Kruger & Dunning, 1999) in which those with the most skill underestimate their knowledge leading to lower self-efficacy ratings and those with the least skill overestimate their ability resulting in greater self-efficacy ratings. This finding was also consistent with those of Riedeman and Turkstra (2018). However, overall statistically significant findings and the drop after year five with upward trend after the tenth year of practice disputed the idea that SLPs who participated in the current study overestimated their ability leading to higher self-efficacy ratings. Another interesting justification for higher self-efficacy ratings for experience group one (1-5 years) than two (6-10 years) was provided by Vallino-Napoli and Reilly (2004), which found that practitioners with less than 10 years of experience were more likely to use research than those practicing more than ten years. Although both experience groups one and two were within this range, perhaps the shift occurred during the years 6-10 (within group two) of practice.

These findings support the idea that the more experience an SLP has, the higher self-efficacy ratings will be. However, self-efficacy ratings in the current study did not account for previous experience and SLPs were only asked to rate their confidence implementing EBP in their current settings. For example, if an SLP in year 12 of practice spent the first 10 years of his or her career in an educational setting, but was practicing in a medical setting while participating, self-efficacy ratings may not have reflected someone practicing for 12 years in the same setting. The same was true about those practicing in multiple settings or part-time in any setting.

Facilitators and Challenges for Implementation of EBP

Qualitative aspects of the study were used to determine factors that affected self-efficacy for providing EBP. Overall, more positive factors were reported by interviewees and

survey respondents than negative factors influencing self-efficacy for EBP implementation. Many participants also provided suggestions specific to employment setting or experiences to improve EBP implementation.

Most responses related to clinical experience when participants were asked to identify the part of their graduate program that most influenced confidence in their current setting. The most common responses reflected benefits of having "real world" experience as well as a wide variety of experiences which included different settings, populations, and supervisors. One respondent commented that, "in general, that you had a realistic understanding of what the day-to-day operations were," while one said, "I'm grateful that I was able to have placements in so many different schools." Numerous interview respondents also commented on specific components of their clinical placements which were helpful, including documentation experiences or supervisory style. Those reporting graduate program factors negatively impacting self-efficacy such as inadequacy of coursework and clinical education were consistent with results of previous studies (Blood et al., 2010; Finch et al., 2013; Krueger & Conlon, 2006; Livingston & DiLollo, 2010; Wilson et al., 2020) which indicate that, despite academic programs' efforts to add or modify coursework to better prepare students, there is still more work to be done.

Post-graduate factors influencing self-efficacy also revealed several areas in which graduate programs may make improvements to enhance self-efficacy even after graduation. Because many respondents both in interviews and surveys indicated that time and experience, including exposure to different types of clients, treatment methods and settings, improved self-efficacy, graduate programs may attempt to expand the variety of settings and client populations within programs to which all students are exposed. This may be accomplished by shortening clinical assignments to provide greater exposure to a wider variety rather than more extensive exposure in only one or two settings, as results of this study revealed more exposure to a setting was not as helpful when graduates do not pursue employment within those settings.

Of all other response themes in both survey and interview participants, reading research was the second most dominant theme. Although many reported that reading current literature had a positive impact on self-efficacy, many also reported they did not feel confident in this area. This was also evidenced by self-efficacy ratings identifying Practice Category 2 (i.e., critically appraise research and standardized assessment measures and statistical analyses) as an area in which SLPs were not confident. This was consistent with previous research by Metcalfe et al. (2001) which revealed that although most participants felt research was important to practice, many reported being unable to evaluate studies. Others reported the desire for more training in research applications such as statistics (Finch et al., 2015). Academic programs are poised to address this inadequacy by infusing instruction in EBP into all coursework. In addition, responses suggested SLPs would benefit from a stand-alone course addressing EBP to teach them how to read and appraise research and standardized assessment measures and interpret study results. This recommendation is supported by studies revealing positive increases in use of EBP following training for students and health care professionals (Doble et al., 2019; Mickan et al., 2019).

Because insufficient skill to read and appraise research was not the only barrier to implementation of EBP in participants, it is important to address the lack of access to scientific research by most practitioners. Reilly (2004) identified the scope of the field and the fact that studies are published in a wide variety of journals. Therefore, it is likely that SLPs may have to subscribe to a variety of journals to access research pertaining to all areas in which they practice. Although ASHA members have access to select ASHA publications, they do not have access to Perspectives journals of the Special Interest Groups which focus on a specific population or area of interest without a paid membership. Some participants

cited this as a limitation. Several participants expressed frustration with ASHA's call for use of EBP despite limited accessibility of literature. However, access to literature without increasing knowledge about research and EBP, is not likely to have significant effects on implementation of EBP. Findings from Vallino-Napoli and Reilly (2004) indicated that even though SLPs had access to databases for research, some still reported never integrating the research into practice. Findings from Reidemann and Turkstra (2018) indicated that many SLPs reported high levels of confidence even though they did not use evidence-based resources. Ward et al. (2008) and Ward et al. (2011) found that most SLPs participating in their studies felt confidence managing patients with tracheostomy even though fewer than half were current with reading contemporary evidence available. Therefore, a multifaceted approach is crucial. This study provided more insight into some of the reasons SLPs may not implement research even when they are able to access it.

