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The Effects of the Performance Diagnostic Checklist-Human Services Non-Indicated Intervention on Improving Documentation Notes

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THE EFFECTS OF THE PERFORMANCE DIAGNOSTIC CHECKLIST-HUMAN SERVICES NON-INDICATED INTERVENTION ON IMPROVING DOCUMENTATION NOTES

by

Leigha Thorum

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ABSTRACT

The Effects of the Performance Diagnostic Checklist-Human Services Non-Indicated Intervention on Improving Documentation Notes

by

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The Performance Diagnostic Checklist-Human Services (PDC-HS) is an empirically supported assessment that has been used in diverse human service settings to determine an effective intervention to improve employee performance. In this study, we used the PDC-HS assessment to determine an indicated and non-indicated intervention to improve the completeness and objectivity of session note documentation completed by RBTs® in an applied autism clinical setting. Using a non-concurrent multiple baseline design across participants, the participating RBTs® all showed an increase in the percentage of required components of complete and objective session notes during the non-indicated intervention of performance feedback (written and verbal). The results suggest that the PDC-HS non-indicated intervention was effective in improving RBT® performance in completing session note documentation and further research should be conducted to

evaluate the impact of the indicated versus non-indicated intervention on improving employee performance.

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PUBLIC ABSTRACT

The Effects of the Performance Diagnostic Checklist-Human Services Non-Indicated Intervention on Improving Documentation Notes

Leigha Thorum

The Performance Diagnostic Checklist-Human Services (PDC-HS) is an assessment used in human service settings to determine effective interventions to improve employee performance. In this study, we used the PDC-HS assessment to help find a type of training that would best improve the quality of session note documentation completed by RBTs® in an autism clinical setting. The participating RBTs® all showed an increase in documentation quality during the non-indicated intervention phase. The results suggest that the PDC-HS non-indicated intervention was effective in improving RBT® performance in completing session note documentation and further research should be conducted to study the impact of the non-indicated intervention on increasing employee performance.

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CHAPTER I

INTRODUCTION

Registered Behavior Technicians (RBTs®) provide direct ABA services to clients in clinical, school, and in-home settings. RBTs® work under the direction of a supervising Board Certified Behavior Analyst (BCBA®). The Behavior Analyst Certification Board (BACB®) released the RBT Ethics Code (2.0), which became effective January 1, 2022. This Ethics Code is enforced by the BACB® (BACB, 2021) to set expectations and guidelines while providing protection to all parties (clients, stakeholders, etc.) involved in ABA services. The RBT Ethics Code consists of three sections detailing the responsibilities RBTs® hold for ethical practice. The responsibilities and required technical knowledge are taught through a certified 40-hour training course and assessed with a direct observation competency assessment and a written exam provided by the BACB®.

Frequently, there are performance issues for employees that work directly with individuals with disabilities (i.e. RBTs®, paraprofessionals). Many researchers have explored effective ways to teach and train human service employees to perform their expected duties. One of the most common training techniques is behavioral skills training (BST). BST typically includes a formal training session including formal instruction, modeling, and rehearsal with feedback until mastery. BST has proven effective for increasing fidelity of implementation and skill acquisition in staff across settings.

One application of BST with staff in a school setting was done by Hogan et al. (2014). They used a concurrent multiple baseline design with student-staff dyads in an

autism school to measure the correct implementation of three components of students' BIPs. The components measured were differential reinforcement of alternative behavior, extinction, non-contingent reinforcement, and functional communication. During baseline, the staff had a copy of the behavior intervention plan (BIP) and reviewed it for 10 minutes without being able to ask questions. Each component was marked as incorrect or correct and a percentage was recorded on how many steps were completed correctly. The intervention included instruction and feedback of the staff's baseline performance. The experimenters then modeled correct BIP implementation with a focus on the low areas of staff performance. Rehearsal consisted of the staff implementing the BIP with repeated feedback until they met the mastery criteria of 90% correct implementation. The post-training phase consisted of the staff implementing the BIP with the students with the criterion of 100% correct implementation. Although there was some variability across staff, all four staff members increased in accuracy of implementing the students' BIPs.

