Supervision in ABA: Implementing a Structured Supervision Tool

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Abstract

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There are numerous recommended practices in Applied Behavior Analysis (ABA) for effective supervision of behavior analytic trainees. Recommended practices include identifying clear roles and responsibilities for supervisors and supervisees, evaluating the effects of supervision, incorporating ethics and professionalism into supervision, and taking a competency-based approach (Sellers et al., 2016a). Due to a lack of empirical research on supervision of ABA trainees, however, these recommended practices are typically based on the clinical experience of the authors or a compilation of research from other fields. It is unclear if and how frequently these supervision practices are being used because there is little empirical work in ABA regarding supervision practices for BCBAs in training. The purpose of this study was to address this research gap by analyzing the effects of implementing a structured supervision tool on the recommended practices used in online supervision meetings. Using a multiple baseline design

across participants, four ABA supervisors were trained to implement a structured supervision tool during meetings with their supervisees. Overall, recommended practices during supervision meetings increased with the implementation of the supervision tool and a training booster session. Implications of the results and social validity are also discussed.

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Dedication

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Chapter 1: Introduction

Supervision in ABA: Implementing a Structured Supervision Tool

The supervision of aspiring behavior analysts is a complex and constantly changing activity but is also rewarding and vital to the profession. The term "supervision" in the field of Applied Behavior Analysis (ABA) refers to the activity of a supervisor, most often a certified behavior analyst, overseeing an individual who is accruing experience hours to become certified as a behavior analyst or an individual who is providing behavior analytic services such as a Registered Behavior Technician or a Board Certified Assistant Behavior Analyst. For this paper, "supervision" refers to the activity of overseeing an individual who is accruing experience hours to qualify for the exam to become certified as a Board Certified Behavior Analyst® (BCBA®).

The number of BCBAs is on a steep upward trend, increasing from 6,948 certified BCBAs in 2010 to 44,025 certified BCBAs in 2020 (BACB, n.d.). This increase has also led to an increase in individuals seeking ABA supervision. The purpose of supervision, as reported by the Behavior Analyst Certification Board® (BACB®) is, "to improve and maintain the behavior-analytic, professional, and ethical repertoires of the trainee and facilitate the delivery of high-quality services to the trainee's clients" (BACB, 2021, p. 17). While this may seem like an ambitious goal, thousands of behavior analysts are supervised and certified each year, so the ability to provide effective and efficient supervision is essential for a field growing so quickly. To become a BCBA, an individual needs to meet a series of coursework requirements, including completing a master's degree and passing the BCBA exam. Undoubtedly, one of the most important requirements is completing supervised fieldwork hours. Currently the number of fieldwork hours required to sit for the BCBA exam ranges from 750-1,500 supervision hours, and on January 1, 2022, this will increase to between 1,500 to 2,000. Supervision is an essential

component to preparing future generations of BCBAs, and both the requirements regarding fieldwork and supervision continue to be made more rigorous by the certification agency (i.e., BACB).

The increase in number of fieldwork hours and supervision was accompanied by changes to supervision guidelines. Until recently, it was up to individual supervisors to structure and implement the supervisory experience for their trainees. In 2012, the BACB created a Supervision Task Force to provide more structure to requirements regarding supervision practices (BACB, 2012). One example of these requirements included enforcing new supervisor pre-requisites, including an eight-hour training that outlines supervision curriculum for creating an effective supervisory relationship. In addition, BCBAs who wish to provide supervision must complete three hours of supervision continuing education units (CEUs) as part of their required CEUs for re-certification every two years. As changes to supervision requirements and supervisor qualifications change, supervisors are left with the challenge of implementing these changes and ensuring that they are qualified and prepared to provide supervision to future behavior analysts.

High-quality supervision involves a qualified supervisor with extensive ABA knowledge and experience, a clear understanding of the supervision requirements, facilitation of supervision activities and experiences that integrate required topics, and incorporation of recommended supervision practices into contacts with supervisees. Providing supervision is a challenging pursuit even on its own; however, most ABA supervisors are supervising students in addition to their daily clinical work. Supervision is often not calculated into a supervisor's primary work hours. Similarly, supervisees accruing their supervised fieldwork experience are also usually working, taking courses, and participating in supervision simultaneously. Of these

responsibilities, supervision is often the only way that supervisees access individualized activities critical to their development as a professional BCBA. These activities may include discussing the supervisee's performance on specific ABA competencies, conversations regarding ethical decision-making and professionalism, and time to discuss questions or review work that the supervisee has completed. These activities are central to the professional development of a future behavior analyst and require individual attention from a qualified supervisor. Therefore, supervisors and supervisees must prioritize supervision activities and ensure that they are high-quality.

There are two primary resources provided by the BACB that facilitate the development of supervision content. These resources are the BACB Task List (BACB, 2017) and the Ethics Code for Behavior Analysts (BACB, 2020). The Task List provides a list of topics that supervisees should demonstrate competence in to prepare for certification and the Ethics Code describes some of the responsibilities for the supervisor. The Task List describes specific content areas that are important for a future behavior analyst to understand and learn. The way that these topics are incorporated into meetings is up to the supervisor; however, it is the supervisor's responsibility to ensure that they are preparing their supervisees before they are approved to take the national certification exam. The Ethics Code for Behavior Analysts outlines the responsibilities of a supervisor, including areas such as maintaining documentation, incorporating, and addressing diversity, and performance monitoring and feedback (BACB, 2020). Again, it is the supervisor's job to be familiar with and compliant with supervision requirements and the Ethics Code.

Research on ABA Supervision

There is a growing literature providing suggestions and resources to ABA supervisors (e.g., Sellers et al., 2016a; LeBlanc et al., 2020). In 2016, *Behavior Analysis in Practice* published a special issue on the topic of supervisory practices in ABA. Issues addressed included the supervisory relationship, such as taking a competency-based approach to supervision; evaluating the effects of supervision; incorporating ethics and professionalism; and continuing the supervisory relationship post-certification (Sellers et al., 2016a). One group of scholars proposed a model for supervision that included considerations such as developing performance expectations, confidentiality, remote supervision, and how to utilize competencies to teach specific skills (Turner et al., 2016). Other papers in this issue covered topics such as ethics in supervision (Sellers et al., 2016b), challenges that may arise during supervision (Sellers et al., 2016c), group supervision (Valentino et al., 2016), and supervision models in a human service organization (Hartley et al., 2016). In addition to the work published in this special issue, scholars have also recently published a supervision book (LeBlanc et al., 2020), tools for ABA supervisors (Garza et al., 2018), and work that describes strategies, such as Behavior Skills Training (BST), for teaching supervisory skills (Andzik & Kranak, 2020). To date, most of the work on supervision in ABA has been based on the experience and clinical expertise of the authors. It has provided over-arching recommendations about supervision practices to support supervisors in their work with supervisees (e. g., Garza et al., 2018; LeBlanc et al., 2020; Sellers et al., 2016a; Turner et al., 2016).

One paper in the special issue, widely cited by scholars in the field, was by Sellers and colleagues (2016a). It outlined five recommended supervision practices. These recommended practices included 1) establish an effective supervisor-supervisee relationship, 2) establish a structured approach with specific content and competencies, 3) evaluate the effects of your

supervision, 4) incorporate ethics and professional development into supervision, and 5) continue the professional relationship post-certification. These practices were based on published resources and were developed as part of a clinical standards initiative of a large human service agency. The authors also included specific actions that supervisors might take to follow these guidelines. Examples of these actions included using a supervision contract, identifying clear expectations, developing systems for measuring skill areas, assessing the effects of supervision activities, and actively promoting professional development opportunities. These practices are generally accepted in the field, based on the literature described above; however, there is a lack of evidence supporting the implementation of these recommended practices.

Online Supervision

While there has been an increase in the supervision literature, there has still been little attention provided to ABA supervision that takes place online. Behavior analysts have understood that there are benefits to distance education for many years; however, the requirements around supervision make it a unique issue (Shook & Eyer, 1995). Online supervision often consists of video conferencing meetings and allows supervisors and supervisees to meet without being in the same physical location (Turner et al., 2016). Although online supervision poses challenges such as technical difficulties, client confidentiality, and lack of supervisor presence, it is often the only way for some professionals to access supervision. Online supervision took place prior to the COVID-19 pandemic; however, it has increased in demand and frequency in the past year. It is also a way for individuals who live in more rural areas, without resident BCBAs, to receive supervision from a qualified supervisor. Online supervision is not simply a change in settings and requires a consideration of strategies specific to conducting high quality supervision in the online environment (Ninci et al., 2021).

One similar area in which there has been more attention in the literature is telehealth. While telehealth is different from supervision, the research on telehealth can provide valuable information for considering supervision that takes place online. Telehealth has been used to engage both with clients and with families to provide intervention, education, and remote services (Pollard et al., 2021). As telehealth becomes more prominent, the online medium is also being used to provide coaching and training to caregivers and professionals (e.g., Gerow et al., 2021; Sivaraman et al., 2021). Telehealth is a helpful way of providing training to professionals via distance technology and can be as effective as live teaching (Vismara et al., 2009). Other benefits to using telehealth training include that it is cost-effective, has demonstrated high social validity for trainees and is efficient (Tomlinson et al., 2018). The positive support for using telehealth to train and coach caregivers and professionals is promising and may have implications for applying recommended supervision practices in online supervision of ABA trainees. It will be important to look at the advances made in providing telehealth and use those advances to begin to identify strategies for how to best supervise individuals in a remote setting.

Statement of the Problem

There are numerous requirements around supervision, such as the frequency, amount, and required documentation (BACB, 2021). These requirements are likely interpreted differently by supervisors, given the flexibility in the implementation of supervision. Survey data suggests that supervisors are not consistently implementing recommended practices and that barriers to implementation need to be addressed (Hajiaghamohsen et al., 2020; Sellers et al., 2019). This is problematic, given the critical role of supervision in preparing future behavior analysts and the increasing number of people seeking certification in behavior analysis each year. In their survey of ABA supervisors regarding their use of recommended supervision practices, Sellers et al.

(2019) identified lack of time and lack of systems for tracking mastery of content knowledge as some of the primary barriers facing supervisors. It is evident that supervisors struggle to incorporate recommended practices into their daily supervision practices. Recommended practices suggested in the literature are beneficial to supervisors in conceptualizing supervision; however, it is not currently known how to support supervisors in implementing them in practice. To provide support to supervisors in their meetings with trainees, empirical research which identifies potential supports for supervisors in overcoming these barriers and incorporating these recommended practices into supervision is needed.

In addition to a need for an empirical process to identify recommended supervision practices, research is needed to understand how to apply recommended practices during supervision meetings, both in person and online. Although supervision meetings often occur in person, it is becoming increasingly necessary and ordinary for meetings to happen online. There is no research to date looking at the application of recommended ABA supervision practices to online supervision. There are challenges associated with online supervision, including technical challenges and organizational concerns (LeBlanc & Nosik, 2019). However, due to the COVID-19 pandemic, limitations to in-person meetings, and location of services, it is not always possible to conduct supervision in person. Research is needed to learn more about incorporating recommended practices in online supervision.

Purpose of the Study

In response to the limited empirical work on supervision in ABA and the need for high-quality, effective supervision, this study will focus on increasing the use of recommended ABA supervision practices in online supervision meetings using a structured supervision tool.

Structured Supervision Tool

One way of providing structure to supervision meetings is to use a structured supervision tool, which contains components of a meeting agenda. Using an agenda is a crucial component to promote positive, effective, and efficient meetings (LeBlanc & Nosik, 2019). A meeting agenda helps organize topics to be discussed in a meeting, the planned order and time for each subject, and allows both parties the opportunity to contribute to the plan for the meeting (Cummings et al., 2015). In addition, an agenda often contains specifics about the meeting logistics (e.g., date, time, place), the topics to be discussed during the meeting, and in what order and is often sent out before the meeting to prepare meeting attendees (and sometimes provide opportunities for them to add to the agenda). The tool can serve both as an agenda, a guide, and as documentation of the supervision activity.

By creating a structured plan, ABA supervisors can incorporate recommended practices into their meetings by creating a space for each topic to be discussed and prompts for ensuring that each topic is covered thoroughly. For example, one recommended supervision practice is to incorporate ethics into supervision (Sellers et al., 2016a). By creating a space on the weekly agenda, both supervisor and supervisee may be more likely to be prepared to incorporate ethics into their meeting. Potential benefits to using an agenda include promoting engagement of meeting attendees, ensuring that all planned topics are covered, and staying on task. Utilizing a meeting agenda is often a recommended practice; however, there is limited empirical research to demonstrate its effectiveness. An agenda may also help mitigate some of the barriers reported by BCBAs related to using recommended supervision practices (Sellers et al., 2019). Finally, an agenda is an inexpensive tool that takes little time to develop, promotes efficient meetings, and helps attendees focus on pre-planned topics.

Study Focus

This study will use a structured supervision tool to promote the use of recommended supervision practices in online meetings. The recommended practices identified for this study include 15 practices that were defined by incorporating suggestions from the literature (e. g., Sellers et al., 2016a; Turner et al., 2016), in addition to my own experiences providing supervision in the field. This study will also look at the impact of implementing the structured supervision tool on satisfaction with meetings and supervisee "engagement" in meetings.

Significance

Gaps in the literature include an overall lack of empirical work regarding ABA supervision practices, in addition to a lack of support for supervisors implementing supervision in the online setting. This study seeks to examine the effects of providing structure to supervision meetings using an agenda tool. The tool incorporates recommended practices from the literature and BACB supervision requirements to help supervisors with implementation and make meetings as productive and effective as possible. It is also a tool that supervisees may use in the future when they become supervisors.

It is vital to support BCBAs in implementing recommended supervision practices to ensure that new behavior analysts are prepared to enter the field to serve as ethical practitioners and eventually supervisors and mentors. After supervisees are certified, they will soon potentially supervise both RBTs and, eventually, ABA trainees. Thus, both future trainees (Sellers et al., 2016a) and clients (Dixon et al., 2016) will be impacted by the supervisee's behavior analytic skills. By teaching a structured system of incorporating recommended practices into online supervision meetings, this study will attempt to identify a tool that could support supervisees in their future supervision efforts.

This study will also contribute to the literature by exploring one way of defining "recommended supervision practices" (based on the existing literature). One potential reason that there is minimal research may be the challenge of identifying and defining what effective supervision should look like. It could include measuring client outcomes, supervisee progress on competencies, and overall engagement and satisfaction with supervision. Related to defining what constitutes effective supervision, there is also not a consensus as to the best way to measure effective supervision. Questions about whose behavior (e.g., supervisor, supervisee, client) should be measured as well as defining the behavioral and observable correlates of effective supervision add to the complexity of this issue. There is also not a clear structure as to what behaviors supervisors should be engaging in; however, there are agreements as to crucial recommended practices in the field. This study seeks to add to the limited empirical work around supervision in ABA and fill the gaps in the research related to increasing the use of recommended supervision practices. ABA is centered around utilizing evidence-based practices, and ABA supervision should not be any different.

Research Questions

The research questions for this study are:

- What are the effects of using a structured supervision tool on the use of recommended practices during online supervision meetings?
- What are the effects of using a structured supervision tool on the engagement of the supervisee during online supervision meetings, as measured by supervisor ratings?
- What are the effects of using a structured supervision tool on supervisor and supervisee ratings of satisfaction with supervision?

- How do the supervisors and supervisees describe their supervision goals and experiences and in what ways were those experiences affected by using the structured supervision tool?

Chapter 2: Literature Review

Supervision in the field of Applied Behavior Analysis is a critical component of preparing future behavior analysts for the next steps of their career as a BCBA. Requirements, recommendations, and research regarding the supervision of individuals aspiring to become BCBAs has evolved in the last decade. Until recently, there have been few rules and guidelines regarding ABA supervision. Supervision in behavior analysis has been primarily up to individual supervisors to structure and implement. In 2012, the BACB created a *Supervision Task Force* to provide more structure to requirements regarding supervision practices (BACB, 2012). These requirements included the enforcement of new rules regarding supervisor pre-requisites, including an eight-hour training which outlines supervision curriculum for creating an effective supervisory relationship and a required online training module for supervisees to complete prior to accruing experience hours. The eight-hour training is based on the Supervisor Training Curriculum Outline (2.0) published in 2018 (BACB, 2018). In addition, BCBAs who wish to provide supervision must complete three hours of supervision continuing education units (CEUs) as part of their required CEUs for re-certification every two years.

