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Training Effects on Coaching Behaviors of Speech-Language Pathology Graduate Students

by

Elizabeth Milgate

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Science in the Department of Speech Language Pathology

Idaho State University

Spring 2019

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Committee Approval

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The members of the committee a it satisfactory and recommend that it be a	ppointed to examine the thesis of Elizabeth Milgate find accepted.
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September 20, 2018

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RE: regarding study number IRB-FY2019-35: Training Effects on Coaching Behaviors of Speech-Language Pathology Graduate Students via Telepractice

Dear Ms. Milgate:

I agree that this study qualifies as exempt from review under the following guideline: Category 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. This letter is your approval, please, keep this document in a safe place.

Notify the HSC of any adverse events. Serious, unexpected adverse events must be reported in writing within 10 business days.

You are granted permission to conduct your study effective immediately. The study is not subject to renewal.

Please note that any changes to the study as approved must be promptly reported and approved. Some changes may be approved by expedited review; others require full board review. Contact Tom Bailey (208-282-2179; fax 208-282-4723; email: humsubj@isu.edu) if you have any questions or require further information.

Sincerely,

Ralph Baergen, PhD, MPH, CIP Human Subjects Chair

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I would like to thank Dr. Kristina Blaiser for her continued support in this project. With an overflow of encouragement and professional input, I felt guided and heard throughout my program. I would not have been able to make this project possible without her strong vision and passion for the field.

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List of Abbreviations

ASHA American Speech Language Hearing Association

SDM Service Delivery Model

EI Early Intervention

EMT Enhanced Milieu Teaching

IRB Institutional Review Board

Training Effects on Coaching Behaviors of Speech-Language Pathology Graduate Students

Thesis Abstract – Idaho State University (2019)

Coaching, an interactive method by which providers partner with caregivers to improve caregiver competence in using specific strategies in early intervention, has shown the most positive long-term outcomes in terms of child language, parent engagement, and skill generalization (Rush, Shelden, & Hanft, 2003). However, while often framed as an integral component of early intervention, many providers do not apply coaching techniques when serving families. This is potentially due to the lack of formal training opportunities. It has recently been found that providers display increased coaching behaviors in telepractice versus in-person sessions, however a majority of these telepractice sessions was spent observing rather than implementing triadic intervention. The purpose of this study is to assess the effectiveness of an asynchronous web-based training course for providers to improve coaching skills in order to provide efficient, appropriate, and beneficial services to families and children in early intervention in both telepractice and in-person therapy.

Key Words: coaching, early intervention, parent-based, coaching behaviors, confidence, telepractice

Chapter 1: Introduction

Early intervention (EI) is a service designed to meet the needs of infants and young children who are at risk for developmental disabilities (Hayes, Boada, & Coe, 2015). Meeting these needs is critical because the earlier that services are delivered, the more likely children will develop effective communication and language skills to achieve successful learning outcomes later on in life (Guralnick, 2011). A key aspect of early intervention during this developmental period is family-centered treatment with an emphasis on parent engagement. Coaching, or an interactive method by which providers partner with caregivers to improve caregiver competence in using specific strategies (Rush, Shelden, & Hanft, 2003), has shown the most positive long-term outcomes in terms of child language, parent engagement, and skill generalization.

While coaching is a fundamental practice in early intervention, few graduate programs offer focused instruction or practice on early intervention skills and/or coaching behaviors (Meek, Glade, Rosenzweig, & Frazier, 2018). In fact, almost half of the 177 respondents said that coaching was not covered at all in their graduate training program. This lack of formal training implies the assumption that professionals will learn coaching behaviors solely from onthe-job experience. However, in practice, professionals have been found to spend more time providing direct intervention with the child (i.e., diadic intervention) rather than implementing triadic intervention with clinician, child, and parent (Friedman, Woods, & Salisbury, 2012). One contradiction to this finding has been in the use of telepractice, where providers' coaching behaviors tend to be accentuated relative to their behaviors in a face-to-face condition (Behl et al., 2017).

Telepractice, or the use of technology for the delivery of speech-language pathology services at a distance for assessment, intervention, and/or consultation, is being utilized as a way

to reach families currently enrolled in EI services (American Speech-Language-Hearing Association [ASHA], 2019). Interestingly, not only have positive child language outcomes been established via the used of telepractice (Blaiser, Behl, Callow-Heusser, & White, 2013; Behl et al., 2017) but providers have also demonstrated increased coaching behaviors when comparing telepractice sessions with face-to-face sessions.

The synthesis of EI, coaching, and telepractice may be the key to successful child language outcomes. Offering providers with training in explicit skills of coaching behaviors may lead to improved providers competence in the field and overall improved client communication and language skills for families enrolled in EI services in both telepractice and traditional faceto-face therapy.

Early Intervention (EI)

Early intervention is a service provided through Part C of the Individuals with

Disabilities Education Act (IDEA, 2004) and as of 2017, there were approximately 372,896

children and families that are enrolled in these services (Lazara, Danaher, & Goode, 2017).

While many toddlers with expressive language delays are likely to develop normal language

without intervention (60%), toddlers who have both receptive and expressive language delays

(25%) require early intervention to develop language skills. In fact, language delays are

associated with poor academic outcomes, reading difficulties, and persistent communication

problems (Roberts & Kaiser, 2015). Early intervention is recommended for children who may be

at risk for these outcomes.

A family-centered approach, or one that has the parents highly involved in their child's intervention (Shultz, 2013), is an integral component to EI. Through parent-implemented intervention it is expected that the parent uses language facilitation strategies throughout the day

with the goal of providing as many opportunities for language support as possible. The methods used to train families vary and may use triadic instruction, discussions, modeling, coaching, and/or performance feedback. Through these methods the parents are coached by providers on how to implement new skills with their child to target their communication difficulties, decrease a challenging behavior, and/or self-help.

In order to make EI experiences successful, providers must implement coaching skills that will best support adult learning. This best practice of coaching is attained by clearly defined, observable, and measurable procedures to support others in their efforts to promote child learning and development. In fact, coaching combined with routines-based (using daily activities to support/implement learned strategies) intervention has been described as the general treatment approach when providing EI services (ASHA, 2018).

To build upon the foundation of parent implementation and provider coaching, Kaiser and Roberts (2013) created the Teach-Model-Coach-Review approach as a means for parents to implement Enhanced Milieu Teaching (EMT). EMT is a naturalistic evidence-based intervention for children with language impairment. The key to EMT is that communication is learned in context with the communication partner and language skills are learned through effective behavioral and developmental strategies (Kaiser & Roberts, 2013). These strategies include: play and engage, follow the child's lead in play and activity, respond to child communication, model language in context, expand child communication, use time delay to prompt requests or initiations, and use Milieu teaching prompts to promote practice (i.e. model, mand-model, time delay, incidental teaching). The Teach-Model-Coach-Review approach (see Figure 1) utilizes these EMT skills and places them into a sequential order for adult learners (e.g. parents).

Using this approach, it was found that those included in the intervention were less likely to meet a language delay criterion. To support this claim, it was found that 71% of the toddlers in the control were found to be delayed in language while those who received intervention was 51% delayed in comparison (Roberts & Kaiser, 2015). Coaching encompasses a family-centered approach and values the time that parents spend with their child in daily routines. Providers equipped with coaching skills will ultimately be able to better support families enrolled in early intervention programs. However, there is a lack of coaching behaviors among current providers that serve this population.