Another example of BST being effective in a school for individuals with autism was studied by Lavie and Sturmey (2002). In a multiple baseline design, three staff that had difficulty identifying reinforcers for their students were selected to be trained in conducting paired-stimulus preference assessments. The intervention involved training staff to implement a paired-stimulus preference assessment using a task analysis. The training consisted of two sessions of a description of the skills, a checklist of the task analysis, an explanation of the checklist, watching a video model, rehearsal, and feedback on implementing the skills. Video modeling, rehearsal, and feedback were repeated until the staff performed at least 85% of the steps correctly. All the staff improved from 16%,

23%, and 20%, to 98%, 100%, and 100% accuracy. This study demonstrated that staff can learn a new, essential skill of ABA in 80 minutes.

Sarokoff and Sturmey in 2004 studied the effects of BST on staff implementation of discrete-trial teaching (DTT) with an autistic student in his home. Researchers used a multiple baseline design by measuring 10 components of DTT in 10 trials. The components included specific DTT requirements, such as the delivery of instruction, correction procedures, immediate reinforcement and specific praise, and time between trials. The baseline data consisted of the staff performing DTT with the student as best as they could, given no additional training. The BST training intervention included instruction, rehearsal, modeling, and feedback. Rehearsal and modeling alternated repeatedly until mastery. Post-intervention training included the staff performing DTT as accurately as they could. The data show that all the staff increased their average scores of correctly implementing DTT procedures from 43%, 49%, and 43% in baseline to 97%, 98%, and 99% after the intervention.

Although evidence-based training practices like BST exist, there is still a lack of quality training for RBTs® under BCBA® supervision who manage severe problem behavior (Ralston & Brown, 2023). A survey conducted by Ralston and Brown (2023) revealed that some RBTs® who completed the survey reported receiving adequate initial training and ongoing training through supervision; however, 13% said they did not receive any initial training and 29% claimed to not having any ongoing training on how to manage the severe problem behavior their clients exhibited. Unfortunately, 75% of the respondents to the survey reported that they had been injured on the job due to severe problem behavior. Ralston and Brown (2023) encouraged their readers by echoing the

ethical responsibility for adequate training and supervision of RBTs®. They explained that there is a pressing need for RBTs® to be trained in the human service setting.

Many post-certification trainings for RBTs® are informal or unproductive because they do not address the RBTs'® deficits in a systematic way that is based on the function of their poor performance (Carr et al., 2013). To make interventions for staff training more productive and function based, Carr et al. (2013) created the Performance Diagnostic Checklist-Human Services (PDC-HS) as a behavior analytic indirect assessment to diagnose the maintaining consequences for low performance in the workplace in human service settings. The PDC-HS consists of yes/no questions based on an operational definition of a problem behavior exhibited by staff in the workplace. The PDC-HS (Carr et al., 2013) consists of four areas: Training, Task Clarification and Prompting, Resources, Materials, and Processes, Performance Consequences, Effort, and Competition. The final section of the PDC-HS guides intervention planning. Any sections from the PDC-HS that have items scored as "no" should be considered for an intervention. If multiple items in an area are scored as "no," interventions should focus on those areas (Carr et al., 2013).

Continued supervision, training, and feedback are required (BACB, 2021) for RBTs® from their supervising BCBA®. There are many types of behavior change and skill acquisition methods that BCBAs® can use to train RBTs® to change their behavior to be more ethical and effective. The PDC-HS helps supervisors to find what interventions will be the most effective for the problems or deficits that they see in the workplace. Research with the PDC-HS has shown to help increase the quality of staff performance by quickly and clearly identifying an indicated intervention that will

effectively resolve performance problems in human service settings (Carr et al., 2013; Ditzian et al. 2014; Wilder et al., 2018).