The requirements put forth by the BACB regarding supervision specify the number of supervision hours that are required, supervisor qualifications, supervisory periods, and types of acceptable supervision activities. Although the BACB specifies how much supervision must be accrued by students, they do not specify the content of supervision. However, the BACB published a task list, which is revised every few years, that serves "as the foundation for the BCBA examination" (BACB, 2017). It is generally expected that supervision covers these topics to prepare trainees to take the BCBA exam. While the logistics around supervision are detailed and regulated, the way that supervision is conducted is primarily up to the supervisor and

supervisee to determine and plan. It is typically up to supervisors and trainees to ensure that they are covering the items on the task list and incorporating the BACB supervision requirements.

Recommended Practices in ABA Supervision

To support supervisors in meeting requirements and implementing high-quality supervision, scholars in the field have published articles and research around recommended supervision practices (e. g., Sellers et al., 2016a; Turner et al., 2016). The practices put forth by Sellers et al. (2016a) are generally agreed upon in the field and include 1) establish an effective supervisor-supervisee relationship, 2) establish a structured approach with specific content and competencies, 3) evaluate the effects of your supervision, 4) incorporate ethics and professional development into supervision, and 5) continue the professional relationship post-certification. BCBA supervisors have reported that they do not currently implement recommended practices consistently, as suggested by survey research (Hajiaghamohseni et al., 2020; Sellers et al., 2019). It is concerning that as more and more behavior analysts are certified, supervisors still report variability in the use of recommended practices. Several reasons for this may include lack of research to support the use of recommended practices, lack of resources to implement supervision, or challenges understanding the requirements. Research is needed to support the use of recommended practices and create a structure for supervisors conducting ABA supervision.

Establish Effective Supervisor-Supervisee Relationship

For supervision to be effective, the supervisor and supervisee need to establish a positive, professional relationship. Establishing an effective relationship involves using a supervision contract and ensuring that expectations for both supervisor and supervisee are clear, structuring meetings, modeling professional behavior, facilitating a positive culture, and developing and using effective feedback skills (Sellers et al., 2016a).

Clear Expectations. Establishing an effective supervisory relationship involves creating a clear agreement as to the roles of the supervisor and supervisee (Sellers et al., 2016a; Turner et al., 2016). An agreement may be established using a supervision contract. A contract between the supervisor and supervisee outlining the terms of the supervision is not only a recommended practice but is also required by the BACB (2021). The BACB outlined a list of required material that should be included in the contract, including the responsibilities of both parties, a description of activities, along with other information (BACB, 2021). In addition to the BACB requirements, there are also recommended practices in the literature regarding the use of contracts. The supervision contract is important to develop clear roles and expectations within the relationship and might specify assessments that will be used and what opportunities supervisees might be provided as part of the supervision experience (Garza et al., 2018). When designing the contract, supervisors, and supervisees might take the opportunity to discuss mutual expectations and responsibilities moving forward in supervision. It is important that both parties understand what they should prepare for the supervision activities throughout each month. Part of defining roles also includes outlining how much time will be spent on supervision and how performance will be evaluated (Turner et al., 2016). Using a contract and setting clear expectations are two areas in which behavior analysts have reported consistently utilizing recommended practices (Hajiaghamohseni et al., 2020; Sellers et al., 2019).

Meeting Has Plan and Structure. Individual or group meetings with supervisors are the primary way that supervisees meet the supervision requirements throughout their fieldwork experience (LeBlanc & Nosik, 2019). Supervisees are required to engage with their supervisor a specific number of times each month (BACB, 2021). Outside of requirements regarding the number, length, or documentation of contact points, the BACB does not regulate the content of

supervisor-supervisee meetings. High-quality supervision is critical to preparing supervisees to be behavior analysts; therefore, high-quality supervision meetings are also necessary. Meetings should occur regularly and should be structured to include the use of a meeting agenda (LeBlanc & Nosik, 2019; Sellers et al., 2016a). While it is a recommended practice to structure meetings, it is unknown to what degree or in what fashion supervisors are implementing this practice. Previous research has reported wide variability in the recommended supervision practices being implemented by supervisors (Hajiaghamohseni et al., 2020), and supervisors may or may not be structuring meetings with supervisees.

Professional Behavior is Modeled. Supervisees will likely go on to be supervisors in the future, so it is essential for a supervisor to model effective supervision practices. Professional behavior a supervisor might model includes running structured supervision meetings, being on time to meetings, avoiding distractions, and being prepared with materials or feedback for the supervisee (Sellers et al., 2016a).

Facilitates Positive Relationship. To promote an effective supervisor-supervisee relationship, the supervisor needs to facilitate positive interactions. By fostering a positive relationship, the supervisor creates an environment in which a supervisee is more likely to be comfortable asking questions, raising concerns, discussing areas of needs and receiving and providing feedback. This meeting culture may be developed by dedicating time in supervision meetings to check in with supervisees. In a study by Curry et al. (2019), even spending a relatively small amount of time (5 to 19 minutes) engaging in rapport-building behaviors had a positive effect on performance and discretionary effort of participants. Building rapport consisted of responding to participants with a positive statement or statement of agreement and nonverbal cues such as smiling, making eye contact, and leaning toward the participant during

conversations. Additional supervisory behaviors that might support establishing a relationship between the supervisor and supervisee include supervisors establishing themselves as a reinforcer, using more positive than negative statements, and focusing directly on the supervisee during supervision meetings (Turner et al., 2016).

Develop and Use Effective Feedback Skills.

Providing feedback is a vital component of supervision (e.g., Ladany et al., 2013; Tugendrajch et al., 2021). In ABA supervision, the supervisor must consider how they provide feedback and facilitate a supervisee's learning about applying the feedback. In addition, they must also consider how to model effective feedback skills and encourage a supervisee to practice providing feedback, as the supervisee will likely go on to be a supervisor in the future. Developing and using effective feedback skills involves establishing a plan for supervision content so that it is clear which competencies a supervisor will be providing feedback on and evaluating the effects of supervision practices so that a supervisor has a way to assess the effectiveness of their practice and feedback (Sellers et al., 2016a).

Establish a Plan for Structured Supervision Content and Competence Evaluation

There are multiple ways in which a supervisor might structure and plan for how they will provide feedback. Overall, it is recommended in the literature that supervisors use a pre-specified set of competencies (Sellers et al., 2016a; Turner et al., 2016). To assess these competencies, supervisors may conduct behavioral observations, informal assessments, permanent product review, discussion with other supervisors, and review of the BACB Task List as strategies to evaluate which skills a supervisee has. Sellers et al. (2016a) recommends using the task list to identify competencies and that supervisees have a primary supervisor conducting the evaluation of skills. While some of the skills on the task list are knowledge-based, others are performance-

based, and this primary supervisor should ensure that supervisees are demonstrating and practicing both types of skills. Garza et al. (2018) recommend following a sequence of assessments, including self-assessment, oral and written quizzes, and a review of permanent products and observations.

Competency-Based Supervision. The BACB does not require a specific way to track supervisee skills throughout supervision; however, there is a Task List provided by the BACB to inform supervisees of critical content that they should be fluent with (BACB, 2017). The items on the Task List are examples of the competencies supervisors might use as the basis of evaluation during supervision (Sellers et al., 2016a; Turner et al., 2016; Garza et al., 2018). Supervisees can use the task list as a list of skills that they should acquire and receive feedback on from supervisors throughout supervision. To develop a structured approach, the supervisor and supervisee may determine a mastery criterion for the supervisee to aim for when demonstrating the skills on the list of competencies.

Performance Feedback. Observing the supervisee with the client in the natural environment is a requirement of the BACB; however, there are no specific guidelines regarding the content of those observations in the BCBA Handbook (BACB, 2021). Many of the targeted skills taught and evaluated throughout supervision of ABA candidates are performance-based, meaning that they involve engaging in specific behaviors at a previously identified level of competency. For supervisors to provide feedback on these skills, the competencies should be operationally defined with a clear goal for criterion (Sellers et al., 2016a). Garza and colleagues (2018) recommend that a skills assessment should be completed prior to beginning supervision to identify which skills a supervisee already possesses. It is also recommended to use these assessments to develop goals for supervision (Garza et al., 2018).

During supervision, a supervisor may observe the supervisee engaging in target behaviors via video observation or role play. They may also conduct an in-person observation with the supervisee and client prior to the supervision meeting and then de-brief at the meeting. Following the observation, the supervisor then provides feedback to the supervisee regarding their performance of the targeted competencies. By structuring supervision so that the competencies are clearly defined, the supervisor may provide specific feedback on skills based on the supervisee's performance.

Evaluate the Effects of the Supervision

The Professional and Ethical Compliance Code for BCBAs (BACB, 2014) states that behavior analysts are required to evaluate the effectiveness of supervision. One recommended way that supervisors might assess the status of the supervisory relationship is by making time at each supervision meeting to check in with the supervisee about the supervisory relationship and their performance as a supervisor (Sellers et al., 2016a; Turner et al., 2016). It may be helpful to discuss this structure in advance and communicate the importance of providing this feedback to the supervisee. Supervisors need to be aware of when seeking feedback from a supervisee is the power they hold in their position. It is important to consider the level of comfortability the supervisee has with providing feedback to supervisors (Andzik & Kranak, 2020). Providing surveys or opportunities for anonymous feedback may be helpful.

To seek feedback about their own behavior, the supervisor may ask questions such as, “Do you feel comfortable with the amount and type of feedback being provided?” or “Are there any additional supports I could provide?” (Sellers et al., 2016b, p. 311). This check-in may eventually serve as a “discriminative stimulus for the supervisee to discuss developing issues or concerns in a proactive manner” (Sellers et al., 2016b, p. 311). Sellers et al. (2016b) described

behaviors that may be observed to detect problems in the supervisory relationship, including patterns of canceling meetings, preferring phone meetings, emotional responses to feedback or assignments, or a decrease in participation during meetings. The supervisor may approach these concerns by operationally defining the behavior(s) and monitor those behaviors through data collection, as they might in practice. A supervisor might also examine their own behaviors, such as how often they smile, reprimand, acknowledge the opportunity to teach someone things that they do not know. Professionalism behaviors that a supervisor might examine include arriving on time to meetings, reinforcement, correction, providing opportunities for practice and observation, failing to follow through on obligations, blaming the supervisee, assigning the supervisee responsibilities for which they are not qualified, taking credit for the supervisee's work, and their own feedback style (Sellers et al., 2016b). Supervisee feedback is one way of measuring the effects of supervision. More objective measures might consist of comparing pre-and post-assessments of supervisees' self-assessments and completed work (Garza et al., 2018).

Strategies that supervisors may seek to improve, based on feedback from their supervisee, include explaining behavior concepts more thoroughly (e.g., breaking information or concepts into smaller components), reducing the rate of assignments to complete, or adjusting interpersonal interaction style (Sellers et al., 2016b). Supervisors may also engage in self-assessment to evaluate the effectiveness of their practice (Turner et al., 2016; Garza et al., 2018).

Incorporate Ethics and Professional Development into Supervision

Ethics. Ethical dilemmas can be extremely challenging to navigate, especially for new practitioners in the field (Sellers et al., 2016a). It is essential that supervision incorporates conversations around the Professional and Ethical Compliance Code and how to navigate challenging ethical situations (BACB, 2014). Supervisors may choose to do this by presenting

case studies, discussing actual ethical dilemmas that arise, or by utilizing workbooks developed for this purpose (e.g., Bailey & Burch, 2019; Beirne & Sadavoy, 2019; Brodhead et al., 2018). When working through case studies or scenarios, supervisors may choose to utilize tools for ethical decision-making, such as the ethical decision-making process proposed by Rosenberg and Schwartz (2019). This process includes six steps: 1) identifying why a situation triggered an individual's ethical radar, 2) brainstorm solutions, 3) evaluate solutions, 4) identifying whether a solution is acceptable, 5) implement the solution with fidelity and document the steps taken, 6) reflect upon the results. Utilizing a tool like this is one way of structuring conversations around ethical dilemmas in supervision. Another critical concept to raise in supervision is ethical principles. Ethical principles are "broad statements that help individuals transform conceptual and philosophical beliefs into ethical behavior" (Kelly et al., 2020, p. 2). Discussing ethical principles with supervisees can help them better understand the values and beliefs in the field, as well as their values and beliefs and how they come into play when making ethical decisions.

Professional Development. Professional development and ongoing education are also requirements for BCBAs; therefore, professionalism and professional growth should be topics covered in supervision of ABA candidates. This topic could be covered by encouraging supervisees to read behavior analytic journals, listen to behavioral podcasts, modeling professional development by sharing new peer-reviewed literature with supervisees, and encouraging conference attendance (Sellers et al., 2016a). Supervisors might also help supervisees set specific goals for professional growth. These goals might be based on self-assessment by the supervisee, supervisor observations, the supervisee's overall progress in completing their competencies, and the needs of the organization in which supervision is taking place (Garza et al., 2018).

When creating goals for supervisees, it is important for supervisors to also consider how to assess and teach interpersonal or "soft skills" (Andzik & Kranak, 2020). Teaching social and interpersonal skills is also a requirement in the BACB Supervision Training Curriculum Outline 2.0 (BACB, 2018). Examples of these skills include time management, organization, prioritization, social skills, and interpersonal skills (Andzik & Kranak, 2020). Additionally, behavior analysts have the responsibility to teach and learn cultural humility (Wright, 2019). One of the primary challenges with including these skills into supervision is how to operationally define and assess them. There is very little research in this area due to this challenge. As a result of the gap in research, supervisors are likely incorporating this in very different ways, or possibly not at all. Andzik and Kranak (2020) proposed the idea of using Behavior Skills Training (BST) to teach professionalism. BST involves providing instruction and rationale to the trainee, modeling the new skill, providing an opportunity for the trainee to practice the skill, feedback, and repetition until mastery is achieved by the trainee (Parsons et al., 2012). BST is one way for supervisors to utilize evidence-based practices in supervision when teaching new ABA skills to supervisees (Garza et al., 2018).

Continue the Professional Relationship Post-Certification

When a supervisee meets their supervision requirements, the professional relationship between supervisee and supervisor is likely to change; however, it is recommended in the literature that the relationship does not end (Bordin, 1983; Sellers et al., 2016a). When considering how to continue a supervisory relationship post-certification, it is important to discuss how the relationship will look different prior to the end of supervision. Some potential changes to the context of the relationship post-supervision may include the financial situation and time allotted to the relationship. Supervisees typically pay for supervision or complete

supervision through their workplace. Examples of different financial situations may include paying a supervisor privately to lead the supervision experience, paying for supervision through a university practicum, or being assigned a supervisor who may be allotted time to dedicate to supervision as part of their clinical work at an agency. Because supervisors are no longer being paid to meet with supervisees after supervision hours are completed, the time that either party has available is likely to change after the supervisee has completed their experience. Continuing the relationship post-certification may involve meeting to discuss the supervisee's continued professional growth, writing letters of recommendation, or collaborating on projects (Sellers et al., 2016a). By engaging in a conversation around expectations for continuing the relationship, the dyad can prepare for a successful transition.

Barriers to Implementing Recommended Practices

There are not many empirical studies looking at the use of recommended supervision practices in ABA. Sellers and colleagues responded to this need for research and conducted a survey to gather information about current supervisory practices and barriers to utilizing recommended supervision practices. BCBAs reported they did not consistently utilize all recommended practices, including setting clear expectations for receiving feedback, conducting ongoing evaluation of the supervisory relationship, using competency-based evaluations, and tracking outcomes, directly assessing, and teaching professionalism skills, and obtaining feedback on supervisory practices. Barriers included lack of time, cost-prohibitive materials, lack of access to examples, and being unaware of certain requirements, such as the need to have a supervision contract and to assess the effects of their supervision practices. Based on this study, it is evident that behavior analysts would benefit from empirical research regarding supervision practices and how to conduct effective supervision.

Supervision Meetings: Incorporating Recommended Practices

To incorporate the recommended practices previously described, supervisors and supervisees must engage in discussions and focused time together. These discussions typically take place in the form of regularly scheduled individual meetings between the supervisor and supervisee (LeBlanc & Nosik, 2019). Meetings can serve as an opportunity for the supervisor and supervisee to build their supervisor-supervisee relationship, work together to discuss competencies, and engage in discussions around professional growth and ethics (Sellers et al., 2016a). These meetings are critical to meeting the requirements of supervision and ensuring that the supervisee is prepared to move forward in the profession as a competent behavior analyst. While meetings are a significant component of both supervision and clinical practice of behavior analysts, most BCBAs have limited training and education around planning and leading effective meetings.