Participants frequently reported if they did not understand the research or did not have sufficient time to research, they relied on other "reputable sources". Reputable sources cited included social media groups for SLPs, research services, and networking with researchers. It is reasonable that services that provide summaries of research are appealing to practitioners given cited knowledge and time deficits. Independent evaluation of subscription research services that were cited by participants is warranted to determine the accuracy and relevance of the information that is offered to practicing SLPs. It also critical for SLPs to possess discernment to evaluate claims of those made on other non-monitored outlets such as social media.

Time constraints reported were consistent with those noted in previous studies (Alhaidary, 2019; Cheung et al., 2013; Fulcher-Rood, et al., 2018; Fulcher-Rood et al., 2020; Metcalfe et al., 2001; Vallino-Napoli & Reilly, 2004). Perhaps this is one way in which employers may assist SLPs by allocating time within the workday to complete research to ensure that knowledge and practices are consistent with the current literature. Employers might also assist employees by subscribing to journals or reimbursing employees for these expenses. Alumni access at university libraries may be a good option for practitioners. Additionally, unrealistic productivity and caseload requirements set forth by employers should be considered as these likely play a role in insufficient time for researching during work hours.

Insufficient scientific evidence exists in some areas of the field (Apel & Scudder, 2005; Elliott, 2004; Fulcher-Rood, 2018; Metcalfe et al., 2001; Reilly, 2004), which was reported as a barrier to self-efficacy for use of EBP by several participants in this study. One participant stated, "Voice subspecialty lacks evidence on many approaches and disorders." There were also complaints about other SLPs' insufficient of use of EBP. For example, one participant said, "not all therapists follow it unfortunately and there is a lot of information out there that it can sometimes be difficult to discern what is and what isn't." Vallino-Napoli (2004) called on researchers and those in academia to conduct systematic reviews to allow more access to EBP.

Even when research exists pertaining to a specific treatment approach, for example, there may still be barriers to implementation into clinical practice. Some participants reported they were unsure of how to apply evidence into clinical practice due to discrepancies between studies and real clinical practice. For example, a study about a specific approach which was shown to be efficacious for children with apraxia may exist. However, a practicing clinician may not be able to apply results directly to his or her client due to co-occurring diagnoses or other factors which differ from the population which was studied. One participant explained:

> I learned how to find and understand the evidence in graduate school, but where my confidence lacks is the application of the evidence to practice. It is very difficult for me to replicate a study's protocol and results when some factors are outside of my

control (such as treatment length), or when my particular case is not the exact same as the study (such as a treatment for the same weakness but at a different age).

Enderby (2004) identified lack of ability to apply evidence to clinical practice as a significant concern. Metcalfe et al. (2001) also cited this as problematic for SLPs as well as those in other related fields including dietitians, occupational, and physiotherapists.

Participants identified collaboration with SLPs and other professionals within their settings (e.g., occupational therapist, physical therapist, teachers, physicians) and mentorship as positive influencers of self-efficacy while some, who indicated they did not have enough opportunity to collaborate with other professionals or without mentors reported negative impacts on self-efficacy. Metcalfe et al. (2001) also found that isolation from colleagues was a barrier to implementation of EBP. In many medical facilities and school districts, especially in rural areas, SLPs are faced with this challenge. Employers should strive to determine ways in which SLPs may have access to other professionals with which to collaborate. Participants often indicated they mitigated this problem by joining social media groups in which well-known SLPs communicate with others to provide expert opinion and feedback regarding difficult cases.

Limitations and Implications

Selection bias was present in the sample, as ASHA's policies prevent distribution of members' email addresses. Since participants were recruited using ASHA Community sites, Special Interest Groups, social media, and graduate program alumni databases a representative sample cannot be guaranteed. Although comparisons among settings are valuable and were the purpose of the study, it is important to recognize that significant variability was present within each setting group. For example, SLPs in acute care likely do not have the same experiences as those in home health situations even though they were assigned to the same setting group for the study. Analysis focusing on more homogeneous groups may yield different results. Although participants were asked to respond based on current setting, some were employed simultaneously in multiple settings or had previous experience in other settings, which may have affected responses. Additionally, many participants with more experience in the field had a greater variety of experience regarding setting and populations, which likely affected responses.