Limited Coaching Experience

Friedman, Woods, and Salisbury (2012) capitalize on the importance of coaching in early intervention and how essential it is that providers gain specific skills in collaboration and coaching of parents. However, implementation of coaching is limited due to the fact that providers are unsure of what behaviors constitute as effective coaching. This uncertainty and "how to" aspect lead to providers using direct intervention instead of a triadic approach. In fact, in a 2017 survey, 60% of providers indicated that they had not enrolled in a degree or certificate program with specific coursework or training for serving children ages birth to 3 and their families in early intervention (ASHA, 2017). This is over half of our providers who are not supplying these families with the full support that they need to achieve the communication and language skills necessary for successful learning. Even more concerning, providers were found to spend less than 10 hours of direct contact with families during the entirety of their undergraduate and/or graduate experience (Meek et al., 2018).

The lack of prepared graduate students is even further demonstrated through the confidence surveys administered throughout this study. Students completed a survey on their

ability to effectively coach families, then received approximately one hour of asynchronous web-based training on four basic coaching techniques, and then completed a follow up survey. It was found that students had a significant increase in confidence post-training in comparison to the initial survey. Training future providers, even with one hour of explicit instruction may instill a foundation for implementing effective coaching behaviors for students who feel they are unprepared to work with families birth to three once they graduate from their perspective programs.

While we know that training may positively impact provider's abilities to implement coaching behaviors in graduate students, current providers are expected to create their own training to involve parents by using just what they know from their prior professional experience (Kaiser & Hancock, 2003). In order to see how effective learning from experience really is, Stredler-Brown (2017) used a coaching approach to conduct early intervention via telepractice to assess coaching behaviors in 16 current professionals. Results found parent practice and provider feedback (3%), child behavior with provider feedback (6.5%), and observation (79%) were used more frequently in telepractice than in-person. Direct instruction was used less (12%) compared to the in-person group (19%). Results indicate that providers dedicate most of their time, via telepractice, observing the interactions instead of inputting feedback and providing practice.

Unfortunately, without the proper coaching, parents may not be able to provide their children with skills to improve their language skills. This high rate of observation and low prevalence of provider feedback demonstrates how necessary provider training in regard coaching techniques is needed and that experience does not equal skilled coaching behaviors.

The relationship between coaching and parent-implementation is harmonious and training for providers may improve parent child engagement. However, the question then arises as to how

to reach professionals who have already completed their graduate coursework. Using a webbased asynchronous model could create the flexibility needed for busy providers currently practicing in the field.

Growth of Telepractice

Telepractice seems to highlight coaching behaviors in clinicians. In recent years, telepractice has become a more plausible modality of service delivery. This is, in part, because families across the country may not have access to high quality early intervention services because of their geographic location and/or shortages of highly qualified early intervention providers (Hayes, Boada, & Coe, 2015). Further, children who qualify for early intervention services may encounter barriers such as weather, transportation problems, or illness (Behl et al., 2017). Telepractice can be used to bridge the gap for many of these families. Specifically, telepractice has been very effective in terms of parent support and implementation of coaching behaviors (Behl et al., 2017).

Access to Providers

Lowman and Kleinert (2017) found that barriers for service delivery included financial challenges, geographic isolation, and rural school districts lead to a struggle to 'attract and maintain' experienced and qualified speech-language pathologists. In 2014, the American Speech-Language-Hearing Association (ASHA) reported that in the rural areas of the mountain and pacific regions of the United States there were "more job openings than job seekers." This shortage of qualified professionals in combination with a family's unreliable transportation, inability to pay for medical services, poor insurance coverage, and scheduling conflicts can result in little to no intervention (Ciccia, Whitford, Krumm, & McNeal, 2011)

Telepractice can be the answer to providing speech and language services for many families in rural locations or in need of specialized services. ASHA (2002) states that only 11 percent of audiologist and speech-language pathologists are now using telepractice in delivering services to their patients. However, 43 percent of professionals expressed interest in using telepractice in the future, but the primary barrier was the absence of telepractice knowledge and how to implement therapy with a triadic approach (Freidman et al., 2012).

Implementation of coaching behaviors in telepractice are critical in this time of expanding use of telepractice. There is a need for further construction of a framework for professionals to use when coaching parents in early intervention. By incorporating parent training and coaching into service delivery, speech language pathologists can more easily use telepractice as a means for providing services to children with communication disorders (Snodgrass et al. 2016).

Roberts and Kaiser (2015) and Stredler-Brown (2017) both focus on a model of coaching that involves having parents practice and review their skills. Roberts and Kaiser used a Teach-Model-Coach-Review approach while Stredler-Brown used an approach involving (1) reconnecting with the parents, (2) addressing parent's priorities, (3) demonstrating and practicing specific strategies, (4) evaluation of parents' comfort, (5) and reflecting on the session.

Reviewing and practicing new skills is a commonality among studies as the central aspect of successful adult learning. In fact, "best practices in early intervention encourage providers to facilitate and coach families in interactions with their children" and telepractice has shown to enhance coaching behaviors in providers using telepractice in comparison to the traditional in person approach (Blaiser, Behl, Callow-Heusser, & White, 2013).

Benefits of Telepractice and the Influence on Coaching Behaviors

Further benefits of telepractice have been found in regard to cost, attendance, parent-child engagement, and overall increased language skills. Blaiser, Behl, Callow-Heusser, and White (2013) examined the costs and outcomes of telepractice over a two-year period. Ultimately, the cost savings for 15 families with four visits a month was \$5,798 each due to savings on driving expenses, travel time, and saved service delivery time. This means that telepractice can be seen as a prospective alternative for families who will have extended care for multiple visits a month.

Additionally, outcomes concluded increased expressive language skills and parent confidence. Scores from the children in the telepractice group were statistically significantly higher (p=.03) in expressive language than the in-person group. Based on survey results of the thirteen families in the telepractice group, parents reported that they felt more involved, learned how to help their child, and had fewer missed visits due to illness and travel time. The *Home Visit Rating Scales-Adapted and Extended* (HOVRS-A+, v2.0; Roggman et al., 2010) resulted in statistically significant (p < .05) results showing that families in the telepractice group were more engaged during the sessions than the comparison group. Even more notable was that providers utilized more coaching behaviors in the telepractice condition than in-person.

To further highlight the benefits of telepractice, Behl et al. (2017) evaluated the beneficial outcomes of telepractice by assessing its efficacy in comparison to an in-person approach in EI. Notable outcomes from this study were the greater hours of attendence for the telepractice group with 218.6 total minutes in session versus the in-person group with 137 total minutes. Cancellations were due to weather, transportation problems, or illness. While illness affected the attendance across both groups, weather was the only factor that impacted the in-person group. Measures of the HOVRS-A+ concluded to be significantly significant in the

telepractice group in regards to responsiveness to caregiver (p<.01) and caregiver engagment (p=.04). Similar to Blaiser et al. (2013), families receiving telepractice were found to have comparable if not better outcomes for their child's language skills. The most notable aspect of their study was the increased use of parent-child engagement.