Adding Structure to Supervision Meetings

A key component to holding an efficient and effective meeting involves using a meeting agenda (Leach et al., 2009). The agenda serves as both a planning and implementation tool that helps each participant plan for and contribute during the meeting (LeBlanc & Nosik, 2019). It usually includes logistical information (e.g., time and place of the meeting), topics to be discussed in a previously specified order, and the amount of time that will be spent on each topic (LeBlanc & Nosik, 2019). The agenda is most effective when it is written and shared in advance and when all agenda items have been completed by the end of the meeting (Leach et al., 2009). Preparing for the meeting with an agenda and ensuring that all items on the agenda have been completed may also lead to increased involvement of meeting attendees and perception of a successful meeting (Leach et al., 2009).

There are several ways that an agenda may be used within the supervision meeting. Toward the beginning of the supervisory relationship, the supervisor may create the agenda and share it with the supervisee prior to the meeting. As the supervisee begins to establish a professional repertoire as a supervisor, they may start to take over planning for and leading different components of the agenda and meeting. An agenda can be used both as an antecedent strategy for an effective meeting and as a tool for supervisees to gain skills as a future supervisor (LeBlanc & Nosik, 2019). It also serves as a model for supervisees to use in their future practice and assists with teaching professionalism skills, such as time management (Cummings et al., 2015).

Performance-Based Feedback for Supervision Practices

To teach supervisors to use new tools and change their approach to supervision, training, and coaching may be helpful. One purpose of coaching is to support the implementation of evidence-based practices by practitioners (Snyder et al., 2015). While coaching is not a common practice in ABA, it is frequently implemented in early learning settings. Coaching can include a wide variety of components, including building relationships between the coach and teacher, using an action plan, manual, modeling, role-play, practice, self-reflection, progress monitoring, and performance feedback (Artman-Meeker et al., 2015).

In a literature review by Artman-Meeker and colleagues (2015), the most frequently used coaching strategy was performance feedback. Performance feedback involves using data from an observation to provide information to a practitioner regarding their use of a specific teaching practice (Rodgers et al., 2019; Sweigart et al., 2016). The feedback provided may be based on a pre-set criteria or checklist related to fidelity of implementation. The trainer or coach may also describe what went well or what steps of the intervention were implemented correctly, and what

could be improved upon or the steps that were not implemented correctly (Fallon et al., 2015). Performance feedback is determined to be an evidence-based practice per the What Works Clearinghouse guidelines, based on a research synthesis by Fallon et al. (2015). Performance feedback will be used in this study as a training method for participants who need increased training opportunities.

Online Supervision

This study will take place online, as online supervision has become an increasingly common format for ABA supervision. Supervision in ABA is delivered in various forms, including individually, in a group, in person, and online. Although online supervision took place prior to the COVID-19 pandemic, which began in early 2020, there became an increased need for online supervision during this time. Many practitioners have continued to hold supervision online due to the increase in access and convenience. Online supervision remains a primary way for supervisees to fulfill the supervision requirements needed to become a BCBA. Online supervision may involve meetings between a supervisor and supervisee that take place via video conferencing, video observations, and exchange of written communication via online platforms. There is a need for research in this area as the online format for supervision is utilized more and more.

Online supervision can be safer and more convenient because it reduces the time it takes to commute to a mutual location and limits face-to-face interactions (a primary concern during the pandemic). It also offers opportunities for supervisees who may not otherwise access qualified supervisors (for example, those living in rural communities) and provides opportunities to utilize different technologies that may aid in supervision. In a study by Vismara and colleagues (2009), the effectiveness of distance learning technology and live training were

assessed in relation to therapist performance using the Early Start Denver Model. Results showed that there were no differences in therapist performance, their rate of progress after each learning activity, their final skill level with clients, or their satisfaction with the training. Distance learning was equally as effective for therapists as live training. While this study was not specific to ABA supervision, it suggested positive effects of online learning.

While there are many benefits to online or tele-supervision, there are also challenges to consider (Ninci et al., 2021). There is no research to date looking at online ABA supervision; however, the field of Psychology has published work in this area. Challenges to supervision in an online format include confidentiality, technology costs and accompanying issues, user acceptability, and quality (Wood et al., 2005). It is vital for the field of ABA to investigate these areas and conduct empirical studies looking at supervision practices used throughout online supervision to ensure that it is high quality and effective. Additionally, it will be important to identify strategies that are effective for individual learners, as every learner is different and not all strategies will be effective for all supervisees.

Supervision Research in Other Helping Professions

While there is limited supervision research in ABA, there is a larger body of research on supervision practices in other helping professions, such as Psychology and Counseling. A review of clinical psychology supervision found that a variety of strategies for supervision were utilized, including face-to-face supervision, coaching and feedback, and role play (Kühne et al., 2019). Measures of supervision strategies included those related to the therapeutic relationship, the supervisory relationship, patient symptoms, acceptance/satisfaction, adherence/treatment integrity, therapeutic competence, and negative effects. As empirical research on supervision in

ABA emerges, it is helpful to identify ways that other fields have examined the outcomes of supervision and the study designs.

Many recommended supervision practices used in ABA are consistent with supervision practices used in other fields. In the mental health field, common supervision practices consistent with ABA recommended supervision practices include providing feedback to supervisees (Ladany et al., 2013), formal evaluation of supervisees (Ladany et al., 2013; Watkins & Scaturo, 2013), taking a competency-based approach to supervision (Falender & Shafranske, 2007), using a contract and clear expectations, and setting the context for a collaborative supervisory relationship (Tugendrajch et al., 2021). Other studies in the field of psychology found that taking a structured, systematic approach to supervision may promote the generalization of learning from supervision (Milne et al., 2003). Another area to consider is the scaffolding of a supervisee's experience. Supervisees may need different levels of support during the trajectory of their supervision (Johnston & Milne, 2012). At the beginning of supervision, they may benefit from more support and practical information. In the later stages, they may engage in more discussion around how to implement strategies they have learned.

The supervisory alliance, or supervision conditions, is a commonly studied area of supervision in psychology (Johnston & Milne, 2012; Watkins & Scaturo, 2013). The supervisory working alliance emphasizes mastery of skills, understanding of clients, increasing awareness of process issues, increasing awareness of self and impact on the process, overcoming barriers toward learning, understanding concepts and theory, research, and maintenance of service (Bordin, 1983). Different components of the supervisory alliance include perceptions of the relationship, empathy, positive regard, and how the relationship may be repaired if needed. A strong supervisory alliance may help supervisees be open and honest and participate in the

supervision process (Johnston & Milne, 2012). The supervisory alliance may be developed by empowering the supervisee and encouraging them that sharing their perspective is valued and by generating mutually agreed upon goals and tasks for supervision (Ladany et al., 2013). Building a strong relationship within supervision has been demonstrated to have many positive effects in psychology research (Wong et al., 2013). It is an area in ABA supervision research that should be investigated.

Measuring engagement during supervision meetings may also be an appropriate way of measuring the effectiveness of supervision. Engagement is a multidimensional construct, that can be challenging to measure because of its complex nature (Handelsman et al., 2005; Skinner et al., 1990). Only some aspects of engagement can be observed. Emotional engagement, for example, cannot be observed but is also an indicator of overall engagement. Engagement has been studied across many settings, such as in college student courses (Handelsman et al., 2005), in classrooms (Skinner et al., 1990), and in social group work (Macgowan, 1997). In a study by Powell and Diamond (2013), engagement of teachers participating in a coaching-based professional development program was measured by coaches. Coaches completed a six-point rating scale following each coaching session regarding the teacher's level of involvement in the session. When considering engagement of supervisees in an ABA program, this measure may be helpful.

The supervisory relationship and alliance are constructs studied in other helping professions; however, scholars in other fields also report the need for additional supervision research (Barrett et al., 2019; Tugendrajch et al., 2021; Watkins & Scaturo, 2013). Supervision may be a challenging area of research due to the challenges around defining what constitutes effective supervision. It may also be challenging due to the barriers to implementation of recommended practices (Sellers et al., 2019). If recommended practices are not consistently

implemented, it may be challenging to study the effects of those practices. Increased empirical research on supervision in ABA is needed to expand on the work on supervision in other helping professions.

Chapter 3: Method

Participants

Four ABA supervisors and their supervisees (who were completing their supervised fieldwork to prepare to sit for the BCBA exam) participated in this study. Participants were recruited by sending out a flyer about the study to members of the Washington Association of Behavior Analysis (WABA) listserv, the Teaching Behavior Analysis (TBA) listserv, and to behavioral health agencies with supervision programs. Supervisor participants received up to $100.00 in gift cards and supervisees received up to $20.00 in gift cards (see Appendix A for gift card schedule).

Inclusion criteria for the study included: Supervisors expressed an interest in professional development around ABA supervision, the supervisor was a BCBA in good standing and met the BACB requirements for supervision (including the 8-hour supervisor training and a supervision contract with their supervisee) and had regularly scheduled online supervision meetings with their supervisee. Supervisors also had to be able and willing to record supervision meetings via an online platform and sign informed consent forms. In addition, each supervisor recruited one supervisee to participate in the study. Exclusion criteria included supervisors and/or supervisees who have gone through the UW ABA program within the past three years or are currently enrolled in the program. This was assessed via a pre-screening survey.

Interested participants were directed to an online pre-screening survey in which they were asked about their interest in professional development, frequency of supervision meetings, and willingness to record their meetings. Supervisors' credentials were confirmed on the BACB registry (https://www.bacb.com/services/o.php?page=100155). Supervisors who qualified for participation were then asked to recruit a supervisee who was accruing fieldwork experience to

sit for the BCBA exam. If a supervisee was interested in learning more about the study, the supervisor gained permission from the supervisee to share their contact information with the researcher. After sending the consent form to review, the researcher met with interested supervisees individually to explain the study, the consent form, and to provide the opportunity to ask questions. If supervisees wanted to participate in the study, they were provided a digital consent form to sign. If the supervisee decided that they were not interested in participating in the study, the supervisor was thanked for their interest in the study and told that they would be given a copy of the structured supervision tool at the conclusion of the study.

Participants were assigned pseudonyms, which are used throughout this paper. The supervisor-trainee dyads included Isabella and Emma, Laila and Phoebe, Ellie and Maya, and Olivia and Harper (see Tables 1 and 2 for details about the participants). Each dyad conducted supervision meetings online each week via Zoom.

Isabella was certified as a doctoral level BCBA-D. She worked both in a higher education setting and with clients in the home, school, and community, and was in the north central United States. She had 11-15 years of ABA experience and had been certified for 7-10 years. At the time of the study, she was supervising two individuals accruing their supervised fieldwork hours. Supervision activities included observations with clients, as well as individual and group meetings. She held supervision meetings online with her supervisee, Emma, and they met weekly. At the time of the study, Emma was in graduate school and was also in the north central United States. She had been providing ABA services for 0-3 years and had been accruing supervised fieldwork hours for 0-3 months. She worked in client homes, schools, and community settings. Emma had two supervisors but, at the time of the study, Isabella was her primary supervisor.

Laila held a doctoral degree and was certified as a BCBA. She worked in client homes, schools, and community settings, and was in the south central region of the United States. She had 11-15 years of experience providing ABA services and had been certified for 7-10 years. At the time of the study, she was supervising two individuals, one of whom was accruing their supervised fieldwork hours. Supervision activities included observations with clients, as well as individual and group meetings. She held supervision meetings online with her supervisee, Phoebe. Phoebe held a master's degree and was in Canada. She had been providing ABA services for 0-3 years and had been accruing supervised fieldwork hours for 0-3 months. At the time of the study, she worked in an agency/clinic setting and Laila was her only supervisor.

Ellie held a master's degree and was certified as both a BCBA and CCC-SLP. She worked in a school setting and was in the western region of the United States. She had over 20 years of experience providing ABA services and had been certified as a BCBA for 11-15 years. At the time of the study, she was supervising one individual accruing their supervised fieldwork hours. Supervision activities included observations with clients, individual meetings, and video review. She held weekly online meetings with her supervisee, Maya. At the time of the study, Maya was in graduate school and was also in the western region of the United States. She had 7-10 years of experience providing ABA services and had been accruing supervised fieldwork hours for 7-10 months. She worked in agency/clinic and school settings and Ellie was her only supervisor.

Olivia held a master's degree and was certified as a BCBA. She worked in an agency/clinic setting and worked in client homes, schools, and the community and was in the western region of the United States. She had 11-15 years of experience providing ABA services and had been certified as a BCBA for 7-10 years. At the time of the study, she was supervising

two individuals accruing their supervised fieldwork hours. Supervision activities included observations with clients, and group and individual meetings. She held weekly online meetings with her supervisee, Harper. At the time of the study, Harper was in graduate school, held a CBT certification, and was also in the western region of the United States. She had 0-3 years of experience providing ABA services and had been accruing supervised fieldwork hours for 4-6 months. She worked in client homes, schools, and community settings and Olivia was her only supervisor.

Table 1

Supervisor Participants

	Isabella	Laila	Ellie	Olivia
Gender	Female	Female	Female	Female
Race/Ethnicity (multiple possible responses)	Hispanic, Latino, or Spanish Origin; Salvadorean	Black or African American; Middle Eastern or North African; White	White	White
Age	31-35 years	36-40 years	51-55 years	31-35 years
Education	Doctoral	Doctoral	Masters	Masters
Certification	BCBA-D	BCBA	CCC-SLP/BCBA	BCBA
Years providing ABA services	11-15 years	11-15 years	Over 20 years	11-15 years
Years providing services as a BCBA/BCBA-D	7-10 years	7-10 years	11-15 years	7-10 years
Setting	Higher education, client	Client homes/schools/ community	School	Agency/Clinic, Client homes/schools/ community

	homes/schools/ community			

Table 2

Trainee Participants

	Emma	Phoebe	Maya	Harper
Gender	Female	Female	Female	Female
Race/Ethnicity	White	White	South Asian	White
Age	21-25 years	26-30 years	31-35 years	21-25 years
Education	Some graduate school	Masters	Some graduate school	Some graduate school
Years providing ABA services	0-3 years	0-3 years	7-10 years	0-3 years
Time accruing supervised fieldwork hours	0-3 months	0-3 months	7-10 months	4-6 months
Setting	Client homes/schools/ community	Agency/Clinic	Agency/Clinic; School	Client homes/schools/ community

Setting

Participants in the study met with their supervisees via Zoom and all sessions were recorded using the "record" function on Zoom. Three supervisors shared the recordings with the research team via a secure shared server and one supervisor shared the recording via a Zoom cloud recording link. Supervision meetings typically included a variety of content, including supervisee goals and progress, ABA concepts, readings from the literature, and supervisee questions. Meetings generally lasted between 45-90 minutes. All interactions with the researcher

related to the study regarding consent, training, and interviews were also held on Zoom and recorded.

Experimental Design

A concurrent multiple baseline across participant dyads was used to examine the effects of implementation of a structured supervision tool on the use of recommended supervision practices. In a multiple baseline design, the independent variable is introduced in a staggered fashion and changes in data are compared across phases to determine if a functional relationship is present between the independent and dependent variables (Horner et al., 2005). Baseline data was gathered for each participants' supervision meetings and then the independent variable was introduced for one supervisor participant, while ongoing data was collected. A minimum of three baseline data points were collected for one participant before moving into intervention. While the What Works Clearinghouse Standards (Kratochwill et al., 2010) recommend a minimum of five baseline data points, supervision meetings only occurred once per week. Therefore, the researcher decided to use a minimum of three to shorten the time that participants were in baseline, based on the stability of the baseline data.

Independent variables

Structured supervision tool. The structured supervision tool is a meeting template for supervisors to use during meetings with ABA trainees. This tool, along with a brief training, was the independent variable in the study. The structured supervision tool was created by combining recommended practices identified in a literature review, such as soliciting feedback from a supervisee and incorporating ethics and professionalism, with the researcher's clinical experience working with ABA students completing their fieldwork for certification (See Table 3).