Results from this study provide evidence to support recommendations for ASHA, employers, and academic programs. Recommendations to ASHA include: (a) removing barriers to access of all publications (i.e., Perspectives journals), (b) providing more specific guidance to academic programs regarding the amount of time dedicated to each certification standard students must meet before graduation, and (c) providing and requiring continuing education focusing on skills necessary to critically appraise research quality for those actively practicing in the field.

Recommendations for employers include: (a) providing funds for or reimbursing employees for subscriptions to databases or journals that allow for access to current literature, (b) evaluate productivity and caseload requirements to provide time within the workday for SLPs to conduct literature searches to enhance the quality of services provided, and (c) establish mentorship programs and facilitate collaboration for SLPs.

Recommendations for academic programs include: (a) conduct follow-up surveys of graduates after they have been practicing rather than at the time of graduation to gather feedback to assist with refining programs, (b) provide training for internal and external clinical supervisors to facilitate open lines of communication across academic and clinical faculty, (c) broaden exposure to settings, client populations, and supervisors during clinical

practicum experiences, and (d) integrate EBP into all coursework in addition to providing coursework specifically focusing on skills related to evaluation of research.

This study provided guidance for improving self-efficacy for use of EBP across settings and future studies are warranted regarding the structure of academic programs. An examination of graduate program components related to self-efficacy would inform program design. Future research should be conducted to determine the relationship between self-efficacy ratings and competence (e.g., self-efficacy ratings of CFs compared to competence ratings by CF mentors).

Conclusion

EBP self-efficacy ratings of SLPs were significantly different based on education level, practice category, and years of experience. Setting did not impact self-efficacy ratings in any experience group. Findings of this study are consistent with existing literature regarding EBP self-efficacy of as well as barriers and facilitators to implementation. Results provide additional information regarding other factors influencing EBP self-efficacy such as experience, education level, setting, and area of practice. Continued research is necessary to determine whether self-efficacy ratings are related to competency. Recommendations for academic programs, employers, and ASHA recognize the role that all take in alleviating barriers to EBP use.

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Appendix A

Survey Questions

1. Did you graduate from a master's program for speech pathology in the United States?

   Yes/No
2. Have you completed a clinical fellowship?

   Yes/No
3. Are you currently in your first year of independent practice following completion of your clinical fellowship?

   Yes/No
4. Have you obtained a Certificate of Clinical Competence from the American Speech-Language Hearing Association?

   Yes/No
5. Are you employed as a speech-language pathologist in either a medical **OR** educational setting (i.e., not in both simultaneously)?

   Yes/No
6. Provide the setting in which you are currently employed.

   Medical Educational
7. Provide the type of medical or educational setting in which you are currently employed.

   Inpatient Hospital Outpatient Hospital Skilled Nursing Facility Early Intervention Pre-K Elementary Middle/Junior High School High School Other (specify)
8. Please indicate your employment status.

   Full-Time Part-Time
9. What is your gender?

   Female Male Transgender A gender not listed here No answer
10. What factors most influenced your confidence implementing evidence-based practice in your current setting?
11. Is there anything else you would like to add related to your confidence level regarding evidence-based practice in your setting?

Appendix B

Interview Questions

1. From what university did you graduate with your master's degree in speech-language pathology?
2. Did your university have a hospital affiliation?
3. Please describe your clinical experiences in your graduate program.
4. If not answered in the previous question, did you complete a clinical placement in a medical setting, educational setting, or both?
5. What do you think was the most valuable part of your clinical experiences? You may provide specific examples or general experiences that were helpful.
6. What part of your graduate program do you think contributed most to your confidence providing services in your current setting?
7. What factors following graduation do you feel contributed most to your confidence providing services in your current setting?
8. Is there anything else you would like to add that may provide insight into your confidence level providing services in your current setting?

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The *Online Journal of Missouri Speech-Language-Hearing Association* (OJMSHA) is MSHA's peer-reviewed journal, which is published annually. OJMSHA is not only available to MSHA members but is also accessible to readers out of state. Manuscripts from clinicians, students, and academicians are accepted on a rolling basis.

Manuscript submission
OJMSHA is an online journal that publishes papers pertaining to the processes and disorders of speech, language, and hearing, and to the diagnosis and treatment of such disorders, as well as articles on educational and professional issues in the discipline. Contributed manuscripts may take any of the following forms: reports of original research, including single-subject experiments; theoretical or review articles; tutorials; research notes; and letters to the editor. *OJMSHA* follows the policies and procedures of any typical scholarly publishing board. Articles submitted to *OJMSHA* are reviewed by professionals in communication science and disorders and, when appropriate, professionals from allied health fields are also invited to review the papers.