Telepractice encourages providers to facilitate coaching of parents ultimately improving caregiver's ability to aid in their child's development. Coaching caregivers is an integral component to early intervention; therefore, preparing providers with coaching techniques can better serve the families receiving early intervention via telepractice. Telepractice can support families in attendence, cost, and overall communication skills while also demonstrating increased parent engagement. This triadic approach creates flexible and evidence based support for many families in need for specialized services. While telepractice has many benefits, perhaps the most interesting is the interventionist's ability to provide more appropriate and effective coaching behaviors in a telepractice condition.

As of now, coaching in telepractice has been limited in research when taking a training perspective. Based on Figure 2, using a model that allows parents to practice the skills they learn in concordance with constructive feedback and reflection appears most common among the current studies. Many of these studies use an in-person approach. Stredler-Brown (2017), Blaiser, Behl, Callow-Heusser, & White (2013), and Behl et al. (2017) are the few studies that have gathered data on differences between the in-person and telepractice approaches from a provider perspective. While limited, these prior studies provide key components to enhance adult learning. Using a combination of the most common coaching behaviors, an asynchronous webbased model can be created to increase effectiveness in coaching skill for providers.

Purpose of Current Study

EI is a service that provides vital support to families with young children who are at risk of language delays and further communication difficulties. This service relies heavily on using a parent-based approach in order to create the most successful outcomes. This success is dependent on parents gaining skills to implement with their child in critical developmental periods and parent's gain these skills through effective coaching provided by professionals in the field of speech-language pathology. Unfortunately, there is limited training in coaching behaviors throughout graduate and undergraduate coursework and resources for best coaching techniques are scarce.

Further, it has recently been found that providers display increased coaching behaviors in telepractice versus in-person sessions, however a majority of these telepractice sessions was spent observing rather than implementing triadic intervention. This means in-person coaching is even more limited in its implementation of coaching behaviors. With this knowledge, it would be expected that graduate courses would ensure explicit training on coaching behaviors is provided across modalities. However, this is not the case.

The purpose of this study is to assess the effectiveness of an asynchronous web-based training course for providers to improve coaching skills in order to provide efficient, appropriate, and beneficial services to families and children in early intervention in both telepractice and inperson therapy.

Research Questions

- How does coaching confidence of graduate students in an SLP program change as a result of training in coaching?
- How does telepractice compare to in-person in using coaching behaviors?

It is hypothesized that there will be a significant difference in the students' confidence in coaching after training. It is also hypothesized that coaching behaviors will be stronger in the telepractice condition than in the in-person condition.

Chapter 2: Methods

Participant Recruitment

Prior to initiating the study, permission was obtained from the Idaho State University Institutional Review Board (IRB). All first and second year Idaho State University speech-language pathology graduate students were invited to participate in the study via email recruitment. The email consisted of a promotional flyer that included the beneficial outcomes of completing the survey: certificate of completion in telepractice training. There was no exclusionary criteria for graduate students within the program. Participants were randomized in to two groups with even amounts of first- and second-year students to avoid experience advantage. Randomization was completed simply in order of replies in response to the initial recruitment email. Five undergraduate volunteers participated as the parent subjects and were rotated among the sessions so that the participants had a different undergraduate volunteer for each session to avoid familiarity. Sessions (in-person and telepractice) for each participant were aimed to be within a week of one another as to limit the amount of time that passed from taking the online training to the last session.

Trial Design

All students were assigned a number for anonymity. Participants had two days prior to the training to complete a confidence survey (see Appendix A). The confidence survey focused on the students' perception of their current abilities to coach families. Then participants were provided access to the online training. The web-based model consisted of four modules, one half

hour session for all four components of the Teach-Model-Coach-Review approach. 1) Teach: instruction of a skill to a caregiver, 2) Model: demonstrate the instructed skill to the caregiver, 3) Coach: allow caregiver to practice skills while providing feedback, 4) Review: evaluate the caregivers practice and discuss strengths and weaknesses. With the expansion of telepractice, many students have the potential to expand their skills and reach patients in a different manner. This structured training provided an outline for new professionals to utilize and modify to fit their client's needs for an effective and organized coaching approach.

The modules included recorded PowToon's (short engaging animated tutorials) and quizzes that allowed graduate participants to learn about the foundation of the Teach-Model-Coach-Review approach and assess their knowledge and ability to complete this approach within a therapy session. Then graduate student participants completed therapy simulations with "parents" who were portrayed by undergraduate students in the Idaho State University Communication Sciences and Disorders program. The undergraduate participants practiced skills taught to them by the graduate participant. Each simulation aimed to coach a "parent" on one language facilitation strategy of expansions (see Appendix B). Expansions add syntactic and semantic detail to incomplete utterances (Scanlon, 2018). For instance, a child points to the dog and says, "dog bark." A possible expansion could be, "The dog is barking."

Procedure

Participants in the study completed the confidence survey after completing the intervention session. The surveys were completed on Qualtrics and administered to participants on an iPad directly following their intervention sessions. The group assignments were counterbalanced to control for experience with coaching behaviors. Participants were randomly assigned to Group 1 (telepractice first, then in-person) or Group 2 (in-person, then telepractice).

Completion of the study took approximately 8 weeks for all participants to complete. Coding of behaviors was done by reviewing video footage of both the telepractice and in-person therapy (see Appendix C). A second-year graduate student who was unable to participate in the study coded for reliability.

Timeline of Events

- 1. Graduate students were emailed the confidence survey and given two days to complete it on their own time via Qualtrics. This survey was completed before beginning training. Once completed the students were then given access to the online training modules. After completion of the training the student completed the confidence survey again.
- 2. A doodle poll was sent out to all graduate participants to sign up for a time to complete session one. The participant attended and completed session one and then completed another confidence survey on the iPad provided using Qualtrics. Upon completion of the survey the client was sent a second doodle poll to sign up for their second session in the following week.
- **3**. The participant attended and completed session two and then completed the survey on the iPad provided using Qualtrics.

Chapter 3: Results

Demographics

Demographic questionnaires were provided at the beginning of Survey 1 in Qualtrics. Participants from the study included 12 graduate students at Idaho State University who were currently enrolled in the speech-language pathology program (see Appendix D). Two of the participants completed the first survey but did not complete the remainder of the study (S7 and S8). One hundred percent of participants were female. Of the participants, 50% (n=6) were first year graduate students and 50% (n=6) were second year graduate students. Participant level of

education was obtained: 75% (n=9) had a Bachelor's degree, 17% (n=2) had two Bachelor's degrees, 8% (n=1) had a Master's and Bachelor's degree. Ages of the participants ranged from 23 to 37 years old. Additionally, 67% (n=8) of participants were in the age range of 23 to 27 and 33% (n=4) were in the age range of 33 to 37.

Time length for each session varied. The average in-person session was 4 minutes and 14 seconds with a range of 2:03-9:02 and the average telepractice length was 5 minutes and 11 seconds with a range of 3:06-7:30.