The supervision tool contains eleven sections (see Appendix B):

- Pre-Meeting Checklist
- Check In
- Feedback for Supervisor
- Follow up from Last Meeting
- Performance Feedback for Observation-Based Task List Items/Competencies
- Discussion of Knowledge-Based Task List Items/Competencies
- Professional Growth
- Ethics
- Supervised Fieldwork Logistics
- To-do for Next Meeting
- Next Meeting Date/Time

The **Pre-Meeting Checklist** is a section in which trainees review a list of tasks to complete prior to the meeting. The purpose of this checklist is to clearly define the supervisee's role in the meeting, contributing to defining an effective supervisor-supervisee relationship, which is one of the recommended practices outlined by Sellers et al. (2016a). The next sections include a **Check in** between supervisor and supervisee and a scheduled time for the supervisor to solicit **Feedback** from the supervisee. These sections also contribute to defining and developing an effective supervisor-supervisee relationship by allowing time to get to know one another and for the supervisee to share how things are going or if there are places in which improvements could be made. The feedback section also provides one way for the supervisor to evaluate the effects of supervision. If a supervisee reports that things are going well or that they have ideas for areas of improvement, the supervisor can make changes to the next meeting agenda. The next section is a

place where the supervisor will copy over the to-do list from the previous meeting and check in about tasks that were or were not completed. This **To-do list** and **Follow up section** help define roles in the supervisory relationship and are possible ways to evaluate the effects of supervision. For example, if all tasks on the to-do list were completed, this may tell the supervisor that the supervision meeting was effective. The next section, **Performance Feedback for Observation-Based Task List Items/Competencies** is a place to de-brief an observation or supervisee performance (i.e., written work) surrounding a specific task list item/competency. This part of the meeting provides an opportunity for the supervisor to share performance feedback and establish a competency-based approach to supervision by focusing feedback on task list items/competencies. There is also a section for **Discussion of Knowledge-Based Task List Items/Competencies.** This section is for the supervisor to assess the trainee's understanding of knowledge-based task list items, such as the "A-5, describe and define the dimensions of ABA" or "B-1, define and provide examples of behavior, response, and response class." These task list items are knowledge-based and must be assessed during a meeting as opposed to performance-based, which are more likely to be assessed based on an observation. The next two areas of the tool are **Professional Growth** and **Ethics.** These sections remind the supervisor to incorporate ethics and professional development into supervision. Then, there is a section titled **Supervised Fieldwork Logistics,** which is a place for the dyad to record notes about topics related to the logistics side of supervision, such as tracking fieldwork hours or scheduling. At the end of the tool there is a place to record the **To-Do list for the next meeting and the Next Meeting Date and Time**.

Table 3.

Recommended Supervision Practices in Structured Supervision Tool

Recommended Supervision Practice[a]	Section on Structured Supervision Tool	Supporting Literature
Define and develop an effective supervisor-supervisee relationship	Pre-meeting checklist Check in Feedback for supervisor Follow-up from last session To-do list Supervised fieldwork logistics	Curry et al., 2019; Turner et al., 2016
Develop and use effective feedback skills	Performance feedback Knowledge-based task list items/competences Performance feedback	Garza et al., 2018; Sellers et al., 2016a; Turner et al., 2016
Evaluate the effects of supervision	Feedback for supervisor Performance feedback Knowledge-based task list items/competencies To-do list	Sellers et al., 2016a; Turner et al., 2016
Incorporate ethics and professional development into supervision	Ethics Professional growth	Garza et al., 2018; Sellers et al., 2016a

[a]Recommended supervision practices are from Sellers et al. (2016a) and comprise the different sections of the codebook used for coding the dependent variable

Dependent variables

The dependent variables in this study were percent implementation of recommended supervision practices during online supervision meetings, supervisor and supervisee ratings of satisfaction with supervision meetings, supervisor ratings of supervisee engagement during meetings, and social validity of the structured supervision tool (see Table 4). Social validity was assessed via a post-study questionnaire and interview at the conclusion of the study.

Table 4

Research Questions and Dependent Variables

Research Questions	DV 1	DV 2	DV 3

What are the effects of using a structured supervision tool on the use of recommended supervision practices during online supervision meetings?	Recommended supervision practices		
What are the effects of using a structured supervision tool on the engagement of the supervisee during online supervision meetings, as measured by supervisor ratings?		Supervisor rating of supervisee's engagement	
What are the effects of using a structured supervision tool on supervisor and supervisee ratings of satisfaction with supervision?			Social validity: satisfaction with supervision
How do the supervisors and supervisees describe their supervision goals and experiences and in what ways were those experiences affected by using the structured supervision tool?			Social validity: experiences using the tool

Use of recommended supervision practices. The primary dependent variable was the percentage of fifteen different recommended supervision practices used during online supervision meetings, which were identified through a review of the ABA supervision literature (i.e., Sellers et al., 2016a; Turner et al., 2016). These fifteen recommended practices were defined using observable, measurable terms and were coded using video recordings of the supervision meetings submitted by participants (see Appendix C for the coding sheet). The recommended practices were coded using a codebook and coding sheet developed for this study. The coder recorded whether the supervision practice was implemented during the supervision meeting recording using a rating of 0, 1, or 2. Partway through the study the decision was made

to combine the 1 and 2 ratings as an "occurrence" for scoring purposes. After coders completed coding, the researcher converted ratings into occurrence/non-occurrence and then calculated percentage of recommended practices implemented. The recommended practices are outlined in Table 5.

Table 5

Recommended Supervision Practices

Number in Codebook	Recommended Practice
Establish Effective Supervisor-Supervisee Relationship	
1	Meeting has plan and structure
2	Clear expectations for supervisor and supervisee
3	Facilitates positive culture: pleasant and caring
4	Professional behavior is modeled
5	Develop and use effective feedback skills
Establish a Plan for Structured Supervision Content and Competence Evaluation	
6	A system for addressing and measuring critical areas of knowledge and skills with objective and measurable target skills (i.e., BACB 5th edition task list or agency-created competency list) is used
7	Performance feedback is provided regarding supervisee performance on at least one specific competency
8	Supervisee's progress toward competencies is tracked
9	Discuss next steps for supervisee's progress toward meeting criteria on competencies or plan for supervisee if they fail to demonstrate competency
10	Supervisor provides training, modeling, resources (e.g., readings), and/or opportunities to practice during meeting
Evaluate the Effects of the Supervision	
11	Use system for assessing the effects of supervision activities (e.g., track competencies met, supervisee progress with writing, records notes on feedback provided by supervisee)
12	Solicit feedback from supervisees (e.g., survey, ongoing check in)
Incorporate Ethics and Professional Development	
13	Discuss specific ethics code and/or ethical dilemma

14	Discuss supervisee's professional development goals and progress
15	Provide opportunities for professional development (e.g., providing information about conferences or training events, opportunities to practice professional skills, shares research articles)

Note. The content of the codebook and headers for recommended supervision practices were adapted from Sellers et al. (2016a).

Social Validity. Social validity assessments were collected after every session to evaluate satisfaction with the intervention and rate engagement during the session (see Appendix D). Both the supervisor and the supervisee completed social validity assessments. Interviews were also conducted with all participants at the end of the study to gather more detailed feedback.

Social validity was assessed after each meeting recording via a brief survey sent to participants. Electronic links were emailed or texted to provide access to the survey. The survey asked participants to share their participant number (to track anonymous responses), the date of the supervision meeting, and how they would rate overall satisfaction with their supervision meeting on a scale of 1 (not at all satisfied) to 5 (completely satisfied). Supervisors were also asked to confirm that they had shared the meeting recording and to rate supervisee engagement during the supervision meeting on a scale of 1 (not at all engaged) to 5 (high level of engagement). This social validity rating method is like a six-point rating scale used in a coaching study by Powell and Diamond (2013) in which teacher engagement in coaching sessions was measured by coaches. The mean for satisfaction with meetings and supervisee engagement in meetings was calculated across baseline and intervention phases and compared. Supervisor participants were also asked to identify the date of the next supervision meeting and whether they would like to share anything else about the supervision meeting or questions about the study.

At the conclusion of the study, participants were sent a social validity questionnaire to complete regarding participation in the study and the usefulness of the structured supervision tool. The questionnaire contained four questions asking participants to rate, using a Likert scale from 1 (strongly disagree) to 5 (strongly agree), their experience using the structured supervision tool. Statements included phrases such as, "The structured supervision tool was helpful in my supervision meetings" and "the structured supervision tool made preparing for supervision meetings more difficult." These data were analyzed by combining the scores from supervisor and supervisee participants separately and displaying the total scores for each phrase on the questionnaire.

Social validity interviews were also conducted for each supervisor and supervisee upon completion of the study (See Appendix E). Using both quantitative and qualitative methods to measure social validity allow for the inclusion of participant voices and context in determining the effectiveness of the intervention (Leko, 2014). I conducted short interviews with each participant (supervisors and supervisees individually). These interviews took place on Zoom. The questions asked during the interview focused on goals and philosophy of ABA supervision, satisfaction with the use of the tool, and reflections on the outcomes of the tool.

Additional Dependent Measures

Participant fidelity of implementation of structured supervision tool. A fidelity checklist for implementation of the independent variable was used to score the fidelity of participant implementation of the structured supervision tool (see Appendix F). The fidelity checklist listed the steps to using the structured supervision tool and aimed to assess whether the tool was implemented as intended. When the supervisor received the structured supervision tool, they were given a brief overview as to the different components and how to use it. They were

only given the fidelity checklist if they received a training booster. Fidelity of implementation by the participants was scored by the researcher for the intervention phase across 100% of sessions.

Procedures and Data Collection

Demographics. After supervisors and supervisees provided consent to participate in the study, they were emailed a link to fill out demographics information into a survey form using Qualtrics. Examples of information requested included questions asking about gender, age, race/ethnicity, education, certification, experience in the field, and other questions regarding supervision experiences.

Baseline. During baseline, supervisors were asked to conduct meetings with their supervisees as they normally would. They did not receive any additional instructions, except regarding data collection and recording. Supervisors were asked to record their meetings and to rate satisfaction and supervisee engagement after each meeting. Sessions across all phases of the study were recorded by participants using the Zoom recording option. Supervisors were asked to submit recordings via a secure server within 24 hours of their supervision meeting. These recordings were coded using the dependent variable codebook developed for the study. The research team used the codebook to identify what percentage of recommended practices were being utilized within the supervision meeting.

It was determined who began intervention in which order by examining the baseline data of number of recommended supervision practices currently used. When a participant had a stable trend across at least three data points, they began intervention. The next participant received intervention once the intervention data for the first participant had increased above the baseline average and the next participant's baseline data was stable. In one case (Ellie), intervention was introduced sooner due to issues with scheduling.

Training. The researcher met with each supervisor participant individually via Zoom to introduce the structured supervision tool. The supervisees were not present at this meeting. Before the meeting, the researcher emailed a blank copy of the tool, an example of the tool filled out, and materials for the short introductory training to the supervisor participant. The introductory training lasted between 45-55 minutes. Training topics included: the purpose of the structured supervision tool, content of the tool, examples of each section, steps for implementation, and preparation of the tool for the supervisor's next meeting. There was also time for questions and discussion. The intervention phase of the study began on the next supervision meeting following the training. The purpose of this short training was simply to prepare participants to use the structured supervision tool and to assist them in getting started.

Isabella was the first supervisor participant to receive the training and begin implementation of the structured supervision tool. After the training Isabella provided feedback via the social validity survey that her current supervision meetings with Emma were structured differently and that additional time for planning might be helpful. Based on this feedback, the researcher offered to meet with Isabella to fill out the structured supervision tool together for her next meeting with Emma. Per Isabella's request another training meeting was not scheduled. Based on this feedback the training was modified for all future participants by including time to set up the first structured supervision tool together. This modified training was used for the remaining three participants.

Intervention. After supervisors received the training and structured supervision tool to use during meetings, they were asked to use it at the next meeting with their supervisee. This next meeting was the first data point in the intervention phase (Phase B). Intervention continued for at least five data points for each participant. Supervisors were asked to submit videos from

supervision meetings and a copy of the tool used during the meeting within 24 hours of the meeting, which the researcher evaluated for fidelity of implementation. As in baseline, participants continued to complete social validity and engagement surveys.

Training Booster. If participants did not increase their use of recommended supervision practices from their average baseline data within three sessions following intervention or decreased their use of recommended practices by 20% from the highest intervention data point, a booster to the training was scheduled. In this training booster session, performance feedback regarding implementation fidelity was provided to the supervisor. Performance-based feedback is a practice with an extensive research base and has been demonstrated to be an effective practice in training adults in a range of roles (Fallon et al., 2015).

When a supervisor participant began intervention, data was recorded on their implementation fidelity of the structured supervision tool using the fidelity checklist. The performance feedback provided during the re-training session was based on the implementation fidelity checklist data (Rodgers et al., 2019; Sweigart et al., 2016). If performance feedback was warranted, based on the use of recommended supervision practices, a training booster session was scheduled before the next supervision meeting via Zoom. Performance feedback meetings lasted between 20-25 minutes. During the training booster sessions, any questions that participants had so far were discussed, the implementation fidelity checklist was introduced, areas of strengths and areas for growth were discussed, and a graph of the supervisor's fidelity data so far was shared. Each item not implemented with fidelity was discussed and each item implemented with fidelity was identified as a strength. Strategies that could be implemented during the next meeting to increase fidelity were discussed and the supervisor was given a copy of the fidelity checklist.

Reliability. Inter-Observer Agreement (IOA) data was gathered at least once in each phase and for at least 20% of data points for each participant dyad. A second observer, an undergraduate student, coded reliability. Prior to training, they completed an online human subjects research course by Collaborative Institutional Training Initiative (CITI). They also had experience participating on research teams for other studies in Special Education. The coder was trained by reviewing the codebook, coding videos independently, meeting to discuss agreements and disagreements, and coding three videos independently with at least 80% agreement prior to coding study videos used for IOA.

Coders scored recommended practices on a scale of 0, 1, or 2, based on criteria outlined in the codebook. During the study, the decision was made to score a 0 as a "non-occurrence" and a 1 or 2 as an "occurrence." This decision was made for IOA purposes, due to low IOA when videos were scored using the 0-2 scale. Coders continued to code on a scale of 0-2 for consistency and then coding sheets were re-scored. For number of recommended supervision practices used, an agreement was defined as both data collectors individually scoring the "occurrence" of a recommended practice (a 1 or 2). To score IOA, the number of agreements were divided by the number of agreements and disagreements.

Procedural fidelity. Procedural fidelity was recorded for researcher implementation of the initial training and training booster (performance feedback sessions) by a research assistant (see Appendix G for procedural fidelity checklist). The primary researcher recorded training sessions using the "record" function on Zoom. Procedural fidelity was calculated by dividing the number of steps correct by the total number of steps.

Data Analysis

Data on the percent of recommended supervision practices implemented by participant dyads was graphed. Visual analysis of the data took place throughout the study to make decisions regarding when to start intervention and whether performance feedback would be implemented. Baseline data for the recommended practices dependent variable was collected for a minimum of three sessions per supervisor and until the data displayed a stable trend. The data for the percent of recommended supervision practices used by the supervisor was used to make decisions regarding when to implement the intervention. A stable trend was evidenced by little variability in trend and level. The satisfaction and engagement measures were considered secondary measures and were not used to make decisions regarding when to implement intervention.

The data for the primary dependent variable (percent of recommended supervision practices) was analyzed throughout the study. Once a new condition was introduced, the researcher examined how quickly the data changed, the direction of the trend, and the level of variability within the data. After each supervisor received intervention, data across tiers was also analyzed using visual analysis. Visual analysis involved examining the level, trend, and variability of data across each phase. Data between phases was also analyzed by looking at immediacy of effect, consistency of patterns and overlap between baseline and intervention phases (Lobo et al., 2018). Data were analyzed for consistency and whether a similar change occurred between conditions for each demonstration of effect (Ledford, 2018). Because a multiple baseline design was utilized, a functional relation was considered by analyzing the change in behavior across all tiers (Ledford, 2018). When intervention was introduced for one participant and baseline data for the other participants stayed stable (no change in level or trend), a functional relation was observed. If the intervention resulted in a change in behaviors, the data would only change in level and trend when the intervention was implemented within that tier.

Satisfaction and engagement data were analyzed by graphing ratings of satisfaction and engagement for each supervision meeting during baseline and intervention. These data were graphed throughout the study. Upon completion of the study, the data was analyzed for immediacy of effect and patterns among the data. The post-study social validity questionnaire was graphed using a bar graph. Supervisor and supervisee responses were combined into two graphs.