Each section of the PDC-HS suggests effective interventions based on the performance deficits highlighted in the diagnostic. The first section of the PDC-HS (Training) points to the interventions of behavioral skills training (BST) (Nabeyama & Sturmey, 2010; Hogan et al., 2014; Iwata et al., 2000; Lavie & Sturmey, 2002; Miles & Wilder, 2009; Sarokoff & Sturmey, 2004). The second section (Task Clarification and Prompting) suggests checklist interventions (Bacon et al., 1982) with task clarification (Cunningham & Austin, 2007), or modifications to prompts (May et al., 2011). The third section (Resources, Materials, & Processes) recommends increasing access to, redesigning, or reorganizing materials for the task (Casella et al., 2010; Wilder et al., 2018). The fourth section (Performance Consequences, Effort, & Competition) suggests reducing task effort (Casella et al., 2010), reminding staff of the outcomes of their work (Methot et al., 1996), or increasing the amount of time staff are supervised (Brackett et al., 2007; Mozingo et al., 2006). The PDC-HS indicated interventions have been proven to be effective in the past for employee performance deficits. Many studies have addressed employee performance problems in the field of special education and applied behavior analysis.

Bowe and Sellers (2017) used the PDC-HS to identify the barriers with error correction procedures in discrete trial training (DTT) by paraprofessionals in a special education classroom. The PDC-HS was conducted by the special education teachers which showed a lack of training as the main factor maintaining incorrect error correction. Both a non-indicated (i.e., posting the steps of DTT error correction) and indicated

intervention (i.e., BST) were implemented. The BST intervention included an explanation of procedures, modeling, and rehearsal with feedback. There was a significant increase in accuracy from all three participants in the indicated intervention from the PDC-HS, whereas there was inconsistent or no improvement in the non-indicated intervention. One limitation of the study is the lack of data on maintenance of mastered skills from the paraprofessionals after the intervention. This study showed that the PDC-HS can be used to evaluate complex, multi-step behaviors, and furthermore, validated the PDC-HS by comparing indicated and non-indicated interventions.

Not only can the PDC-HS help to solve complex behaviors, but it can also do so by requiring a low response effort from the implementers, as seen by Guercio and Hunyadi (2022) when they used the PDC-HS to improve accurate data recording by staff in a residential group home. According to the PDC-HS they conducted, there were deficits in the sections of Task Clarification and Performance Consequences. Staff were responsible for completing a daily narrative after each shift and filling out a descriptive analysis form about aggressive behavior (antecedents, time, location, consequences, etc.). Researchers compared the daily narratives to the descriptive analysis forms to measure the agreement of behavioral episodes during shifts. Using a multiple baseline across settings, the efficacy of an antecedent procedure (a text message reminder from the supervising BCBA®) was examined to prompt staff to fill out both the narratives and the descriptive analysis forms at the end of each shift. High percentage agreement scores were recorded for all the staff after the intervention. They found that the PDC-HS indicated intervention was effective and that the effective intervention required minimal effort from the supervisors.

Research has also been conducted with the PDC-HS in the clinical autism setting with RBTs®. Wilder et al. (2018) used a PDC-HS indicated intervention with therapist-client dyads at an autism treatment center to measure verbal operant opportunities created by staff. The researchers measured the rate per minute of opportunities for tacting, manding, and listener responding in 5-minute natural environment teaching (NET) sessions. The results of this study show that the PDC-HS indicated interventions for the dyads were effective at increasing the rate of verbal operant responding opportunities by RBTs. Interventions not indicated by the PDC-HS proved ineffective in changing the rate. This study demonstrates the effectiveness of the PDC-HS to change behavior in autism clinical service settings.

Ditzian et al. (2014) found that RBTs® in an autism center were not maintaining proper security by closing doors in the clinic. After conducting the PDC-HS, they selected an indicated and non-indicated intervention to increase the percentage of opportunities staff would close the door for security in the appropriate situations. In using the PDC-HS, they found that a lack of performance consequences was maintaining this staff behavior. The non-indicated intervention, which consisted of a sign at the door reminding staff to keep it closed, was not effective; however, the PDC-HS indicated intervention was effective. This study shows that a PDC-HS based intervention was more effective at changing behavior than a non-indicated intervention in an autism clinical setting.