Behaviors

Time

A paired t-test was performed to determine if there was a difference in behaviors by time. As shown in Table 1, the behaviors that were strongest at Time 1 were explaining the skill (M=3, range: 3-3), modeling the skill (M=3, range: 3-3), allowing the parent to practice the skill (M=3, range: 3-3); and providing feedback (M=2.9, range: 2-3); and the behaviors that were weakest were using reflection (M=2.6, range: 1-3), providing positive feedback (M=2.4, range: 1-3), and providing constructive feedback (M=2, range: 1-3). At Time 2, behaviors that were strongest were explaining the skill (M=3, range: 3-3), modeling the skill (M=3, range: 3-3), allowing the parent to practice the skill (M=3, range: 3-3); and providing feedback (M=2.9, range: 2-3); and the behaviors that were weakest were using reflection (M=2.8, range: 1-3), providing positive feedback (M=2.3, range: 1-3), and providing constructive feedback (M=2.4, range: 1-3). The largest differences based on time were found in the following behaviors: using reflection (K=2.8283), providing positive feedback (K=2.831). However, these changes were not significant.

Service Delivery Model

A paired t-test was performed to determine if there was a difference in the behaviors by service delivery model (SDM) (i.e., telepractice vs. face-to-face).

As shown in Table 2, the behaviors that were strongest in the in-person condition were explaining the skill (M=3, range: 3-3), modeling the skill (M=3, range: 3-3), allowing the parent to practice the skill (M=3, range: 3-3); and providing feedback (M=2.9, range: 2-3); and the behaviors that were weakest were using reflection (M=2.6, range: 1-3), providing positive feedback (M=2.4, range: 1-3), and providing constructive feedback (M=2, range: 1-3). In the telepractice condition, behaviors that were strongest were skill (M=3, range: 3-3), modeling the skill (M=3, range: 3-3), allowing the parent to practice the skill (M=3, range: 3-3); and providing feedback (M=2.9, range: 2-3); and the behaviors that were weakest were using reflection (M=2.8, range: 1-3), providing positive feedback (M=2.3, range: 1-3), and providing constructive feedback (M=2.4, range: 1-3). There was no significant difference between telepractice and face-to-face delivery in terms of behaviors. However, the largest variances based on time were found in the following behaviors: using reflection (t<.8283), providing positive feedback (t<.3392), and providing constructive feedback (t<.8283). However, these changes were not significant.

Survey

A One-Way Chi-Square Test was used to determine differences across all four surveys and a Wilcoxon Rank Sums test was used to determine the effect of time on the response for each of the survey questions. As shown in Table 3, all questions showed positive change over the four consecutive surveys, except for question 5.

Table 3 indicates that the following questions improved after the participants received the online training: feeling confident involving parents in a therapy session to practice their skills indicated by Time 1 and Time 2 (Z = 3.09, p = .0020); Time 1 and Time 3 (Z = 3.15, p = .0016); and Time 1 and Time 4 (Z = 3.6, p = .0003), feeling confident coaching as it relates to training families indicated by Time 1 and Time 4 (Z=2.59, p=.0095), prompting parents to reflect on skills they practice/learn with their child indicated by Time 1 and Time 2 (Z=2.17, p=.0301); Time 1 and Time 3 (Z=3.2, p=.0014); and Time 1 and Time 4 (Z=3.33, p=.0009), having had training on coaching indicated by Time 1 and Time 2 (Z=3.55, p=.0004); Time 1 and Time 3 (Z=3.64, p=.0003); and Time 1 and Time 4 (Z=3.55, p=.0004), feeling confident in using unplanned opportunities to coach parents indicated by Time 1 and Time 3 (Z=2.07, p=.0385) and Time 1 and Time 4 (Z=2.61, p=.0092), having the ability to determine a parent's timeline for their learning process indicated by between Time 1 and Time 2 (Z=2.34, p=.0192); Time 1 and Time 3 (Z=2.92, p=.0035); and Time 1 and Time 4 (Z=3.2, p=.0014), providing efficient coaching strategies to parents in-person indicated by Time 1 and Time 2 (Z=2.19, p=.0286); Time 1 and Time 3 (Z=2.62, p=.0087); and Time 1 and Time 4 (Z=3.16, p=.0016), and providing efficient coaching strategies to parents via telepractice indicated by Time 1 and Time 2 (Z=3.41, p=.0007); Time 1 and Time 3 (Z=3.53, p=.0004); and Time 1 and Time 4 (Z=3.88, p=.0004)p=.0001).

Table 3 further indicates that the following questions improved following training and practice/experience: providing reinforcement to a parent while they practice skill with their child indicated by Time 2 to Time 3 (p = .0244), feeling confident working with families via telepractice indicated by Time 2 to Time 4 (p = .0114), feeling confident in using planned opportunities to coach parents indicated by Time 2 to Time 3 (p = .0109) and Time 2 to Time 4

(p= .0109), and having the ability to determine a parent's level of skill indicated by Time 2 to Time 3 (p= .0143).

Relationship Between Confidence and Behaviors

A Spearman correlation analysis was used to determine the relationship between participant confidence and coaching behaviors exhibited in sessions. Behaviors 1 through 4 were not analyzed as they displayed no variation in behaviors from Time 1 and Time 2. As shown in Table 4, only one behavior had significant positive correlation (p = .0250) between participants confidence in having parents practice their skills (Question 1) and the ability to apply reflection behaviors in a session (Behavior 5). As shown in Table 5, when determining the relationship between participant confidence and coaching behaviors, no other significant correlation was found.

Reliability

Reliability was completed by a fellow graduate student who did not partake in the study. The graduate student randomly selected four videos from the study to code for reliability. Of the four videos, two did not need to be adjusted as both head researcher and graduate student had exact behavior scores. Where there was disagreement, both graduate student and head researcher revisited the behaviors and reached consensus on identifying the specific behavior. In all situations where there was not initial agreement, both head researcher and graduate student reached agreement through discussion, resulting in 100% agreement.

Chapter 4: Discussion

The findings in this study provide insight into the role that online learning content can be used to shape the coaching behaviors and confidence of graduate students as they transition into their professional careers. In this study, a small group of graduate students completed

asynchronous web-based training in four basic coaching techniques (i.e., teach, model, coach, review) to assess if web-based instruction could improve provider confidence and coaching behaviors. This study provides a unique look into the effects of explicit coaching instruction from a provider perspective.

Time

Participant behaviors varied from their first session to their second session in three behaviors particularly in using reflection, providing positive feedback, and providing constructive feedback. All other behaviors remained consistent across Time 1 and Time 2. Interestingly, these improvements in behaviors following the online training means that actual practice or experience increased the participants' ability to incorporate reflection and constructive feedback into their sessions.

The coaching behaviors that were found to be strongest following training were explaining what the skill was to the parent, modeling that skill, and providing the parent the opportunity to practice the skill. Unfortunately, data was not collected on these behaviors prior to training. However, this information is valuable in the fact that, these behaviors are critical to the adult learning process (Roberts & Kaiser, 2015) and a vital component to incorporating effective coaching behaviors and training may have directly impacted those behaviors. Future studies should include analysis of pre-treatment and post-treatment behaviors. This will allow for a more specific analysis of which behaviors would require training and which could be acquired through graduate coursework.