The post-study social validity interviews were analyzed using a three-phase qualitative analysis proposed by Miles and Huberman (1994). The three phase, or "concurrent flows of activity" consisted of data reduction, data display, and conclusion drawing/verification (Miles & Huberman, 1994, p. 10). When the interviews were complete, the researcher transcribed each interview by hand to get familiar with the data (Braun & Clarke, 2006). Then, the data reduction phase began in which both inductive and deductive coding were used. Inductive coding was used to gain an overall understanding of participants' experiences using the supervision tool. Deductive coding was used to identify how participants described their goals for supervision, the social appropriateness of the procedures, and their satisfaction with using the recommended practices. These categories were developed based on Wolf's (1978) framework of social validity. This framework was applied similarly by Leko (2014), in which the author used Wolf's framework along with qualitative coding methods to analyze data regarding schoolteacher's perceptions of the social validity of a reading intervention. Throughout the coding and data reduction process for this study, the researcher looked for themes and began to display the data using matrices. The matrices contained categories such as "goals" for supervision and "opinion of the tool." After data reduction and display, conclusions were developed and substantiated across participants.

Chapter 4: Results

The results of this study indicate that the structured supervision tool can be used to increase the use of recommended supervision practices within online supervision meetings. For most participants, the initial training did not result in a change in supervisory behavior, but the use of recommended practices increased following a training booster meeting and presentation of the fidelity checklist. Additional dependent variables included data from pre- and post-satisfaction surveys completed by both supervisors and supervisees, and data from pre- and post-engagement ratings completed by supervisors. Finally, social validity data from the post-study questionnaire and interviews suggest that both supervisors and supervisees believed the supervision tool improved their meetings.

Percent of Recommended Supervision Practices

Recordings of supervision meetings were coded to analyze the effects of the structured supervision tool. There were fifteen possible recommended practices that were scored as either occurring or not occurring during the meeting recording. Percentages were calculated by dividing the number of recommended supervision practices observed by fifteen possible recommended practices. Overall, participants increased their use of recommended supervision practices after intervention. These data are presented in Figure 1. For one supervision dyad, use of recommended supervision practices increased after the initial training. For two of the four supervision dyads, use of recommended practices increased after the training booster meeting. For another dyad, recommended practices were variable across intervention sessions.

For Isabella and Emma, baseline ranged from 53.3% to 66.7%, with a mean of 57.8%. After three sessions, Isabella informed the researcher that she may have to stop supervision earlier than planned, so given her rate of implementation, the decision was made to implement

training with her immediately. Following the training, use of recommended practices initially decreased in level to 46.7% and then displayed an increasing trend to 93.3%, before decreasing to 80% for the third post training observation. Isabella reported that she did not use the full intervention immediately after the training and there was an immediacy of effect of a decreased level. When she reported first using the intervention in the second intervention data point, there was an immediacy of effect of an increased level. There was one week during the intervention phase in which Isabella and Emma did not hold a meeting. Isabella received a training booster after the third intervention session due to a decreasing trend. The decreasing trend did not meet the 20% criterion previously set, but the decision was made to implement the training booster due to time constraints. Following the training booster, her use of recommended practices decreased to 73.3% and then immediately increased in level to 100% in the second post-training booster session. There was not an immediacy of effect following the training booster. The mean of percent of recommended supervision practices during the intervention phase was 78.7%. Overall, there was an increase in level between baseline and intervention for Isabella and Emma; however, intervention data demonstrated some inconsistencies. Within Isabella and Emma's baseline and intervention sessions, there was one overlapping data point immediately after intervention was implemented. Following this one overlapping session, all intervention data was consistently higher in level than baseline. Across participants, there was no change in baseline for the other participants when intervention was implemented for Isabella. Two sessions after the booster training session, Isabella and Emma returned to in-person supervision meetings requiring them to withdraw from this portion of the study.

For Laila and Phoebe, baseline data displayed a decreasing trend, starting at 53.3% and decreasing to as low as 33.3%, with a mean of 41.1%. Following six baseline sessions in which

there was a low, stable level, with consistency, Laila received the initial training. Laila and Phoebe did not meet the week following the training. Implementation of recommended practices remained at low, stable baseline levels (40%) for three sessions following the initial training. There was no immediacy of effect and there was overlap between intervention and baseline data. Laila then received a training booster and recommended practices immediately displayed a steady, increasing trend until they reached 80% implementation of recommended practices. There was an immediacy of effect following the training booster. Overall, there was an increase in level from baseline following the training booster. The mean of percent of recommended supervision practices during the intervention phase was 53.3%. When Laila received intervention, there was no change in trend or level for other participants. Laila and Phoebe missed two sessions between the fifth and sixth data points.

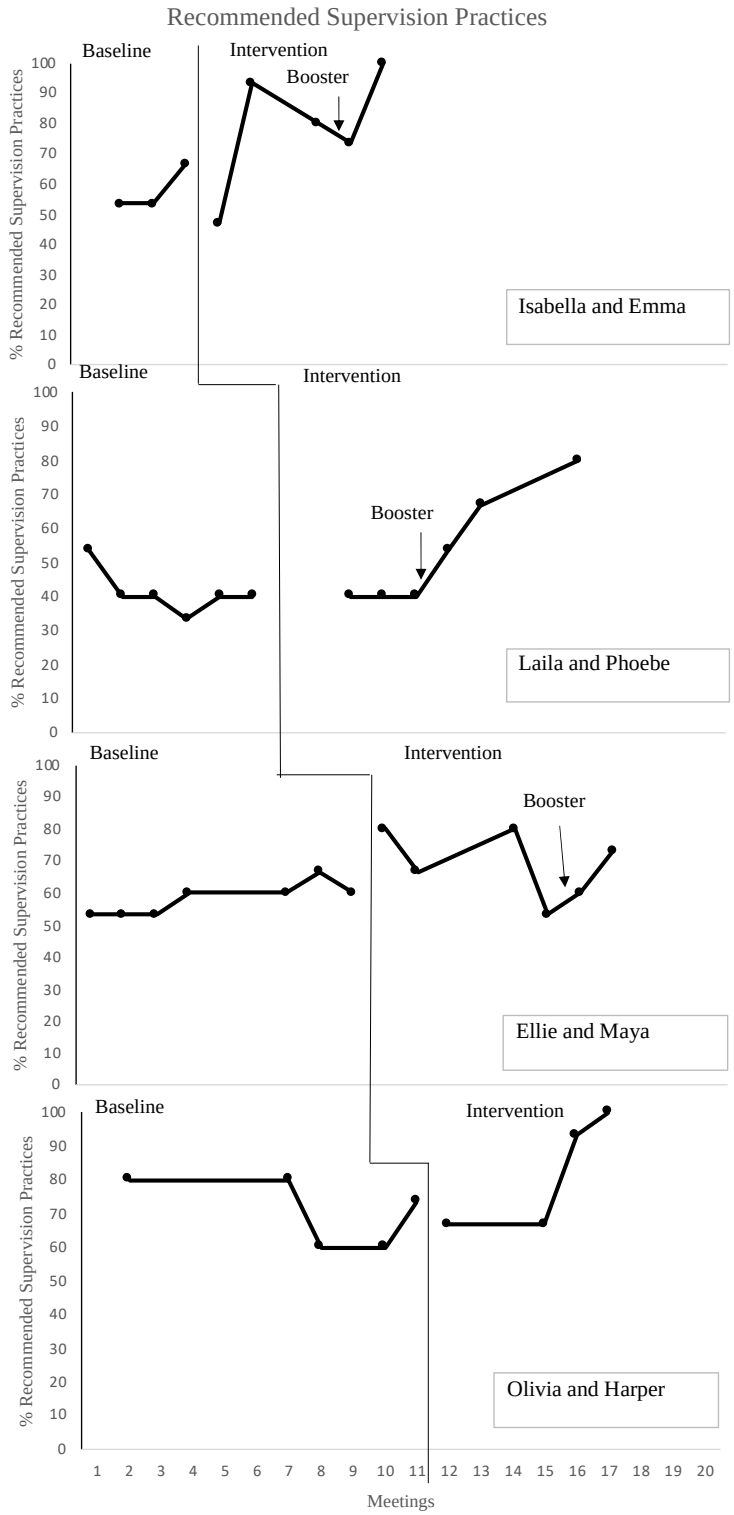
For Ellie and Maya, baseline data was consistently stable across seven sessions, with a mean of 58.1%. They missed two sessions during baseline. They received the initial training after the seventh baseline session and their use of recommended practices immediately increased in level from 60% to 80%; however, after three post-training sessions, their use of recommended practices was variable, with a slight decreasing trend to 53.3%. There was an immediacy of effect after intervention before data displayed a decreasing trend. They missed two sessions during the intervention phase. Following the decrease, they received the training booster and then increased implementation of recommended practices to 60% and 73.3% in the subsequent sessions. Overall, there was variability in level throughout their intervention phase and some inconsistency. There was overlap between baseline and intervention data. The mean of percent of recommended supervision practices during the intervention phase was 68.3%. When Ellie

received intervention, there was no change in data for other participants. Data collection stopped before criterion was met because Maya completed her supervision hours.

For Olivia and Harper, baseline levels ranged from 60% to 80%, with a mean of 70.7%. Baseline data began at a high level of 80% and then decreased in level to 60%. They missed four sessions during baseline. After five baseline sessions, Olivia received the initial training. There was not an immediacy of effect. Although her behavior did not change for the first two sessions following training and data was low and stable, use of recommended practices displayed an increasing trend to 93.3% on the third intervention session and 100% on the fourth. These last two data points demonstrated an increase in level from baseline. There was overlap between intervention and baseline data. The mean of percent of recommended supervision practices during the intervention phase was 81.7%. Two sessions were missed during intervention.

Figure 1

Percent of Recommended Supervision Practices

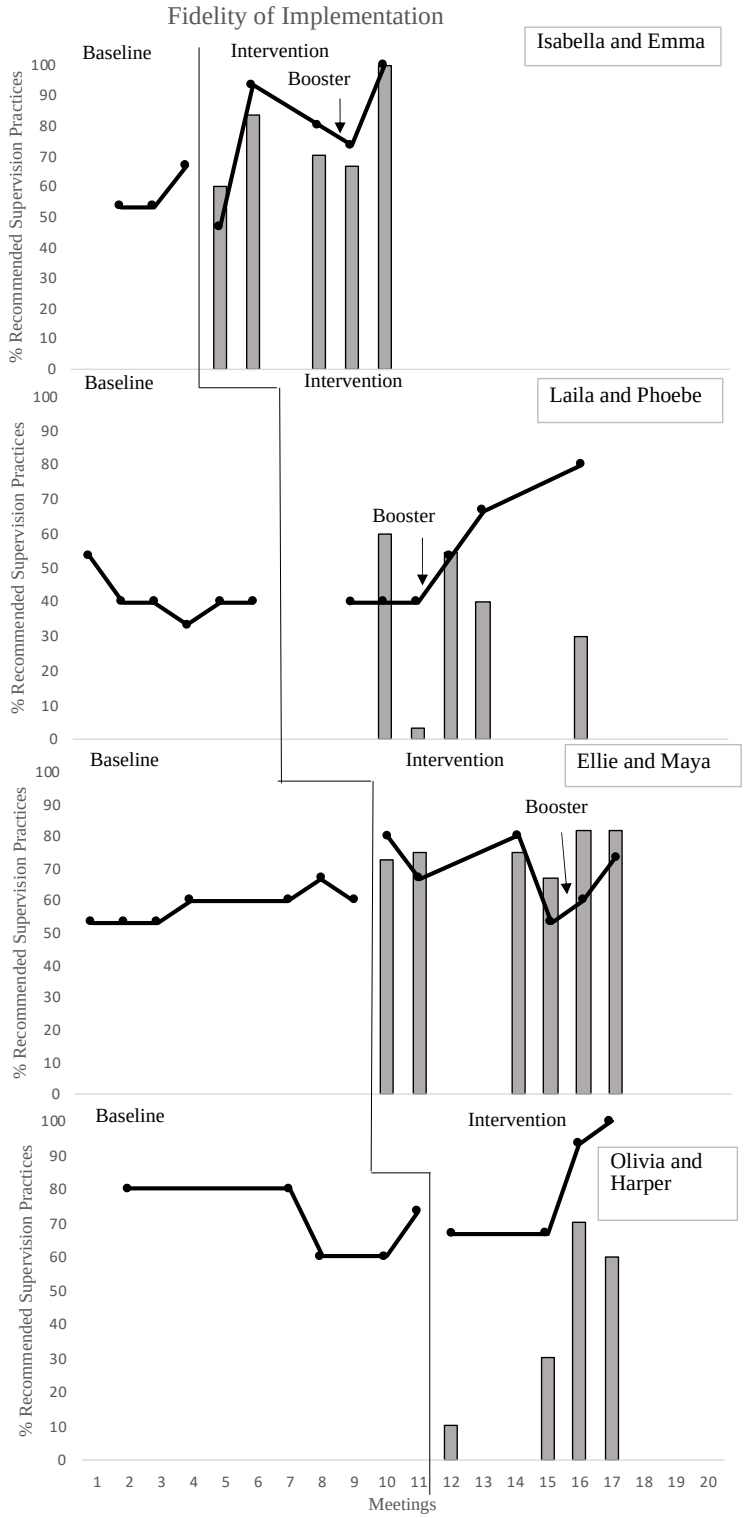


Implementation Fidelity of the Structured Supervision Tool

Implementation fidelity of the structured supervision tool by participants was gathered by the researcher across 100% of intervention sessions (see Figure 2). These data could not be collected during baseline, so fidelity data are only presented for the intervention phase. Fidelity of implementation ranged from 63.6% to 100% for Isabella, 0% to 58.3% for Laila, 66.7% to 81.8% for Ellie, and 10% to 70% for Olivia. Although it was hypothesized that fidelity of implementation of the tool would closely shadow use of best practices, these data do not support this for all participants. Isabella's fidelity data appear to shadow implementation of recommended practices; however, this is not observed with the other three participants.

Figure 2

Fidelity of Implementation of the Structured Supervision Tool



Supervisee Engagement Ratings

Supervisors were asked to rate supervisee engagement in meetings on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree). Supervisors rated supervisee engagement in a range of 4-5 across the entirety of all phases of the study. Overall supervisors perceived supervisees to be engaged in supervision meetings both before and after the introduction of the structured supervision tool.

Satisfaction Ratings

Another variable measured during this study was supervisor and supervisee satisfaction with supervision meetings, as reported by participants in a short survey following each meeting.

Supervisor Ratings. Supervisors were asked to rate their satisfaction with supervision meetings on a range of 1 (Not at all satisfied) to 5 (Completely satisfied). For Isabella, satisfaction with supervision meetings ranged from 2 to 5. During baseline, Isabella rated satisfaction consistently as a 4 and, during intervention, ratings ranged from 2-5, with an average of 3.4. For Laila, satisfaction ranged from 4 to 5 during baseline, with an average of 4.83 and, during intervention, ratings were consistently a 5. For Ellie, satisfaction was consistently rated as a 5 across all phases of the study. Finally, during baseline, Olivia consistently rated satisfaction as a 4. During intervention, Olivia rated satisfaction in a range of 4 to 5, with an average of 4.2. There was one meeting in baseline in which Olivia did not respond to the survey.

Supervisee Ratings. Supervisees were asked, “How would you rate your overall satisfaction with your supervision meeting today?” on a scale of 1 (Not at all satisfied) to 5 (Completely satisfied). Across all phases of the study, all supervisees rated “completely satisfied” with 100% of supervision meetings. There were two meetings in which supervisees did not respond to the survey.

Social Validity

Social validity was measured in two ways at the conclusion of the study. It was assessed through a post-study questionnaire and an interview between the researcher and participant. Questionnaires were completed by all participants. Interviews were completed with all participants.

Post-Study Questionnaires. There was a post-study questionnaire for the supervisor and a separate questionnaire for the supervisee. It asked participants to respond to four statements using a Likert-style scale ranging from 1 (Strongly disagree) to 5 (Strongly agree). Social validity data from the questionnaires are in Tables 6 and 7. There was also an open-ended question at the end of the survey asking participants if they would like to share anything else regarding their experience using the structured supervision tool. Ellie, a supervisor, shared that the structure was good. Olivia, a supervisor, stated "I really enjoyed the tool and the additions it added to our supervision sessions! I found there were some sections that we usually touched on in some ways, but the tool really helped us to focus on those additions (e.g., feedback for supervisor, ethics)!" Emma, a supervisee, shared, "this was a great tool to round out my experience as a supervisee, even though it did require more work on the front end."