In another autism treatment center, Carr and Wilder (2013) used an intervention based on training and performance consequences indicated from the PDC-HS to address cleaning tasks. A percentage was recorded of how much cleaning was done using a

cleaning checklist of responsibilities. Baseline data consisted of a plus (the cleaning was done) or minus (the cleaning was insufficient or incomplete) on the checklist. After the baseline data were collected, researchers used the PDC-HS to interview the supervisors at the center about cleanliness issues. The intervention consisted of training and graphed feedback which was posted for the staff. A non-indicated intervention of posting the cleaning checklist, without explanation or feedback, was also implemented. The results showed that the non-indicated intervention was ineffective while the indicated intervention from the PDC-HS was effective in increasing the percentage of the cleaning checklist that was completed.

Jimenez et al. (2023) tested the validity, interrater reliability, and test-retest reliability of the PDC-HS using video vignettes. They noted that most previous studies had not tested the reliability or validity of this study, even though indicated interventions had been successful and effective at changing targeted behaviors. Since valid and reliable assessments are the standard of the field, they measured validity (the accuracy of the assessment to perform how it was designed to) and reliability in two ways (the level of agreement of scores from two people completing the assessment and the level of agreement across one person at different times) (Jimenez et al., 2023). The video vignettes used in this study were less scripted or unambiguous than previous studies and based on real-world interviews that have taken place. Each vignette was designed to address certain domains and point to certain interventions. The results of this study showed that the majority of the participants correctly identified the domains where the performance deficits were. The interrater and test-retest reliability scores were all above

80%. The researchers called for future research to explore the reliability and validity of the PDC-HS interventions in real-world applied settings rather than contrived vignettes.

Hoffmann and Pastina (2024) explored using the PDC-HS to select interventions for token delivery for reinforcers in a Positive Behavior Interventions and Supports (PBIS) system in an educational setting. Classroom teachers with varied years of experience in a concurrent multiple baseline design were measured by how many tokens the teacher delivered to their student each day. Training was identified from the PDC-HS assessment as the non-indicated intervention, so each participant was trained using BST. The data show that the non-indicated intervention was not effective. The indicated intervention from the PDC-HS was different across the participants, so the researchers consulted the data and the administrator who completed the assessment with direct observation to determine the most appropriate indicated intervention, either feedback and increased supervisory presence or a checklist. The indicated interventions increased the number of tokens delivered suggesting that the PDC-HS is useful in suggesting effective interventions.

There are many responsibilities and guidelines which the BACB requires RBTs® to comply with to earn and maintain their credential. The prerequisites for applying to be an RBT® are being 18 years old and graduating high school. This means that all skills, responsibilities, ethical practices, and competencies related to ABA are directly taught and trained. One important responsibility of RBTs® is to accurately document services (BACB, 2021). The RBT Ethics Code Section 2–Responsibilities in Providing Behavior-Technician Services includes ethical requirements for documentation (BACB, 2021). Section 2.02 states that behavior technicians are required to follow the guidelines from

their supervisors to accurately document RBT® services by collecting data and having records for insurance requirements. It is an ethical responsibility and requirement for compliance from insurance companies for RBTs® to follow the direction of their supervisors to accurately complete documentation of their services. Refusal or lack of compliance can lead to legal consequences for the companies involved.

Minimal research has been done on the quality of documentation for ABA services. Luna and Rapp (2019) evaluated using a pre- and post-checklist to increase paraprofessionals writing objective notes about their teaching sessions. They found that the components of the session notes that were on the checklist improved across the participants in increasing objectivity. They also found that the paraprofessionals' objective reporting for problem behavior decreased, likely because of the high stimulus control of the checklist, since this area was not directly listed in the checklist given to staff. In 2020, Piazza et al. expanded the research from Luna and Rapp (2019) by exploring more ways to train staff in completing session notes. Piazza et al. (2020) focused on teaching RBTs® via telehealth on objective writing of session notes. In their study, they used a teaching interaction procedure (similar to BST), which included the target behavior being defined, the staff understanding the rationale behind the target behavior, modeling, and role playing with feedback. They found that using the teaching interaction procedure intervention was effective in training RBTs® to objectively write session notes via remote training.