In this study, practice/experience did not make a difference in participants' ability to provide positive feedback to parents. While there were only two experiences in this study, it could mean that more explicit training may be needed related to targeting providing positive

feedback, while skills such as reflection and constructive feedback may be learned through provider experience and practice. However, while some variability was noted between the two sessions, the difference was not statistically significant. If there were a larger sample size or additional mock sessions, a better understanding of behaviors by time could be determined.

Service Delivery Model

When comparing the service delivery model (Table 2), while there were no significant differences, some trends are worth noting. For example, in the telepractice condition, participants discussed the parents' practice and allowed parents to reflect on their practice more than in the in-person group. Additionally, constructive feedback was more evident in telepractice. In the inperson condition, participants displayed higher rates of providing positive feedback. It is interesting that participants felt more comfortable providing constructive feedback in a telepractice session than in person. This could be due to higher pressures during a face-to-face interaction with a desire to please parents, resulting in a positive approach versus a constructive one. It may also be that providers feel more comfortable with the distance that telepractice provides, ultimately allowing them to implement that constructive aspect. Blaiser et al. (2013) similarly found that a telepractice condition has shown to enhance specific coaching behaviors in providers in comparison to the traditional in person approach. All other behaviors remained consistent across service delivery models. This maintenance of all other behaviors reflects that, regardless of which service delivery model (i.e., telepractice or face-to-face) was implemented first, participants retained the skills they learned from the training.

Again, while some variation was noted between the two service delivery models, differences were not statistically significant. This could be that the 3-point rating scale was not sensitive enough to pick up slight differences in the behaviors. Having a more discriminating

scale or a larger sample size may better show the differences between behaviors. It may also be that, with explicit training, a difference between the two service delivery models did not exist other than small variations in varieties of feedback. To truly assess if this type of web-based training of coaching is effective, future studies could include larger samples of early intervention providers and include measures of behaviors prior to training may to assess significant changes.

When discussing behaviors 5 (incorporating reflection), 6 (providing positive feedback), and 7 (providing constructive feedback) importance is found within these different forms of praise. When comparing by both time and service delivery time, variety is only noted within these behaviors. These variations highlight the importance of training to target the diverse types of feedback and how to implement those skills into a therapy session. While the training provided did mention these types of comments, the designated attention was more focused on the Teach-Model-Coach-Review and future participants may benefit from more in-depth instruction on the implementation of reflection, positive feedback, and constructive feedback in order to improve skills.

Survey

The impact of training can be seen between Time 1 (prior to any type of formal training) and Time 2 (following the training but before any practical experience). Time 3 shows the first practical experience with the skills taught in the training and Time 4 shows the cumulative effect of training and the two experiences. Interestingly, all participants displayed statistically significant increases in confidence after the training (see Table 3). This indicates that training does impact coaching confidence. Specifically, training impacted providers' confidence involving parents in a therapy session to practice their skills, coaching as it relates to training families, prompting parents to reflect on skills they practice/learn with their child, having had

training on coaching, using unplanned opportunities to coach parents, having the ability to determine a parent's timeline for their learning process, providing efficient coaching strategies to parents in-person, and providing efficient coaching strategies to parents via telepractice. This indicates that training alone can increase a provider's confidence in these specific skills and that training aimed to improve these skills would be beneficial for professionals.

A combination of training and practice/experience was found to significantly impact providers confidence in providing reinforcement to a parent while they practice skill with their child, working with families via telepractice, using planned opportunities to coach parents, and having the ability to determine a parent's level of skill. This indicates that these skills improved form a combination of training and practice/experience, therefore explicit training may not need to focus on these skills as finely as the skills noted earlier that require training alone to improve.

While confidence improved over time, no participant displayed an increase in confidence based explicitly on practice/experience alone. That is, changes were only noted through training or the combination of training and practice/experience. This is a highly important finding because as noted earlier current professionals are expected to learn these skills through experience, but it has been found that experience alone really does not affect that provider confidence and that providers feel more prepared when they are offered training.

Question 5 (i.e., I feel that I can effectively model a skill for a parent), did not yield any significant changes as a majority of participants felt that they could effectively model a skill for a parent prior to the training. This modeling may be something that is taught effectively throughout graduate school programs and students may not need explicit training to achieve it.

The results of this study show that training is a highly impactful tool to improve provider confidence in their coaching abilities. In fact, confidence continued on an upward trend

throughout the study. However, there were not any statistically significant differences in provider confidence for the last two timepoints, although it should be noted that survey two mean scores were relatively high, indicating a potential ceiling effect. Of note, when comparing confidence from Time 3 to Time 4, the average scores for participants showed a slight decrease in their ability to provide reinforcement to parents, reflect, whether or not they had training in coaching, and their ability to determine a parent's level of skill. This slight downward trend could be due to a negative experience during the session, perhaps resulting in questioning of their own ability to provide effective coaching. The capability of participants may be impacted by their own self-evaluation of skill. Perhaps if more training than just one webinar-based hour of instruction was provided, confidence would be less of a barrier to implementation.

Relationship Between Confidence and Behaviors

When assessing the relationship between confidence and behaviors, it is evident that training has a large impact on provider confidence. However, confidence is not always direct indicator of behaviors. While a provider may feel confident, they may still not exhibit behaviors necessary for effective coaching. It is important that providers have access to feedback in terms of their behaviors rather than just rating themselves in terms of confidence. Ultimately the relationship between confidence and behaviors do not parallel, and the surveys are not a good way of informing about behaviors.

Limitations

There were several limitations that were noted throughout the study. The first is the that therapy sessions before the online trainings were not conducted to compare behaviors pre- and post-training. The surveys were the only form of data tracking data pre- and post-online trainings, which is not a direct indicator of skill. Additionally, one graduate student reported that

while she felt the trainings helped improve her coaching skills, she also expressed her continuing experience at a school placement were also benefitting her outside of the study. Due to the limit of five undergraduate students, many had to participate in over five mock therapy sessions each, which increased knowledge of the facilitation strategy, although volunteers were encouraged to pretend they did not know what the strategy was.

Behavior 4 (providing feedback on the parent's practice) was directly linked to Behavior 6 (providing positive feedback) and Behavior 7 (providing constructive feedback) created conflict while coding behaviors. Due to the nature of the study, the score given to Behavior 6 or 7 also had to be reflected equally for Behavior 4. Future changes for the behaviors would be to ensure that behaviors do not overlap with one another when coding. As mentioned, the Likert scale used for assessing behaviors was too narrow and did not allow enough flexibility to display change for participants, as many hit the ceiling in their first session. Additionally, the study included a small sample size with only ten graduate students in the speech-language pathology graduate program at Idaho State University.

Future research should delve deeper into behaviors before and after training.

Unfortunately, mock sessions were not implemented until after training, therefore it is difficult to distinguish if changes in behaviors were due to the training, clinical experience, or any other extraneous factors. A larger sample size with professionals currently working in the field for varying years would help gain a better understanding of how a web-based training in coaching effects those with foundation of experience in the field. Additionally, a more sensitive Likert scale should be implemented to gain a better understanding of the relationship between confidence and behaviors. Mock sessions were conducted for this study, but future research should include more realistic sessions with existing families and children in early intervention in

order to authenticate future clinical experiences and increase generalization. Since these sessions were contrived with undergraduate students, perhaps these interactions lead to easer coaching skills that do not reflect scenarios met by real world situations found in authentic interactions with parents. Lastly, a control group should be implemented in future studies in order to analyze, in greater depth, the impact of training on provider confidence and behaviors.