Manuscripts should be submitted to *OJMSHA* Coordinator, Jayanti Ray, at jray@semo.edu. Specific questions or concerns may also be directed to jray@semo.edu. Manuscripts are reviewed by at least two peer reviewers on the editorial board and final decisions are made jointly by the coordinator and peer reviewers. Submissions are reviewed and edited for content and clarity prior to publishing. The peer reviewers, based on their expertise, have the discretion to reject any submissions as necessary.

Circulation
OJMSHA is circulated to MSHA members using the website. The journal is also open to other nonmembers and other professionals.

Editing
The peer reviewers are expected to review the submitted paper and make specific recommendations to the author within 45 days from the initial date of submission of the manuscript. It is the author's responsibility to edit the paper for APA style (6th Edition), clarity, and consistency before submitting. After the paper is accepted, the authors are sent the article electronically for final proofreading. Only minimal alterations are permissible pertaining to the final draft.

The editorial consultants of *OJMSHA* are established authorities in their areas of expertise and most of them have terminal degrees in their disciplines.

Editorial Policies
All manuscripts are peer reviewed, typically by two editorial consultants with relevant expertise and the editor/coordinator. The principal criteria for acceptance are significance of the topic or experimental question, conformity to rigorous standards of evidence and scholarship, and clarity of writing. No manuscript that has been published or is under consideration elsewhere may be submitted.

All manuscripts should be accompanied by a cover letter requesting that the manuscript be considered for publication and stating that the manuscript has not been published previously and is not currently submitted elsewhere. The contact author's business address and phone number should be included. The names of any student authors who contributed to the article should also be included in the cover letter.

Letters to the Editor
E-mail letters to Jayanti Ray (jray@semo.edu). Please include your name and telephone number. Letters will not be printed without contact information.

Manuscript Style and Requirements
Contributions are expected to follow the style specified in the Publication Manual of the American Psychological Association (7th edition). To ensure clarity of scientific communication in this journal, articles should not exceed 50 manuscript pages (double-spaced, 12 font size, Times New Roman) including title page, abstract, references, tables, and figures. In light of special circumstances, the editorial board may approve articles longer than 50 pages. ASHA policy requires the use of nonsexist language. Authors are encouraged to refrain from using person-first language in preparing manuscripts.

A completely double-spaced electronic version of the manuscript should be attached to the author's cover letter and e-mailed to jray@semo.edu. A system of blind review is available to contributors. Authors who wish to remain anonymous to the editorial consultants during the review process should attach a second copy of the manuscript with no names or institutional references by which a reviewer could identify the author. Responsibility for removal of identifying information rests with the author.

Tables and Figures
Copies of tables and figures should be attached to each copy of the manuscript. Use Arabic numerals for both tables and figures, and do not use suffix letters for complex tables; instead, simplify complex tables by making two or more separate tables. MS Office tools may be used for figures and tables. Table titles and figure captions should be concise but explanatory. The reader should not have to refer to the text to decipher the information. The pictures (color or black/white) should be submitted using the jpeg format (resolution: 300x800 dpi). Keep in mind the width of a column or page when designing tables and figures.
Figures/charts and tables created in MS Word should be included in the main text rather than at the end of the document. Pictures may be submitted using separate files.

References
All literature, as well as test and assessment tools, must be listed in this section. References should be listed alphabetically, then chronologically under each author. Journal names should be spelled out and italicized. Pay particular attention to accuracy and APA style for references cited in the text and listed in the References. The reference page may be single-spaced.

Authorship
Papers should only be submitted for consideration once the authorization of all contributing authors has been gathered. Those submitting papers should carefully check that all those whose work contributed to the paper are acknowledged as contributing authors. The list of authors should include all those who can legitimately claim authorship. This is all those who have made a substantial contribution to the concept and design, acquisition of data or analysis

and interpretation of data; drafted the article or revised it critically for important intellectual content. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content.

Research Ethics
All papers reporting human studies must include whether written consent was obtained from the local Institutional Review Board (IRB).

Patient/Participant consent
Authors are required to follow the IRB guidelines and the study participants have a right to privacy that should not be infringed without informed consent. Identifying information, including patients' names, initials, or hospital numbers, should not be published in written descriptions and photographs. Informed consent for this purpose requires that a patient/participant who is identifiable be shown the manuscript to be published. When informed consent has been obtained it should be indicated in the submitted article.

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