Another group of researchers addressed the shortage of research on RBT® accurate documentation via session note writing by delivering a treatment package which included an example session note, a self-monitoring checklist, and written and verbal

feedback for completed session notes (Brown et al., 2021). The RBTs® were instructed to use the self-monitoring checklist before submitting the session notes. The session notes were scored based on the items listed in the self-monitoring checklist and feedback was given to each RBT® based on discrepancies between the RBT's® self-grading and the grading from the experimenter. Using a concurrent multiple baseline design, the researchers found that the treatment package was effective in increasing the number of present required components in session notes submitted by RBTs® across all six participants with maintenance data that continued to show high levels. Brown et al. (2021) listed a limitation of their study was the lack of clear mastery criterion for RBTs'® scores on complete session notes. Another limitation is due to using a treatment package, they are unable to isolate which component of the treatment package was the most effective. They suggested that the PDC-HS should be used to pinpoint an intervention that would specifically target what is maintaining poor performance in staff.

While the PDC-HS is considered highly valid based on previous research, there is a need for more research in comparing non-indicated interventions against indicated interventions suggested by the PDC-HS (Wilder et al., 2020). In a review on the effectiveness of the PDC-HS, Wilder et al. (2020) called for more research to be conducted on non-indicated interventions that are expected to improve performance, since most research has selected non-indicated interventions arbitrarily or with the expectation that they will fail. In this review, Wilder et al. (2020) suggested having the PDC-HS filled out by the supervisors independently without an interviewer conducting the assessment. Finally, they suggested that future research should explore the validity

and reliability of the PDC-HS by having multiple supervisors fill out the PDC-HS for the same deficit in performance of one staff member.

Since previous studies regarding the quality of session note submissions of RBTs® do not utilize the PDC-HS assessment to determine an indicated intervention, it is possible that by chance that they selected an intervention that was effective in changing the quality of session notes, or they lack evidence from an assessment of why they selected a specific intervention. Although Luna and Rapp (2019), Piazza et al. (2020), and Brown et al. (2021) provided training that changed the quality of session notes, they did not utilize an empirically supported assessment to do determine how to teach the skill.

This study included the use of the PDC-HS to assess the deficits which maintained incomplete session notes submitted by RBTs®. After the PDC-HS was completed, the non-indicated and indicated interventions were selected based on the assessment. Although we planned to compare the indicated and non-indicated interventions to addresses the call for future research by Wilder et al. (2020), we were only able to measure the effects of the non-indicated intervention since the participants met mastery during this phase. We also had two supervisors conduct the PDC-HS independently (without the presence of an interviewer) for the same staff which demonstrate poor performance in writing complete and objective session notes. This study evaluates the effectiveness, reliability, and validity of the PDC-HS assessment by exploring the effectiveness of the Performance Consequences, Effort and Competition intervention of performance feedback in increasing the completeness and objectivity of documentation submissions by RBTs® in an autism clinical setting.

CHAPTER II

METHOD

Participants

The participants in this study included three RBTs®, Jersey, Montana, and Boston; and two BCBAs®. The BCBAs® in this study ranged in experience from less than one year to over 5 years. Both BCBAs® did not have previous experience or training with the PDC-HS and were recruited for the study because they supervised RBTs®. The RBTs® were selected based on their current performance in writing incomplete and subjective session notes. The RBTs® that were selected for the study consistently did not complete the session notes for their clients with all the necessary components required for documentation by their employers, supervisors, and insurance. The participants were recruited from the BCBA's® RBT® supervision groups. The participants included one male and two females between the ages of 18 and 34. All three RBT® participants identified as white, non-Hispanic or Latino. Educational backgrounds ranged between some college (without a degree) to a bachelor's degree. All three RBTs® were full-time employees. The RBTs® ranged in job experience from less than a year to 3-5 years.

All RBT® participants received informal training on how to complete session notes by other RBTs® during shadowing sessions as part of the onboarding process and initial training. This training was not standardized and varied in style, detail, and comprehensibility. This training often referenced a template provided by the company.

Consent was obtained from five RBTs®, but two of the RBTs® met the exclusion criteria so no data were collected for them. Consent was obtained from all participants prior to data collection.

Setting and Materials

This study was conducted in an autism treatment center which provides Applied Behavior Analytic (ABA) services to individuals with autism between the ages of 3-21 and an Adult Day Treatment program using ABA for adults over 21. The treatment center provides 1:1 services for clients.