Strengths

While limitations are noted, the study displayed strength in its well contained structure with all participants completing each survey and mock sessions within an 8-week time period. Further, participants reported feeling excited about their improved ability to provide services via telepractice and felt more prepared to leave graduate school with explicit training in coaching. Overall, the study was a conducted as a tight and well-maintained pilot study in preparation for future research.

Conclusion

This impact of training is important to note, as there is very limited curriculum for providers to gain skills in coaching families within graduate programs. Web-based training has been found to be effective in improving provider confidence and behaviors as they relate to coaching. There are a lot of children currently enrolled in early intervention services and we know coaching is a large component of early intervention, but providers are unsure of how to incorporate it into services. This study found that approximately one hour of explicit web-based training in coaching made the significant different in students' confidence to provide beneficial services to families and can be used to facilitate future experience. Further, participants maintained the coaching skills they learned across the two sessions. In summary, interactive

online learning courses may offer significant learning opportunities for providers in the field as opposed to the expectation of students learning solely from experience.

References

- American Speech-Language-Hearing Association. (2002). Survey Report on Telepractice Use Among Audiologists and Speech-Language Pathologists. Retreived from https://www.asha.org/uploadedFiles/practice/telepractice/SurveyofTelepractice.pdf
- American Speech-Language-Hearing Association. (2014). Schools survey report: SLP workforce and word conditions trends 2000-2014. Retrieved from https://www.asha.org/uploadedFiles/2016-Schools-Survey-SLP-Workforce-Trends.pdf
- American Speech-Language-Hearing Association. (2017). Early intervention mini-survey.

 Available from https://www.asha.org/uploadedFiles/2017-Early-Intervention-Mini-Survey-Summary-Report.pdf
- Behl, D. D., Blaiser, K., Cook, G., Barrett, T., Callow-Heusser, C., Moog Brooks, B., & White,
 K. R. (2017). A multisite study evaluating the benefits of early intervention via telepractice.
 Infants & Young Children: An Interdisciplinary Journal of Early Childhood Intervention,
 30(2), 147–161. doi: 10.1097/1YC.000000000000000000
- Blaiser, K. M., Behl, D., Callow-Heusser, C., & White, K. R. (2013). Measuring costs and outcomes of tele-intervention when serving families of children who are deaf/hard-of-hearing. *International Journal of Telerehabilitation*, 5(2), 3-10. Doi:10.5195/ijt.2013.6129
- Ciccia, A. H., Whitford, B., Krumm, M., & McNeal, K. (2011). Improving the access of young urban children to speech, language and hearing screening via telepractice. *Journal of Telemedicine and Telecare*, 17(5), 240–244. doi:10.1258/jtt.2011.100810

- Friedman, M., Woods, J., & Salisbury, C. (2012). Caregiver coaching strategies for early intervention providers: Moving toward operational definitions. *Infants & Young Children*, 25(1), 62-82. doi: 10.1097/IYC.0b013e31823d8f12
- Guralnick, M. J. (2011). Why early intervention works: A systems perspective. *Infants & Young Children*, 24, 6–28.
- Hayes, D., Boada, K., & Coe, S. (2015). Early hearing detection and intervention by telepractice. *Perspective Telepractice*, 5(2), 38-47. doi: 10.1044/tele5.2.38
- Kaiser, A. P., & Roberts, M. Y. (2013). Parents as communication partners: An evidence-based strategy for improving parent support for language and communication in everyday settings. SIG 1 Perspectives on Language Learning and Education, 20(3), 96–111. doi:10.1044/lle20.3.96
- Kashinath, S., Woods, J., & Goldstein, H. (2006). Enhancing generalized teaching strategy use in daily routines by parents of children with autism. *Journal of Speech, Language & Hearing Research*, 49(3), 466-485. doi:10.1044/1092-4388(2006/036)
- Lazara, A., Danaher, J., & Goode, S. (2017). Part C infant and toddler program. *Early Childhood Technical Assistance Center*. Retrieved from http://ectacenter.org/~pdfs/growthcomppartc-2017-04-05.pdf
- Lowman, J. J., & Kleinert, H. L. (2017). Adoption of telepractice for speech-language services.

 *Rural Special Education Quarterly, 36(2), 875687051771249.

 doi:10.1177/8756870517712490

- Meek, A., Glade, R., Rosenzweig, E., Frazier, K. (2018, November). *Professional perspectives:*Parent coaching training in communication disorders programs. Poster session presented at ASHA Convention, Boston, MA
- Roberts, M. Y., & Kaiser, A. P. (2015). Early intervention for toddlers with language delays: A randomized controlled trial. *Pediatrics*, *135*(4), 686–693. doi: 10.1542/peds.2014-2134
- Roggman, A., Cook, G. A., Innocenti, M. S., Jump Northman, V. K., Christiansen, K., Boyce, L. K.,...Hallgren, K. (2010). *Home Visit Rating Scleas-Adapted and Extended (HOVRS-A+)*. Unpublished Measure.
- Rush, D.D., Shelden, M.L., & Hanft, B.E. (2003). Coaching families and colleagues: A process for collaboration in natural settings. *Infants and Young Children*, 16, 33-47. https://doi.org/10.1097/00001163-200301000-00005
- Scanlon, K. (2018). Scanlon speech therapy: Expansion and extensions to improve language [Blog Post]. Retrieved from http://www.scanlonspeech.com/2012/09/12/expansions-and-extensions-to-improve-your-childs-language/
- Schultz, T. R. (2013). *Parent-implemented intervention (PII) fact sheet.* Chapel Hill: The University of North Carolina, Frank Porter Graham Child Development Institute, The National Professional Development Center on Autism Spectrum Disorders.
- Snodgrass, M.R., Chung, M.Y., Biller, M. F., Appel, K. E., Meadan, H., & Halle, J.W. (2017).

 Telepractice in speech-language therapy: The use of online technologies for parent training and coaching. *Communication Disorders Quarterly*, 38(4), 242-254.