Table 6

Supervisor Post-Study Questionnaire Responses

Questionnaire Item	Isabella	Laila	Ellie	Olivia	Means
The structured supervision tool helped me improve my practice.	4	4	5	5	4.5
The initial training for the structured supervision tool was helpful.	3	4	5	4	4
The structured supervision tool made my work as a supervisor more difficult.	4	3	2	2	2.75[a]

The structure provided by the tool supported my work as a supervisor.	3	4	5	5	4.25

[a]A lower score on this item represents a positive rating.

Table 7

Supervisee Post-Study Questionnaire Responses

Questionnaire Item	Emma	Phoebe	Maya	Harper	Means
The structured supervision tool was helpful in my supervision meetings.	5	5	4	4	4.5
The structured supervision tool was easy to use.	4	5	4	4	4.25
The structured supervision tool made preparing for supervision meetings more difficult.	4	3	3	3	3.25 [a]
The structure provided by the tool supported my learning in supervision meetings.	5	4	4	4	4.25

[a]A lower score on this item represents a positive rating.

Supervisor Interviews. The researcher met with the four supervisor participants individually following participation in the study. Interviews with supervisors were 36 minutes on average with a range from 26 to 51 minutes. Interviews were transcribed and coded. Themes that emerged during coding for supervisors included their goals for supervision, barriers to supervision, satisfaction with the structured supervision tool, and supports that would be helpful for supervisors (See Table 8).

Table 8

Themes from Supervisor Interviews

Themes	Sub-Categories
Goals for supervision	Teaching professional skills, ethics, programming, data review and presentation, taking an individualized approach, different aspects of being a BCBA, social issues, diverse experiences
Barriers to supervision	Time, certification board requirements/accessibility, systems, limitations to in-person interactions, amount of content to cover

Prompted incorporation of important topics	Ethics, professional growth, feedback, task list, time management
The tool takes time and effort to implement	Preparation, debrief, effort, transition
Improved supervision practice	Timeline, structure, visual prompt
Most helpful sections of the tool	Ethics, professional growth, to-do list, follow-up, times, feedback for supervisor, competencies
As a supervisor, getting feedback is helpful	Identified gaps in supervision, fidelity, supervisee needs
Collaboration with other supervisors would be beneficial	Peer support, required mentoring, network

Goals for Supervision. Supervisors described a variety of goals for supervision. Examples of goals included training supervisees to be professional and ethical, programming and data review, and creating an individualized approach to supervision. Isabella stated,

> *[The] goal of supervising trainees is for them to be professional, competent, and compassionate behavior analysts in the future when designing their assessments and interventions for their target population and setting.*

Laila expressed her goals for supervision as,

> *One of my goals for supervision is always… to identify their areas of strength and their areas of weakness so that we can continue to maintain and build on those areas of strength while simultaneously finding out what areas of weakness need to be looked at…it's better to be responsive and so the goal would be… an individualized approach.*

Ellie also discussed how her goals for supervision involve taking an "individualized" approach. She also explained that supervision goals include teaching supervisees to be good practitioners. Olivia described similar goals, including preparing a student to become a qualified BCBA and understanding the different components of the job. She stated,

> *…it's preparing a BCBA student to become a qualified BCBA when they leave graduate school…learning the components of the job…the task list, [and] managing direct skills as a BCBA*

She also described the importance of teaching students about perspectives of other fields around ABA, awareness of other fields such as Speech and Occupational Therapy and understanding how diverse ABA can be. While the supervisors had a variety of overall goals for supervision, they all discussed the importance of individualizing supervision and incorporating topics from the recommended practices, such as ethics or professional growth.

Barriers to Supervision. When asked about barriers to providing high-quality supervision, two supervisors agreed that time is consistently a barrier. A third supervisor specifically mentioned that there is a lot of content to cover within the time allotted. A second barrier that was consistently reported was certification requirements and lack of support in application of the requirements. One participant stated that time and accessibility of the certification board's website were two primary barriers to providing supervision. Another participant also described time and challenges understanding certification requirements and communicating with the certification board. Laila described time as a barrier,

> *I think the time to be thoughtful and individualized is what quality supervision means to me and that is a huge barrier if a person is a quality supervisor but doesn't have the time to prepare for supervision*

Participants also discussed that it would be helpful to have a direct line to the certification board because the website can be very confusing. Supervision is an important responsibility and more support for supervisors would be beneficial.

Satisfaction. When describing their satisfaction with the structured supervision tool, supervisors explained that it helped prompt them to discuss important topics, such as ethics and professional growth. Isabella responded,

> *I think number one was that integration of the ethics piece, so it was always a visual prompt and as such evoked that conversation.*

Laila also described how the tool prompted her and her supervisee to incorporate recommended practices including topics such as professional growth and feedback from the supervisor,

> *It also provided reminders for those areas of competency that we probably forget sometimes, like professional growth and development, the feedback from the supervisor. If those things hadn't been prompted because of the tool, I don't think that we would have even talked about them.*

Ellie also stated that the feedback for supervision section was helpful, in addition to bringing things back to the task list,

> *[I request] feedback from my supervisees as to whether or not I am meeting their expectations and so that was a great reminder to have that at the top of the form and say hey, let's give the supervisee a moment to share what they like or what they need… [and also] bringing things back to the task list, in theory as well as in [practice] were both really nice sections on…the tool.*

Olivia explained that she had created a supervision tool previously, and that the structured supervision tool expanded upon that, with sections that the previous tool did not have,

> *…it added pieces, like the time piece was super helpful…the checklist, the ethics piece was great. I feel like we always talked about ethics but specifically being like… let's actually pull the code up*

Two supervisors also explained that, while they were satisfied that the tool helped them incorporate various topics, it does take time and effort to implement. Laila explained that she, "started programming another 15-30 minutes to do the tool for the next week" and Isabella said, "I'm adding probably about 30 minutes of my time… probably about 15 minutes at some point before the meeting to kind of prep for it and then… 15 minutes after the meeting to kind of debrief." Participants also explained that it takes effort to shift preparation for the meeting from the supervisee to the supervisor between meetings.

The tool improved the practice of three supervisors by helping them add structure to meetings. Three supervisors described that the tool helped them with time management and keeping the meeting on track. One participant described how the tool provided just enough structure to guide the conversation and avoid spending too much time recalling previous meeting topics,

> *I think the biggest benefit is it provided some structure so that the supervision meeting… [it] didn't feel like we were just recalling our previous week's activities... Instead, it was okay let's check in for a little while and then the tool reminded my supervisee of all of the things that we had said we wanted to go over this week.*

Similarly, Isabella stated that it "improved" her practice and helped her stay on track by following a timeline,

> *Making sure to hit on all those points and kind of sticking to a timeline agenda has really helped both me and [my supervisee] make sure that we're not going over too much.*

Ellie explained that it helped her and her supervisee cover "all the topics" and provided "reminders to at least check in on everything." Olivia described that she "did like the time management component of it" and "thought that was really helpful." The time management section was one of the sections that she found most useful. She also found the feedback for supervisor and ethics sections to be useful. Other supervisors had different opinions on which sections were most helpful. Isabella agreed that the ethics section was one of the most useful components. She also found the professional growth section to be "useful." Laila explained that her "favorite part is the to-do list." In addition to the supervisor feedback section, Ellie thought that it was also useful that the tool helped her, and her supervisee bring things "back to the task list."

Supports. Another theme that came out of the interviews with supervisors was the theme of incorporating supports for professionals in this role. Two supervisors described how

participating in the study helped them improve their supervision practice by providing additional support and identifying gaps in supervision. In addition, Laila thought the booster session was helpful,

> *The booster session was really nice because it was helpful to look at the data, helpful to look at the treatment fidelity information. And then to kind of re-orient me and get me back going. It was very energizing. I appreciated it.*

In addition to participating in the study, the supervisor participants also described how further collaboration with peers would be beneficial for them. Laila said,

> *It would be really nice to have a group of colleagues that are also supervising… especially as the standards for supervision change and flux. It really does feel like sometimes the BCBA that is supervising is kind of on their own without a network of other supervisors collaborating and talking, unless you build that community or are already a part of one.*

Isabella also talked about peer support,

> *I really do think that peer review or audit is helpful, …even just the fact that I'm recording this and kind of sending along some of my permanent product has really helped with my practice… I know that new BCBAs in the future will have to have that support with another person. It almost seems like it should be required for all supervisors.*

Supervisee Interviews. Interviews with supervisees ranged from 14 to 28 minutes. Themes that emerged for supervisees included their goals for supervision, incorporation of important supervision topics, using the tool, most helpful sections of the tool, and satisfaction with the structured supervision tool (see Table 9).

Table 9

Themes from Supervisee Interviews

Themes	Sub-Categories
Goals for supervision	Supervisor expertise, collaboration, ethics, exam, how to be a good supervisor, confidence, BCBA's role, gain experience with support (i.e., programming, assessment)

Prompted incorporation of important topics	New topics (i.e., professional growth, ethics), on track/same page
Using the tool	Preparation, remembering, collaboration, roles, communication, accountability, student driven
Most helpful sections of the tool	To-do list, performance feedback, professional growth, follow up, feedback for supervisor, ethics, check in, pre-meeting checklist
Satisfaction	Future use, recommendation, time, helped retain information, efficiency, structure, consistency

Goals for Supervision. When asked about their goals for supervision, supervisees shared a wide variety of topics; however, one topic was consistent across three supervisees. Three supervisees explained the importance of learning from their supervisors' expertise and gaining experience with their supervisor's support. Emma said,

> *I think main goals are just to learn more about programming specific details and just really seek out that kind of advice and expertise from someone with experience in the field… my supervisors have provided a lot of different insight that I would have never thought of*

Relatedly, Phoebe works with more than one supervisor and explained that she wants to learn as much as she can from her supervisors. She went on to describe that the supervisor she is working with in the study is someone that she asks about topics that she would like further professional development around. She also explained that she is "learning how to be a good supervisor in the future." Maya also described how working with her supervisor can prepare her to be a BCBA and described how her goals for supervision include gaining experiences that she might not get naturally through her fieldwork sites,

> *My real main goal was figuring out what things have I not been gaining experience in through the field as easily and what can I do with [Ellie] to kind of maximize our time, to gain that experience that I need moving forward as a BCBA.*

Like Maya, Harper explained that supervision is a place where she can bring topics that she doesn't get experience with through work or school. She also described that supervision is where she can discuss exciting new things that she is learning or share something new with a client. She described supervision as, "that missing piece."

Incorporation of Topics. Like the theme found in the supervisor interviews, supervisees also expressed that the tool prompted them to incorporate topics that are recommended practices in the literature (i.e., Sellers et al., 2016a). Emma explained how using the tool helped her see the value in implementing these recommended practices into supervision meeting topics. Harper found that the added ethics component was especially helpful,

> *I really liked the ethics portion of it on there… it was great to have that be able to be brought up every session that we met.*

Phoebe described how the tool helped incorporate topics that were not previously discussed in supervision meetings before using the tool,

> *It probably ensured that we addressed things we otherwise wouldn't have... having that visual reminder of it's on our to-do list, it's on the tool, that definitely helped us like oh we've gotta talk about this*

Maya also liked the to-do list aspect because it helped structure the meeting and remind her and her supervisor what they were planning to discuss. She stated,

> *It was nice to have a structure… especially with the action items…this is what we need to do for next week and then copying and pasting that to the next week for the agenda also helped remind me of this is where we need to start and focus on… it made the agenda feel less daunting*

In addition, Maya liked the "check in" and "feedback' aspect. She described that it was helpful to align items with the task list and the ethics code, promoting "accountability." She also explained that the "feedback for supervisor" section was helpful and encouraged her to think about what

she wanted out of supervision. Overall, using the tool helped supervision dyads incorporate topics from the recommended practices into their supervision meetings.

Using the Tool. Overall, supervisees described their experience using the tool as collaborative with their supervisor. They also felt that it helped ensure that both themselves and their supervisor were prepared for the meeting and knew what topics were on the agenda. Emma explained,

> *It was…collaborative throughout…I would fill it out first, send it out to [my supervisor] and then she would add in any items and send it back to me before the meeting, so we both kinda had an idea of what each other wanted to talk about and what that meeting would look like beforehand. The tool really outlined every little thing that we would talk about too so it helped be on the same page.*

Phoebe also stated that both her and her supervisor "took ownership" of creating and adding to the tool. She also stated that it "complimented" communication with her supervisor and that it was helpful to have a place to keep everything related to supervision meetings.

One difference between supervisee interviews was around the idea of preparing for supervision meetings. Emma and Maya described that the structured supervision tool helped them and their supervisor prepare for meetings. Emma explained,

> *….preparation [for meetings changed when using the structured supervision tool], just being more diligent of when I would start working on…the supervision tool, making sure I'm putting in all of the different items, and looking at that task list, identifying the different items. So it was a lot more prep work than beforehand because before I would just have a running list of things that I would add on right before the meeting. This kind of made me be a little more systematic and kind of on the ball.*

Similarly, Maya explained that the structured supervision tool made preparing for meetings more efficient, she said,

> *I liked the supervision tool we used… it also further helped me align things with the task list and also touch on things from the PECC as well so that was really helpful*

Phoebe's experience was different in that it was challenging to utilize the tool to its fullest extent due to her other responsibilities that also took time. She said that the tool wasn't challenging to use, "it was more just remembering to do it." This speaks to the many roles and responsibilities that a supervisee has and the importance of having a system that fits within those constraints.

Phoebe did state that the tool "kept" her and her supervisor "on track." Harper also mentioned that she noticed supervision meetings were more on task when using the tool, though it did take "a little bit of extra time in preparing for the meeting."

Most Helpful Sections of the Tool. The supervisees shared many different sections on the tool that were most helpful, but typically agreed that the "to-do list" was the most helpful section on the tool. Emma commented that it was helped to see both her to-dos and her supervisor's, which helped clarify roles within the meeting. Phoebe, Maya, and Harper described the "feedback for supervisor" section as helpful. Emma and Maya said that the "performance feedback for observation-based task list items" was beneficial because it helped tie in different task list items. Emma also found the "professional growth" section and the "follow-up" section valuable. Harper said that the most helpful sections were "ethics" and "pre-meeting checklist."

Satisfaction. Supervisees said that they would opt to continue using the tool and would recommend it to others; however, they also explained that it takes time and effort to use. Emma stated that "it was a lot to go through on the prep work side of things" but that she would "prefer to use the tool." Harper stated that it took extra time to prepare but helped keep meetings on track and would opt to continue using the tool. Phoebe explained that it wasn't always easy to remember to send the tool to her supervisor, but that she "enjoyed using it" and "would highly recommend people use it." Maya stated that most challenging part of the tool was assigning times to different sections and that the tool was "really thorough" and "helpful." Maya said, "I

think even in the future when I am a BCBA, when I am ready to take on supervisees, I think it's a great format to use too in the future."

Inter-Observer Agreement

Inter-observer agreement (IOA) data was gathered on the dependent variable (percent of recommended supervision practices) systematically across the duration of the study by a second independent observer. IOA was collected across all phases of the study for 24% of all sessions. The range of IOA was 66.7% to 100%, with an average of 88% agreement.

Procedural Fidelity of Trainings

A second independent observer gathered procedural fidelity of the researcher's implementation of the initial training meetings and training booster meetings. Procedural fidelity was gathered for 50% of the initial trainings and 66% of the training booster meetings. Procedural fidelity was measured as 100% for all trainings.

Chapter 5: Discussion

Recommended Supervision Practices

In this study ABA supervisors participated in a training to implement a structured supervision tool during online meetings with their supervisees preparing to become Board Certified Behavior Analysts. The results suggest that the structured supervision tool can be an effective and socially valid approach to increasing the use of recommended practices in online ABA supervision meetings. By increasing their use of recommended practices, supervisors can be confident that they are meeting supervision requirements and providing high-quality supervision. It has been reported in the literature that supervisors previously do not consistently use recommended practices (Hajiaghamohsen et al., 2020; Sellers et al., 2019). Barriers to implementing recommended practices included a lack of time and structured systems (Sellers et al., 2019). Although participants did suggest that using the tool took additional time, the structured supervision tool may be one way of decreasing those barriers and supporting supervisors in embedding key topics into meetings with supervisees.