Clients receive ABA services between 8:30am and 3:30pm, Monday through Friday. Documentation written by the RBTs® was collected upon submission in a spreadsheet compiled for each client. The RBT® documentation submissions were reviewed by the experimenter after they were submitted by RBTs® after the clients left the clinic.

RBTs® submitted their session notes using company provided tablets where they would digitally write their session notes. Once the session notes were written, the RBTs® would submit the note electronically and the notes would be stored on a spreadsheet for the BCBAs® to review. The RBTs® used a template guide provided by the company which outlined the requirements for session notes.

Data were drawn from a spreadsheet containing the written submissions of session notes written by the RBTs®. The submitted session notes are automatically sorted and compiled for each client on separate spreadsheets. The spreadsheets contained a timestamp of the session note submission, a record of when the services documented

were provided, and a session note written by the RBT® detailing the events of the session.

Research Design

In this study, a nonconcurrent multiple baseline design with two phases (i.e., AB) across participants was used. A multiple baseline design was appropriate for this study since multiple baseline designs across participants measure the same behavior across individuals. In this study, the percentage of required components present in the session note submission was measured, which is an expansion of the checklists created by Luna and Rapp (2019), Piazza et al. (2020), and Brown et al. (2021).

The participants chosen for this study demonstrated steady, low baseline levels of performance, shown by having low percentages of the required components of their session notes complete. When the baseline levels are low, a multiple baseline design across participants can clearly show that changes in behavior that occur are due to introducing an intervention. In the second phase, we introduced the non-indicated intervention from the PDC-HS (performance feedback).

A nonconcurrent multiple baseline design was appropriate for the setting of this study due to the variability in documentation submissions completed by staff daily. With the company's process in assigning RBTs® to work with clients, there was variability in the number of clients that each RBT® worked with on a given day. This means that each RBT® had the potential to submit a different number of session notes per day. Watson and Workman (1981) explained that nonconcurrent multiple baseline designs are beneficial for researchers working in applied settings due to the high probability that the target behavior is unlikely to occur at the same time across participants.

Although there have been arguments in the past about the validity of nonconcurrent multiple baseline designs, Slocum et al. (2022) explained that concurrent and nonconcurrent multiple baseline designs have virtually equivalent threats to internal validity in the domains of maturation, testing, and session experience. They also argue that either variation of the multiple baseline design contains the threat of coincidental events. They claim that the threat of coincidental events in multiple baselines is an inherent weakness rather than a flaw in executing the designs. To show experimental control in nonconcurrent multiple baselines, they argue that having three or more tiers can provide a strong basis to address the threats of coincidental events, so in this study there were three RBT participants who received the intervention.

In previous studies that addressed the quality of session note documentation in ABA, variations of multiple baseline designs have been used. Luna and Rapp (2019) used a quasi-experimental design of a pre- and post-test across participants to measure the effects of a checklist in improving the quality of session notes across participants. To expand these findings with more experimental control, Piazza et al. (2020) used a nonconcurrent multiple baseline to measure the impact of remote staff training on increasing the quality of session notes. Brown et al. (2021) used a concurrent multiple baseline that was adapted to meet the needs of their setting. In this study, based on the precedent of previous studies and the suggestions of using multiple baseline designs in applied settings from Slocum et al. (2022), a nonconcurrent multiple baseline design across participants was used. This study expands upon previous studies to demonstrate experimental control while using the PDC-HS to select an intervention for improving the quality of RBT documentation.

Measurement and Data Collection

The dependent variable measured in this study was the objective and complete documentation submissions of RBTs® following a 1:1 clinic-based session. A complete and objective session note consists of ten components. The components required for this study were created in collaboration with the clinical director of the setting and based on feedback received from a recent audit from insurance on the company's quality of documentation. Analytic and objective statements are drawn from observation rather than opinion or inferences (Piazza et al., 2020; Luna and Rapp, 2019). Objective and complete session notes were evaluated by using the requirements listed in Appendix A. Researchers calculated the number of components present against the total components required this proportion was reported as a percentage. The accuracy of the session notes was not measured in this study, as was done by Brown et al. (2021).