Stredler-Brown, A. (2017). Examination of coaching behaviors used by providers when delivering early intervention via telepractice to families of children who are deaf or hard of hearing. *Perspectives of the ASHA Special Interest Groups*, 2(9), 25-42. doi:10.1044/persp2.SIG9.25

Appendix A: Survey

Participant Number								
1st year / 2nd year								
Please circle your age range:								
18-22 23-27 28-32 33-37								
Level of Education (Please list degrees awarded with major):								
Coaching Experiences (any practice or training you have received with a focus on coaching families/caregivers to implement skills in the following settings):								
☐ Class (please list):								
☐ Practicum (please list):								
☐ Job experience (please list):								
☐ Other (please list):								
□ None								

Rate your confidence level on the following tasks:	2- 3- 4-	Little Neith Some	at all C e Confi ner ewhat ' Confi	dence Confid		
1. I feel confident involving parents in a therapy session to practice their skills.		1	2	3	4	5
2. I can provide reinforcement to a parent while they practice skills with their child.		1	2	3	4	5
3. I feel confident defining coaching as it relates to training families.		1	2	3	4	5
4. I prompt parents to reflect on skills they practice/learn with their child.		1	2	3	4	5
5. I feel that I can effectively model a skill for a parent.		1	2	3	4	5
6. I have had training on coaching.		1	2	3	4	5
7. I would feel confident working with families via telepractice.		1	2	3	4	5
8. I feel confident in using planned opportunities to coach parents.		1	2	3	4	5
9. I feel confident in using unplanned opportunities to coach parents.		1	2	3	4	5
10. I have the ability to determine a parent's level of skill.		1	2	3	4	5
11. I have the ability to determine a parent's timeline for their learning process.		1	2	3	4	5
12. I can provide efficient coaching strategies to parents in-person.		1	2	3	4	5
13. I can provide efficient coaching strategies to parents via telepractice.		1	2	3	4	5

Note. Confidence Survey Adapted from Rush and Sheldon (2006)

Appendix B: Script

Directions:

You are going to teach the "family" how to use expansions. Using expansions means to make an incomplete utterance more appropriate using adult language. When using expansions, make sure you use words the child has already said and that you maintain the meaning behind the child's utterance. Treat it like you would with any other client's family in early intervention. There is no time limit. Once you feel the family understands the strategy and will be able to successfully utilize it in the home, feel free to finish up the session. This may take 5 minutes, or it may take 20 minutes.

Here is a starter sentence to begin:

"I would like to talk to you about using a strategy called expansion at home to help develop your child's language...."

Appendix C: Coding Behaviors

Participant Number	

	Coaching Behaviors Rating Scale	1- Absent 2- Limited 3- Present		
1. Par	ticipant explained what expansion is to the parent.	1	2	3
2. Par	ticipant modeled expansion for the parent.	1	2	3
	ticipant allowed the parent an opportunity to practice ansion.	1	2	3
4. Pari	ticipant gave feedback on the parent's practice	1	2	3
5. Par	ticipant used parent reflection to discuss the practice.	1	2	3
	ticipant provided one positive observation about the ent's practice.	1	2	3
	ticipant provided one constructive observation about parent's practice.	1	2	3

Note. 1 = behavior did not occur; 2 = behavior was started but not completed or was unclear; 3 = behavior did occur

Appendix D: Participant Demographics

Participant Code	Level of Education and Awarded Degree	Year of Graduate Program	Age Range
S1	MFA, Theatre and BFA, Theatre	1 st	33-37
S2	Bachelor of Science in Sociology	1st	23-27
S3	Bachelor of Science	1 st	23-27
S4	Bachelor's degree in Speech and Language Pathology and Audiology	2 nd	23-27
S5	Bachelor of Science in Anthropology and Sociology	2 nd	33-37
S6	Bachelor's degree	1st	23-27
S7 Withdrew	Bachelors	2 nd	33-37
S8 Withdrew	Bachelor's Degree	1 st	23-27
S9	Bachelor's in Special Education	1 st	33-37
S10	Bachelor of Science in Speech and Hearing Sciences	2 nd	23-27
S11	Bachelor of Science in Communication Sciences and Disorders, B.S. in Psychology	2 nd	23-27
S12	Bachelor of Science in Elementary Education, Bachelor of Science in Communication Disorders	2 nd	23-27

Figure 1. Teach-model-coach-review approach adapted from Roberts & Kaiser (2015)

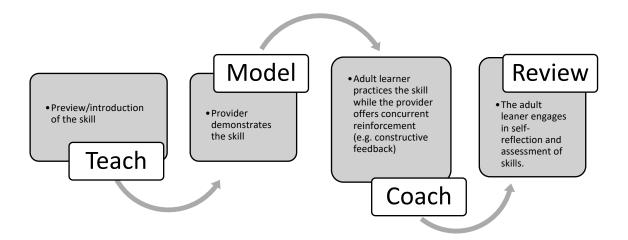


Figure 2. Comparison of Coaching Approaches

Study	Coaching Behaviors
Kashinath, Woods, & Goldstein (2006)	 Arranging the environment Using natural reinforcement Using time delay Imitating contingently Modeling Gestural/visual cueing.
Rush & Sheldon (2011)	 Joint planning Observation Action step Reflection Evaluation and feedback
Friedman, Woods, & Salisbury (2012)	 Conversation and information sharing (CIS) Observation Demonstrating (DEM) Direct teaching (DT), Caregiver practice with feedback (CPF) Joint interaction (JI) Guided practice with feedback (GPF) Problem solving (PS) Not coaching (NC)
Roberts & Kaiser (2015)	Enhanced Milieu Teaching Teach-Model-Coach-Review
Stredler-Brown (2017)	 Provider observes parent interaction with child Provider asks questions and provides information. Provider reflects on the strategies that are thought and way they are used by parent Provider reviews skills demonstrated by child in response to strategy.
Behl et al. (2017)	 Compared outcomes of telepractice versus in person services in the following areas: Family outcomes of support Knowledge Community involvement

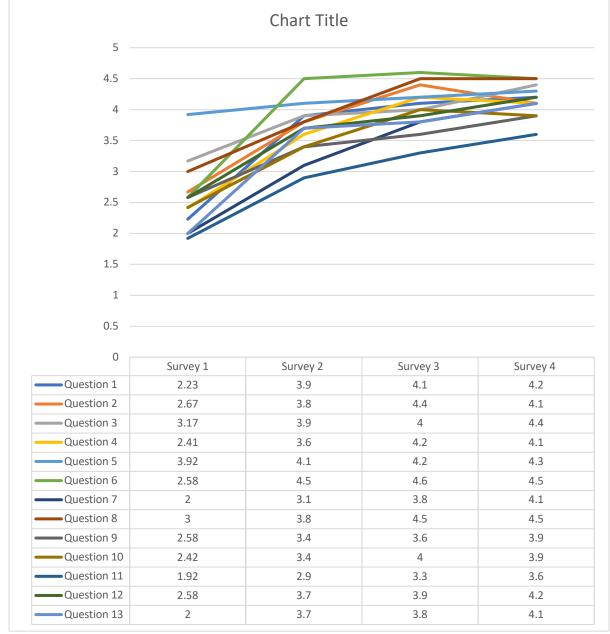


Figure 3. Confidence Over Time

Note. 1 = I feel confident involving parents in a therapy session to practice their skills; 2 = I can provide reinforcement to a parent while they practice skill with their child; 3 = I feel confident coaching as it relates to training families; 4 = I prompt parents to reflect on skills they practice/learn with their child; 5 = I feel that I can effectively model a skill for a parent; 6 = I have had training on coaching; 7 = I would feel confident working with families via telepractice; 8 = I feel confident in using planned opportunities to coach parents; 9 = I feel confident in using unplanned opportunities to coach parents; 10 = I have the ability to determine a parent's level of skill; 11 = I have the ability to determine a parent's timeline for their learning process; 12 = I can provide efficient coaching strategies to parents in-person; 13 = I can provide efficient coaching strategies to parents via telepractice.