The results of this study demonstrate that the structured supervision tool could be one way to support supervisors in implementing recommended practices during supervision meetings. All supervisors increased their use of recommended practices, to some extent, after training. Three of the four participants required a booster training before behavior change was observed. For Isabella, use of recommended practices decreased following the introduction of the structured supervision tool immediately following the training and for Laila, use of recommended practices stayed at baseline levels. One potential reason for this lack of immediate increase may be the time that it took for different participants to begin using the tool regularly in meetings. It can be challenging to incorporate a new strategy into existing supervision meetings,

and it also took time to introduce the tool to supervisees. The training booster may have helped participants better understand and acclimate to using the tool during meetings.

Baseline levels across participants varied between 33.3% and 80%. This wide range may be due to several different factors. One factor that may have played a role was where supervisees were at in their supervision at the time of the study. For example, two supervisees were just beginning their supervised fieldwork, while one supervisee was almost finished. Where a supervisee is at in supervision may affect the supervision practices implemented and general topics discussed during meetings. It also makes sense that baseline levels were overall high because supervisors had all received the BACB 8-hour supervisor training, continuing education in supervision, and were experienced practitioners. It is possible that baseline levels would have been lower for supervisors newer to the field and to supervising trainees.

Three of the four supervisors in the study participated in a training booster session three to four weeks after the initial training session. The training booster session consisted of performance feedback from the researcher based on the fidelity of implementation of the structured supervision tool by participants. The training booster session was implemented if supervisors decreased implementation of recommended practices during intervention or if there was no progress made within the first three sessions. After the training booster session, two of the three participants increased use of recommended practices to 80% or above, and one increased to 73.3%, which was above baseline levels. Although it is impossible to know if the fidelity checklist, the performance feedback, or a combination of the two, was the active ingredient in the booster training, in retrospect it may have been helpful to include the fidelity checklist in the initial training. It is possible that if participants were given the fidelity checklist in the initial training, possibly with a follow up performance feedback session, that the training

booster would have been unnecessary. Future research should investigate the effects of modifying the initial training by including the fidelity checklist, incorporating more practice for trainees, and adding in performance feedback for the first few sessions following intervention. These changes may increase the effectiveness and efficiency of the initial training.

To provide performance feedback during the training booster session, fidelity of implementation of the structured supervision tool was also gathered. It was hypothesized that when fidelity of implementation was high, implementation of recommended supervision practices would be high and when fidelity of implementation was low, percent of recommended practices would also be low. For Isabella, this hypothesis was accurate. When she implemented the tool with a high level of fidelity (80% or higher), the use of recommended practices in her meetings also increased. This hypothesis was not accurate for Laila or Ellie. Laila's fidelity of implementation ranged from 0% to 58.3% which differed from her percent of recommended supervision practices which, in intervention, ranged from 40% to 80%. Laila increased the use of recommended supervision practices but did not increase fidelity of implementation. Ellie's fidelity of implementation ranged from 66.7% to 81.8% and implementation of recommended practices in intervention ranged from 53.3% to 80%. For Olivia, her percent of recommended practices stayed high, while fidelity of implementation slowly increased. There were limitations to collecting fidelity data in this study, which may contribute to the variability in the data trends. One limitation was accessing the completed supervision tools to evaluate the accuracy of completion. Completed tools were sent by participants following supervision meetings; however, the tool that was shared was not always the tool from the session and there were also challenges in determining what was completed prior to and during sessions. Due to these limitations, it is not possible to draw conclusions about implementation fidelity.

Overall, intervention data displayed an increase in level post-intervention; however, not all supervisors reached 100% implementation of recommended supervision practices and it often took several sessions before supervisors increased implementation of recommended practices. One possible reason for this outcome may be due to the learning curve of using the structured supervision tool. Many supervision dyads had strategies and systems in place prior to participation in the study. When they implemented the tool, they had to modify or stop using previous methods. Several supervisors also noted the learning curve for using the tool in their post-study interviews. Using the structured supervision tool often involved covering new topics that participants may not have previously included in meetings. Additionally, some participants increased implementation of recommended practices and then decreased implementation within one to two sessions. This change could possibly be due to challenges around maintaining implementation of recommended practices. Some practices may be more challenging to implement than others and participants may have made decisions to move or skip some topics during meetings. It is possible that with more support and time, participants may all reach and maintain 100% implementation. To increase support in the future, the initial training could be modified to incorporate a practice session in which the participant and trainer role play using the tool. It may also be helpful to share the fidelity checklist with participants and incorporate performance feedback into the first few sessions following the initial training. Adding in these components may help mitigate the learning curve and increase the likelihood that participants would implement the structured supervision tool with fidelity.

The structured supervision tool was developed after reviewing the scholarly work on supervision in ABA. While participants in this study increased their use of recommended practices and coverage of these topics, there is still a question as to whether these practices are

the best practices. There is currently a lack of empirical support demonstrating that people who receive supervision with these practices do better than those who do not. Additional questions include, should every recommended practice be implemented at every supervision meeting? For example, should ethics or professional growth be discussed during each supervision contact? In addition, how does the supervisor balance the needs of the individual learner with recommended practices and prescribed content that should be covered during supervision? Incorporating the recommended practices did change how sessions were structured and the content covered in meetings. Overall, supervisors reported this as a positive change and that they were more aware of incorporating certain topics.

Two topics raised by participants in their post-study interviews were ethics and professional growth. Two participants stated that these were the most helpful parts of the tool. It is possible that these parts of the tool were perceived as most helpful because participants did not previously feel they adequately covered these topics and the tool served as a reminder. While these parts of the tool were reported as beneficial, there is still a question about whether it is essential to plan for discussions of these topics at each meeting. For example, if no issues related to ethics arise between supervision meetings, should it still be a planned topic? It seems like this would be important to plan for at each meeting to help supervisees start to think about topics like ethics. Behavior analysts are required to abide by a code of ethics, however, the code itself is not sufficient to train behavior analysts to behave ethically and understand the "environmental contingencies related to ethics and supervision" (Sellers et al., 2016b, p. 300). Supervision is one place where ethics can be explored, and supervisees can investigate and question the code, and discuss specific examples or walk-through case studies of ethical scenarios. Practicing these conversations and becoming fluent with the ethics code makes it more likely that future behavior

analysts can interpret the ethics code and use it appropriately in practice. This concept of practicing ethics has been referred to as “ethical fitness” by ethicist Rushworth Kidder (Kidder, 2005). Behavior analysts must be ethically fit to make the best possible decisions when faced with ethical dilemmas and that involves frequently and deeply covering ethics as a topic in supervision. The BACB provides many helpful resources and articles on ethics that supervisors could incorporate into meetings when planning for discussions around ethics.

The area in which there are fewer resources available to utilize in supervision is in professional development and professional growth. Many scholars recommend incorporating professionalism into supervision (e.g., Garza et al., 2018; Sellers et al., 2016a). However, there is little information available to help supervisors work with supervisees to identify these professional areas for assessment, goal development, and progress monitoring. Because these areas are often outside of the task list, they are more subjective and often left up to the supervision dyad to discuss, if discussed at all. This is an important area for developing these professional skills in behavior analysts, and more work is needed to help supervisors plan this area of supervision. Future research may focus on identifying how incorporating each of these topics, such as ethics and professionalism, affects the acquisition of supervisee skills and the effectiveness of supervision.

Engagement and Satisfaction

Supervisees consistently reported that they were satisfied with their supervision meetings, both in baseline and intervention. There could be several reasons for these results. It is possible that supervisors and supervisees had strong relationships prior to the study, making it more likely that supervisees were satisfied with meetings both before and during implementation of the structured supervision tool. It is also important to consider that there is a power differential

between supervisors and supervisees, possibly affecting the supervisee's comfort in providing true ratings of satisfaction. It is most likely that supervisees were indeed equally satisfied with every supervision meeting across the study. This finding is consistent with a survey conducted by Dounavi and colleagues (2019) in which respondents were overall satisfied with their supervision and felt that it was conducted in an ethical and professional manner.

In addition to measuring supervisee satisfaction, this study also looked at supervisor satisfaction with meetings and found that supervisors were also generally satisfied with supervision meetings before and after intervention. For one participant, satisfaction dropped from an average of 4 (Agree) before the intervention to a 2 (Disagree) after beginning the intervention, when asked about satisfaction with meetings. Satisfaction increased up to a 3 and then 5 after attending the training booster session. In this case, it is likely that the tool may have produced a meaningful change in the way that supervision was previously structured and took time to embed into supervision meetings with satisfaction. The training booster session was a helpful meeting for this participant, which was reflected in the increased satisfaction rating at the end of their participation in the study.

The final secondary variable measured in this study was supervisee engagement in meetings, as reported by supervisors. Across the study, supervisors agreed that supervisees were engaged in supervision meetings both before and after the intervention. Because engagement did not change when the intervention was introduced, it is likely that the structured supervision tool did not affect supervisee engagement in meetings, based on supervisor perception. For some participants, supervisees were later on in their supervised fieldwork experience and were already leading and planning meetings. This is one potential reason that using the structured supervision tool did not affect supervisee engagement. Given that supervisors consistently rated engagement

as high throughout the study, it would be beneficial for future research to explore other ways of measuring engagement. Determining strategies to objectively measure engagement would allow the field to consider how different supervision practices affect supervisee engagement, therefore, understanding the effectiveness of various practices. Increased engagement is one potential outcome when considering best practices in supervision.

Methodological Rigor

There are several factors to note that affected the methodological rigor of this study. During baseline, the decision was made to introduce intervention for the first participant after three data points. The What Works Clearinghouse (WWC) recommends that a multiple baseline design has at least five data points per phase to meet standards (Kratochwill et al., 2010). The WWC is a commonly used tool for evaluating single case design standards. Other tools, such as the Single-Case Analysis and Review Framework (SCARF), have different criteria for number of data points per phase and place more value on the visual analysis of stability of the baseline data (Ledford et al., 2020). Tools such as the SCARF may be more appropriate to use for designs in which outcomes are expected to be low before intervention or variable across conditions (Zimmerman et al., 2018b). While a more stringent number of baseline data points might be important for behaviors that can be observed frequently, there were limitations in this study that made it challenging to have a longer baseline. Participants met weekly (sometimes bi-monthly), which meant that data was only collected, at maximum, once per week. If five baseline data points for the first participant had been required, all participants would have been in baseline for over one month, some up to three months. This baseline would have been difficult to maintain for such a long period of time, especially given a stable baseline. Due to the applied nature of this work, the decision to shorten the baseline criterion was made and this design still may meet

criterion when using evaluation tools with a focus on stability of baseline data, as opposed to number of data points.

In addition, the data do not suggest an immediate change following intervention. As previously discussed, this may be because three out of the four participants did not use all components of the tool immediately after the training session. Laila, Isabella, and Olivia anecdotally reported that they did not use all components of the tool right way or slowly introduced the tool into supervision meetings. The first day that Laila, Ellie, and Olivia used most components of the tool, there was an immediacy of effect in which percent of recommended supervision practices increased above baseline levels. After three to four post-training sessions, three of the four participants did receive a training booster due to a decrease in percent of recommended practices or a lack of increase above baseline levels. These results suggest that a higher level of training initially might be beneficial to help participants apply what they learned during the training to those first few sessions post-training. As one participant mentioned in their post-study interview, there is often a "learning curve" when beginning a new system. A higher level of training may include incorporation of the fidelity checklist, role play opportunities, and scheduled performance feedback sessions.

A methodological limitation to discuss is the change to the scoring system for the dependent variable during the study. Partway through the study, the decision was made to change the scoring system from a 0-2 to "occurrence/non-occurrence." This change was made due to low IOA using the 0-2 scoring system. This change was made after the first participant had started intervention, so it did affect the decision to begin intervention for future participants. After the change was made, there was also one instance in which IOA fell below 70%, contributing to a wider range of IOA. The research team continued to collect IOA data after this

low agreement and IOA went back up. This limitation is important to note when interpreting the results of the study.

Social Validity

Social validity data was collected through a post-study questionnaire and interviews. Interviews with participants revealed several interesting themes, including their goals for supervision, barriers to implementing high-quality supervision, satisfaction with the structured supervision tool, and perspectives regarding support for supervisors in the field. Supervisors reported a variety of goals for supervision. Isabella's goal for supervision included teaching trainees to, "be professional, competent, and compassionate behavior analysts in the future when designing their assessments and interventions for their target population and setting." It has been reported in the literature that behavior analysts don't always receive training around compassion, empathy, and building therapeutic relationships with caregivers (LeBlanc et al., 2019). This goal for supervision suggests the importance of expanding on a supervisee's coursework and incorporating additional topics into supervision.

One of the most common barriers to implementing high-quality supervision reported by participants included time. Time was a barrier related to having the time to prepare for supervision, review and understand the requirements, and cover all the necessary content within the supervision time. Time, as a barrier, is consistent with the findings of Sellers and colleagues (2019) in their survey of behavior analyst supervisors who also identified lack of time as a barrier. Another barrier discussed was related to student skillset and organizational skills. If students do not come into supervision with a certain level of organizational and professional skills, those skills need to be taught in addition to behavior analytic principles for supervision to be effective.

In comparing supervisor and supervisee interviews, supervisors and supervisees often preferred different sections of the tool. For example, Isabella preferred the ethics and professional growth sections. Emma, her supervisee, preferred the to-do list, performance feedback, professional growth, and follow-up. Professional growth was consistently a preferred section of the tool. In order to further incorporate professionalism as a topic in supervision, supervisors may consider using tools to identify specific areas of professionalism for support or training (Britton et al., 2021). This was not only a preferred section of the tool, but a recommended practice widely described in the literature.

Participants described various helpful aspects of the tool, including the structure, emphasis on important topics, and overall approach; however, they also expressed that it took time and effort to implement. Both supervisors and supervisees agreed that the tool took time to learn and use, but overall agreed that it was helpful in their supervision meetings.

This study included data from a diverse and experienced sample of behavior analyst supervisors in the field. Two of the four supervisor participants identified as people of color and all the supervisors had at least seven years of experience providing services as a BCBA. While this is a small sample of ABA supervisors, it represents diverse and experienced perspectives. It is important to have this representation of different perspectives, especially when reviewing the social validity data. The participants provided feedback on the use of the tool based on their previous experiences, which is valuable as the tool is modified and improved. The previous experience of the supervisors likely contributed to their perspectives on implementation of the tool and its effectiveness in helping them make progress on their goals for supervision. Future research should consider asking participants more questions about their cultural values in relation to high-quality supervision and effective meeting practices. This feedback would be valuable in

considering both the role of recommended practices in meetings and would contribute to the development of culturally responsive supervision practices.

Implications for Practice

This study demonstrated that the structured supervision tool led to an increase in the recommended practices used by ABA supervisors and supervisees in online supervision. The results of this study have implications for supervision practices in the field. Adding structure to supervision meetings may increase the time it takes to prepare for meetings, according to participants in the post-study interviews, but it also increases the chance that recommended supervision practices will be implemented. Implementing recommended supervision practices is critical in ensuring that supervision is high quality and meets the BACB requirements. The structured supervision tool is one way that supervisors may incorporate practices and focus supervision meetings. Because of the planning piece, supervisors can ensure that the topics they plan to cover are both communicated to the supervisee before the meeting and that there is consistency across meetings.

Another way that the results of this study inform the field is by speaking directly to ABA supervisors about their goals and barriers in the area of supervision. One topic raised was the challenge of learning, understanding, interpreting, and implementing BACB supervision requirements. The requirements to be a supervisor include the 8-hour supervisor training and continuing education in supervision. These requirements are minimal given the significance that supervision has on the preparation of future behavior analysts. There is also very little oversight or, as one of the participants mentioned, supervision or monitoring of supervisors. It is challenging to know if a person is incorporating all of the requirements and implementing supervision correctly without checks and balances. One participant explained that it was helpful

to record sessions and to have a specific route for professional development in supervision. She also explained that the feedback component during the training booster was beneficial. Supervisors soliciting feedback from their supervisors is also a practice recommended by scholars in the field (DiGennaro Reed & Henley, 2015). It may be advantageous for professionals in the field to come together and conduct peer mentoring as a way of helping each other meet supervision requirements and implement high-quality practices. Peer mentoring has been used in the field of Psychology on training in supervision of psychological assessment (Danzi et al., 2020) and might be one option for sharing feedback and strategies. Technology may facilitate this collaboration and aid supervisors in establishing support networks (Dounavi et al., 2019).