Table 1. Behavior by Time

	Time 1:	Time 1:	Time 2:	Time 2:	T - Value
	Mean	Range	Mean	Range	
Behavior 1	3	3-3	3	3-3	-
Behavior 2	3	3-3	3	3-3	-
Behavior 3	3	3-3	3	3-3	-
Behavior 4	2.9	2-3	2.9	2-3	-
Behavior 5	2.6	1-3	2.8	1-3	t < 0.8283
Behavior 6	2.4	1-3	2.3	1-3	t < 0.3392
Behavior 7	2	1-3	2.4	1-3	t < 0.8283

Note. 1 = participant explained what expansion is to the parent; 2 = participant modeled expansion for the parent; 3 = participant allowed the parent an opportunity to practice expansion; 4 = participant gave feedback on the parent's practice; 5 = participant used parent reflection to discuss the practice; 6 = participant provided one positive observation about the parent's practice; 7 = participant provided one constructive observation about the parent's practice.

Table 2. Behavior by Service Delivery Model

	In Person:	In Person:	Telepractice:	Telepractice:	T - Value
	Mean	Range	Mean	Range	
Behavior 1	3	3-3	3	3-3	-
Behavior 2	3	3-3	3	3-3	-
Behavior 3	3	3-3	3	3-3	-
Behavior 4	2.9	2-3	2.9	2-3	-
Behavior 5	2.6	1-3	2.8	1-3	t < 0.8283
Behavior 6	2.4	1-3	2.3	1-3	t < 0.3392
Behavior 7	2	1-3	2.4	1-3	t < 0.8283

Note. 1 = participant explained what expansion is to the parent; 2 = participant modeled expansion for the parent; 3 = participant allowed the parent an opportunity to practice expansion; 4 = participant gave feedback on the parent's practice; 5 = participant used parent reflection to discuss the practice; 6 = participant provided one positive observation about the parent's practice; 7 = participant provided one constructive observation about the parent's practice.

 Table 3. Survey by Time

Survey Question	Change Across Surveys	Post Hoc
Question 1	p = .0002	T1-T2 $p = .0020$
	-	T1-T3 $p = .0016$
		T1-T4 $p = .0003$
Question 2	p = .0001	T1-T2 $p = .0125$
	_	T1-T3 $p = .0009$
		T1-T4 $p = .0020$
		T2-T3 $p = .0244$
Question 3	p = .0234	T1-T4 $p = .0095$
Question 4	p = .0008	T1-T2 $p = .0301$
		T1-T3 $p = .0014$
		T1-T4 $p = .0009$
Question 5	p = .4966	-
Question 6	<i>p</i> < .0001	T1-T2 $p = .0004$
	_	T1-T3 $p = .0003$
		T1-T4 $p = .0004$
Question 7	p < .0001	T1-T2 $p = .0221$
		T1-T3 $p = .0005$
		T1-T4 $p = .0001$
		T2-T4 $p = .0114$
Question 8	p = .0003	T1-T3 $p = .0015$
		T1-T4 $p = .0015$
		T2-T3 $p = .0109$
		T2-T4 $p = .0109$
Question 9	p = .0197	T1-T3 $p = .0385$
		T1-T4 $p = .0092$
Question 10	<i>p</i> < .0001	T1-T2 $p = .0151$
		T1-T3 $p = .0003$
		T1-T4 $p = .0006$
		T2-T3 $p = .0143$
Question 11	p = .0014	T1-T2 $p = .0192$
		T1-T3 $p = .0035$
		T1-T4 $p = .0014$
Question 12	p = .0022	T1-T2 $p = .0286$
		T1-T3 $p = .0087$
		T1-T4 $p = .0016$
Question 13	<i>p</i> < .0001	T1-T2 $p = .0007$
		T1-T3 $p = .0004$
		T1-T4 $p = .0001$

Note. 1 = I feel confident involving parents in a therapy session to practice their skills; 2 = I can provide reinforcement to a parent while they practice skill with their child; 3 = I feel confident coaching as it relates to training families; 4 = I prompt parents to reflect on skills they practice/learn with their child; 5 = I feel that I can effectively model a skill for a parent; 6 = I have had training on coaching; 7 = I would feel confident working with families via telepractice; 8 = I feel confident in using planned opportunities to coach parents; 9 = I feel confident in using unplanned opportunities to coach parents; 10 = I have the ability to determine a parent's level of skill; 11 = I have the ability to determine a parent's timeline for their learning process; 12 = I can provide efficient coaching strategies to parents in-person; 13 = I can provide efficient coaching strategies to parents via telepractice.

¹ Not applicable is depicted by -.

² Time is depicted by "T".

Table 4. Correlation of Behaviors and Confidence: Survey 3 with Time 1

	B5	B6	B7
Q1	.0250	.8105	.2436
Q2	.7791	.2436	.4860
Q3	.2835	.9812	.0585
Q4	.5811	.4841	.4970
Q5	.4860	.4878	.7791
Q6	.7791	.9112	.6454
Q 7	.6454	.7146	.4468
Q8	.1411	.9130	1.000
Q9	.4860	.5811	.2415
Q10	-	-	-
Q11	.1679	.2836	.1779
Q12	1.000	.2509	1.000
Q13	.6454	.7146	.4468

Note. 1 = I feel confident involving parents in a therapy session to practice their skills; 2 = I can provide reinforcement to a parent while they practice skill with their child; 3 = I feel confident coaching as it relates to training families; 4 = I prompt parents to reflect on skills they practice/learn with their child; 5 = I feel that I can effectively model a skill for a parent; 6 = I have had training on coaching; 7 = I would feel confident working with families via telepractice; 8 = I feel confident in using planned opportunities to coach parents; 9 = I feel confident in using unplanned opportunities to coach parents; 10 = I have the ability to determine a parent's level of skill; 11 = I have the ability to determine a parent's timeline for their learning process; 12 = I can provide efficient coaching strategies to parents in-person; 13 = I can provide efficient coaching strategies to parents via telepractice.

Not applicable is depicted by -.

Table 5. Correlation of Behaviors and Confidence: Survey 4 with Time 2

	B5	B6	B 7
Q1	.0985	.3838	.1043
Q2	.0778	.5833	.1889
Q3	.6953	.7719	.8402
Q4	.0778	.5833	.1889
Q5	.3893	.0898	.4385
Q6	.0632	.5443	.7084
Q 7	.0778	.0997	.1889
Q8	.6282	.2996	.5727
Q9	.1907	.3432	.5151
Q10	.1732	.5232	.1059
Q11	.2761	.3948	.6618
Q12	.0985	.3838	.1043
Q13	.0778	.0997	.1889

Note. 1 = I feel confident involving parents in a therapy session to practice their skills; 2 = I can provide reinforcement to a parent while they practice skill with their child; 3 = I feel confident coaching as it relates to training families; 4 = I prompt parents to reflect on skills they practice/learn with their child; 5 = I feel that I can effectively model a skill for a parent; 6 = I have had training on coaching; 7 = I would feel confident working with families via telepractice; 8 = I feel confident in using planned opportunities to coach parents; 9 = I feel confident in using unplanned opportunities to coach parents; 10 = I have the ability to determine a parent's level of skill; 11 = I have the ability to determine a parent's timeline for their learning process; 12 = I can provide efficient coaching strategies to parents in-person; 13 = I can provide efficient coaching strategies to parents via telepractice.