There is little empirical research looking at supervision practices being implemented in ABA supervision, so there is wide variability in the strategies and resources used by supervisors. In this study, supervisors incorporated various methods and resources in their meetings both before and after using the tool. In their interviews, supervisors discussed how they created systems and content for supervision. Each supervisor plans their meetings in different ways, but they are all working toward similar goals. It could be beneficial for BCBAs to share resources and effective practices to avoid re-inventing the wheel and establish consistency. In addition, fine-tuning the systems used in supervision and identifying a way of communicating those systems to each other could promote collaboration in the field. This would be another area in which additional research could be beneficial.

Future Research

In addition to the recommendations described above, future research in this area has endless possibilities. Supervision is an area that has been receiving increased attention in both

the literature and through changes to the requirements by the BACB (2020). Several ideas for future research include assessing the effects of the recommended practices and which ones are critical to supervisee development, identifying ways for supervisors to learn how to implement recommended supervision practices, and analyzing the effects of those practices on supervisee learning and practice.

In this study, supervisors increased their implementation of recommended supervision practices. After these practices are being used consistently, it would be important to analyze the effects of those practices through empirical studies. For example, it would be important to look at the most effective ways of incorporating ethics into supervision meetings. It would also be helpful to identify which recommended practices are most important to prioritize or if they all have equal value in the preparation of every supervisee and to what degree practices need to be implemented to be effective. Empirical research would be one way of validating the use of recommended practices and begin to develop a set of evidence-based supervision practices. In addition, supervisors in this study increased their use of recommended practices following the training booster session in which they were provided the fidelity checklist. Future research may look at the effects of implementing the structured supervision tool with the fidelity checklist as an intervention package.

Another area for future research could be looking at how supervisees develop supervisory skills during their supervision experience. In this study, some supervisors taught their supervisee how to set up and use the supervision tool. Supervision dyads began the study at different time points throughout the supervisee's fieldwork experience. Because the structured supervision tool is designed to be flexible to implement across different timepoints during supervision, starting the study at the beginning of the supervisory relationship was not a requirement. Many of the

supervisees in the study were in the last half of their supervisory experience. It is common to provide supervisees with additional responsibilities as they move forward in the course of supervision. Developing a framework for supervisee progression in supervision would be helpful in guiding professional growth goals along the way. Many supervisees will supervise future behavior analysts someday, and it is likely that they will use their own supervision experience as the building blocks to implement supervision. Future research should identify how supervisees respond to modeling in supervision, how they generalize strategies, and how supervision can be structured to foster this professional growth. It could also look at the use of the structured supervision tool across phases of supervision. Finally, it may be beneficial to do a follow-up study with supervisees who used the structured supervision tool in their own supervision to identify if this experience impacts how they conduct supervision in the future.

Limitations

There are several limitations to consider when analyzing the data from this study. The main limitation was the process used for coding implementation of recommended supervision practices and fidelity of implementation of the tool. There is no agreed-upon way of measuring the effectiveness of supervision practices in the literature due to the limited empirical data on ABA supervision. Identifying recommended practices from the literature was one way of creating a codebook to identify the use of recommended practices. The selection of recommended practices in the codebook was chosen by the researcher. It is possible that there were other recommended practices being implemented that were not identified due to the limitations of the codebook. In addition, some participants chose to stop the recording before the end of the supervision meeting when speaking about specific clients and programs to protect client confidentiality. Recommended supervision practices may have been implemented during

this time and not coded because the research team did not observe them. Finally, partway through the study the decision was made to score occurrence/non-occurrence instead of the degree to which a practice was implemented on a scale of 0-2. Future research should examine whether or not the degree to which a recommended practice is implemented has an effect.

There were also limitations to the way that fidelity data was collected due to the remote nature of the study. Fidelity data was collected using the copy of the supervision tool sent by participants and the video of the supervision meeting. Sometimes participants sent the incorrect copy of the tool (different from the one used in the video) or did not send a copy of the tool. This led to potentially inconsistent data on the fidelity of implementation of the structured supervision tool by participants. It is currently unknown what level of fidelity is necessary to increase recommended practices during online supervision meetings due to the potentially skewed fidelity data.

An additional limitation, due to the overall applied nature of the study, included consistency of data collection. This study utilized a multiple baseline design; however, all participants cancelled or re-scheduled sessions throughout the course of the study, so there were missed sessions. The missed sessions could have possibly affected the stability of the baseline data and the acquisition of learning to use the structured supervision tool during intervention.

As previously mentioned, supervision dyads began the study at different points in their supervisory experience. This may be a limitation in the study because supervisors may have already been implementing effective meeting practices, even though they were interested in this professional development opportunity. It also may have been less helpful to change supervision practices later in supervision for some participants. One dyad, for example, completed supervision immediately following participation in the study. It is possible that their last few

supervision sessions looked different than those in the beginning or middle of the supervisee's supervision, possibly affecting the recommended practices that were implemented during meetings. Future research may examine the effects of implementing the structured supervision tool from the beginning of supervision. It is also important for future research to look at how supervision impacts a student's fieldwork and future work as a BCBA. It is not currently known how supervision practices affect a supervisee's clinical work. This is an important area for future research to understand how what students learn during their supervised fieldwork affects their practice later in their career.

Other limitations included differences in the way that meetings were structured. There were several meetings between Isabella and Emma in which a second supervisor was present. This supervisor was not a participant in the study, so their supervision practices were not coded. Overall, this supervisor was an observer during meetings; however, they sometimes spoke to the supervisee, potentially affecting the supervision practices implemented. Additionally, supervision meetings across the study were rescheduled, postponed, or canceled throughout the study due to the applied nature of the research. When meetings were not held, data was not collected during that week. Finally, follow-up sessions were not scheduled due to one dyad completing supervision during the study and one dyad moving to in-person supervision.

Conclusions

This study analyzed the effects of implementing a structured supervision tool in online ABA supervision meetings. Overall, the tool was an effective strategy for increasing the number of recommended supervision practices employed in meetings. It was also a socially valid tool, based on ratings and interviews with participants. Both supervisors and supervisees stated that their experiences with supervision were improved after they began using the tool in their

meetings. This tool is a promising intervention for ABA supervision meetings and may help with some of the barriers reported by BCBAs related to incorporating recommended practices into supervision (Sellers et al., 2019). It is necessary to continue empirical supervision research in order to move forward with developing evidence-based supervision practices.

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Appendix A

Gift Card Schedule

Supervisor participants will receive gift cards after completing the following activities:

Study Component (order may change depending on participant timeline)	**Deadline**	**Gift Card Amount**
Submit first video to research team		$10
Every three videos following the first one		Up to $60
Complete demographic form and questionnaires		$10
Participate in training meeting		$10
Participate in final interview		$10
		Total: $100

Supervisee participants will receive gift cards after completing the following activities:

Study Component (order may change depending on participant timeline)	**Deadline**	**Gift Card Amount**
Complete demographic form and questionnaires		$10
Participate in final interview		$10
		Total: $20

Appendix B

Supervision Meeting Agenda

Supervisee:
Supervisor:
Date:
Planned Start/End Times:

Pre-meeting checklist for supervisee to fill out before meeting start time:

Item	**Y/N/NA**
I reviewed the agenda prior to the start of the meeting	
Fieldwork hours entered up until meeting	
Add at least one item to the agenda	
Completed all items on my to-do list from previous meeting	
On time for meeting	

Instructions:

- Supervisor will create agenda at least 24 hours before the start of the meeting by sharing a blank structured supervision tool with the supervisee via a shared document, filled in with topics identified by supervisor in the middle column, "Agenda Item"
- The supervisee should then fill in any additional topics that they wish to discuss in the middle column, "Agenda Item"
- The meeting leader should pull up the agenda prior to the meeting to assign allotted times for each topic in the left column, "Time Allotted/Order"
- Both supervisor and supervisee should access agenda prior to meeting to review additions made by either party. The supervisee should fill out the pre-meeting checklist.
- Determine who will record notes during meeting in the right column, "Notes/Suggestions"

Supervisor was prepared to start meeting at (time):

Time Allotted/Order	**Agenda Item**	**Notes/Suggestions**
	Check in	
	Feedback for supervisor: *(What is one thing that went well during our last week of supervision? What is one suggestion you have to improve supervision (consider: flexibility, feedback from supervisor, cultural*	

	practices and values, organization, etc.)?	
	Follow-up from last session (*paste to-do list from last meeting)***:**	
	Performance Feedback for Observation-Based Task List Items/Competencies:	**Notes:** **Competencies observed:** **Competencies met:** **Next steps:**
	Discussion of Knowledge-Based Task List Items/ Competencies:	**Notes:** **Competencies discussed:** **Competencies met:** **Next steps:**
	Professional Growth:	**Goals:** **Progress:**
	Ethics:	**BACB ethics code discussed:**
	Supervised Fieldwork Logistics:	

TO-DO for next meeting (*add person assigned in parentheses***):**

-
-
-

Next meeting date/time

Meeting end time:

Appendix C

Recommended Practices Data Sheet

Recommended Practice:	**Rating (0,1):**	**Notes**
1. Meeting has plan and structure		
2. Clear expectations for supervisor and supervisee behavior		
3. Facilitates positive culture: pleasant and caring (e.g., greeting, point out successes and accomplishments)		
4. Professional behavior is modeled (e.g., being on time to meetings, providing promised materials and resources, responding in a timely manner, no distraction, sharing personal professional development/articles read)		
5. Develop and use effective feedback skills (discusses how to receive feedback, behavior-specific, performance-based, future actions to take)		
6. A system for addressing and measuring critical areas of knowledge and skills with objective and measurable target skills (i.e., task list) is used		
7. Performance feedback is provided regarding supervisee performance on at least one specific competency (behavior specific praise or corrective feedback)		
8. Supervisee's progress toward competencies is tracked		
9. Discuss next steps for supervisee's progress toward meeting criteria on competencies or plan for supervisee if they fail to demonstrate competency		
10. Supervisor provides training, modeling, resources (e.g., readings), and/or opportunities to practice during meeting		
11. Use system for assessing the effects of supervision activities (e.g., track competencies met, supervisee progress with writing)		
12. Solicit feedback from supervisees (e.g., survey, ongoing check in)		
13. Discuss specific ethics code and/or ethical dilemma		
14. Discuss supervisee's professional development goals and progress		
15. Provide opportunities for professional development (e.g., providing information about conferences or training events, opportunities to practice professional skills, shares research articles)		
Total		
Percent (total/15x10)		

Appendix D

Supervision Meeting Form

Supervisor

What is your participant number?

Date of Supervision Meeting:

Did you upload the recording? If not, please do so and then return to this form.

Engagement may refer to how involved a supervisee is in their supervision. How would you rate your supervisee's engagement during your meeting?

1 (Not at all engaged) 2 3 4 5 (High level of engagement)

How would you rate your overall satisfaction with your supervision meeting today?

1 (Not at all satisfied) 2 3 4 5 (Completely satisfied)

When is your next supervision meeting?

Is there anything else that you would like to share about your supervision meeting or any questions that you have about the study?

Supervisee

What is your participant number?

Date of supervision meeting:

How would you rate your overall satisfaction with your supervision meeting today?

1 (Not at all satisfied) 2 3 4 5 (Completely satisfied)

Is there anything else that you would like to share about your supervision meeting or any questions that you have about the study?

Appendix E

Social Validity Interview Questions

Supervision

How would you describe the goal of ABA supervision of trainees?

What are critical topics to include in ABA supervision meetings?

How do you determine when to introduce different topics in supervision?

What are barriers in implementing high quality supervision?

Satisfaction

Describe your experience using the structured supervision tool

How did the tool affect your supervision meetings?

- Did it change the way that you conducted meetings?
- Did it change the way that your supervisee participated?

This tool was developed based on recommended supervision practices from the literature. Were there specific sections that you found most useful? Specific sections that were less useful?

- Do you feel that these practices are important to implement high quality supervision?

In what ways was the tool helpful for you?

- Was the structure helpful? Is less structure better?
- Was it feasible to implement weekly?
- Did the structure allow for flexibility?

Did you feel prepared to implement the structured supervision tool? Were there areas of the tool that were more challenging to implement than others?

In what ways did using the tool make your job as a supervisor more difficult? Easier?

How would you change the structured supervision tool?

Social Validity

Would you recommend the tool to a colleague?

Do you plan to use the tool again in the future? Why/why not?

Do you use the structured supervision tool with other supervisees? Why/why not?

What future supports would be helpful for you in improving your supervision practices? Resources?

How did the training and tool impact your practice as a supervisor?

What aspects of the initial training were helpful? What additions or changes would have been helpful in the initial training? Was the follow up helpful?

(If time, what topics of supervision do you find most challenging? Easier? What's the hardest part about being a BCBA that is hardest to teach?)

Anything else you would like to share? Any questions?

Social Validity Interview: Supervisee

Supervision

How might you describe your goals for supervision, as a supervisee?

Satisfaction

Describe your experience using the structured supervision tool.

How did the tool affect your supervision meetings? Did it change the way that your meetings were run? In what ways did it change the way that you participated or prepared?

What sections of the tool did you find most helpful? Least helpful?

Improvements/Suggestions

What changes would you make to the tool?

If you continue to use the tool, what changes might you make to it?

Social Validity

Would you prefer to use the tool during your supervision meetings in the future, or would you prefer to go back to the original structure? Why/why not?

Would you recommend the tool to a peer?

What other supports or resources would be helpful for you as a supervisee throughout the supervision process?

Anything else you would like to share?

Appendix F

Fidelity Checklist for Structured Supervision Tool

Checklist item (these items may be completed in any order by supervisor and/or supervisee)	**Yes/No/N/A**
1. Agenda is created, using tool template	
2. There was a planned topic to discuss under each "Agenda Item" and/or sub-header in "Notes" column (no additional topics needed under "check in," "feedback," and "supervised fieldwork logistics")	
3. Time allotted/order column was completed for each agenda item (and times added up to planned meeting time, if relevant)	
4. To-do list from previous meeting was copy/pasted into the "follow up from last session"	
5. Pre-meeting checklist was filled out (ensured that each item had something in the Y/N/NA column and filled it out during meeting, if not)	
6. Meeting began at scheduled time (within 5 minutes)	
7. Meeting topics were vocally listed at the beginning of the meeting (within the first 15 minutes)	
8. Decided who would record notes	
9. ***All*** planned topics were discussed during the meeting	
10. To-do list for next meeting is completed	
11. The next meeting date and time is reviewed	
12. Meeting ended on time (within 5 minutes)	
Total correct/Total possible	

Appendix G

Procedural Fidelity for Training and Performance Feedback

Training

Before training:
- send to supervisor:
  - Zoom link, planned times for meeting
  - Training PDF
  - Blank tool
  - Example tool

1. Greet the supervisor
2. Ask permission to record the meeting

Step	Completed
1. Share training on screen	
2. Review agenda	
3. Check to ensure that participant received materials previously emailed	
4. Explain why to use a structured supervision tool	
5. Explain what is a structured supervision tool	
6. List each component of the structured supervision tool	
7. Explain which columns are filled out by whom	
8. Review the pre-meeting checklist	
9. Review the check in	
10. Review feedback for supervisor	
11. Review follow up from last meeting	
12. Review performance feedback	
13. Review task list item/ABA competencies	
14. Review professional growth	
15. Review ethics	
16. Review supervised fieldwork logistics	
17. Review to-do for next meeting	
18. Ask participant if they have any questions	
19. Discuss steps for implementation	
20. Discuss steps for getting started	
21. Start next agenda template together	
22. Ask participant if they have any questions	
Total/Percent	

Performance Feedback

Before training:
- send to supervisor:
    - Zoom link, planned times for meeting
    - Fidelity checklist
- prepare graph of fidelity data and strengths/areas for growth

1. Greet the supervisor
2. Ask permission to record the meeting

Step	**Completed**
1. Check in as to how it is going	
2. Ask participant if they have any questions about using the tool so far	
3. Check to ensure that participant received fidelity checklist	
4. Review fidelity checklist	
5. Review fidelity data/graph	
6. Discuss at least two areas of strength	
7. Discuss at least two areas for growth	
8. Ask participant if they have any questions	
Total/Percent	