Data were collected for each participant using the checklist datasheet in Appendix A. Each participant's session note submission was scored by the experimenter and recorded as a percentage. Written feedback was detailed on each graded checklist and the graded checklist was then delivered to the respective RBT® participant paired with verbal feedback. Each score corresponds with a data point on a tiered graph organized by the participants. The maximum number of notes that the RBTs® could submit in one day was three session notes, meaning that the non-indicated intervention was implemented a minimum over a two-day data collection period. The submitted session notes from the RBTs® were written about different clients which speaks to the generality of skill performance observed during data collection.

Interobserver Agreement

Interobserver agreement (IOA) data was collected by having two people independently score 30% of the collected session notes. The scorers used the same scoring checklist, marking whether each required part of the session note was present (+) or absent (-) in the original documentation submission. The second scorer scored a deidentified session note (i.e., names removed) to comply with ethical limitations. IOA data points were selected randomly across all the conditions for each participant. The percentage correct was calculated by recording the required parts that were present and then dividing by the total number of required parts of the session note. IOA was calculated by dividing the lesser score by the higher score and multiplying by 100 for each participant. The IOA results are as follows: Jersey *M* = 97%, (range = 85–100%); Montana *M* = 86.3% (range = 75–100%); Boston *M* = 83.2% (range = 75–90%).

Procedural Fidelity

Due to staffing limitations, the experimenter recorded data on procedural fidelity for the non-indicated intervention using a checklist. The non-indicated area of the PDC-HS for this study was Performance Consequences, Effort, and Competition. The teaching method for this intervention was to deliver written and verbal feedback to each participant after completing each session note. To ensure procedural fidelity, the experimenter documented if they delivered the feedback to the RBTs® after a session note was submitted and before the RBT® wrote their next session note with “YES” (the feedback was delivered) or “NO” (the feedback was not delivered). Data were collected using the procedural fidelity checklist in the appendix. Procedural fidelity was calculated by dividing the total number of times the checklist was delivered to the RBTs® by the

total number of opportunities for the checklist to be delivered. Procedural fidelity was 100%.

Social Validity Data

Social validity data was taken in the form of a survey given to the RBTs® participating in the study. This survey contained a list of statements which asked the participants how much they agree or disagree with several statements, modeled after the social validity survey done by Piazza et al. (2020). The RBTs® were the direct recipients of the PDC-HS intervention in this study. Since they experienced the intervention, it was important to collect data on the validity of the intervention from the perspective of the participants. The results of the social validity survey, as seen in Table 1, show that all staff who received the intervention were satisfied with the PDC-HS intervention.

Procedures

Baseline

Baseline data were collected for Jersey, Montana, and Boston. Baseline data consisted of scoring each submission from each RBT® participating in the study using the checklist listed in the appendix. The baseline scores are the percentage of required parts that were present divided by the total number of required parts of the session note for each session note submission. If session notes were not completed on time, the RBT® was prompted to complete the session note. A follow-up was sent to the RBTs® to submit their documentation, but there were no programmed contingencies if the session note was not completed on time.

Intervention

The PDC-HS was conducted by two supervising BCBAs® at the clinic where the study took place. The PDC-HS was completed without an interviewer asking the questions. A brief orientation training was given to both BCBAs® with an explanation of the purpose of the assessment, example interventions for each area, how the assessment would be scored, and how to choose yes/no versus N/A for more accurate scoring. The researcher then gave copies of the PDC-HS to the BCBAs® to complete. The area with the most items scored as "no" was considered the indicated intervention, which was Training. The area with the least number of items scored as "no," or indicating a problem, was the Performance Consequences, Effort, and Competition area, which was considered the non-indicated intervention. After the baseline data were recorded, the non-indicated intervention was implemented first for Jersey, Montana, and Boston.

Non-indicated intervention. The Performance Consequences area had the least number of items suggesting a problem, so it was selected for the non-indicated intervention. For this intervention, the RBTs® received a graded checklist outlining which required components of the checklist were present and absent in their submitted session notes. This feedback consisted of a scoring sheet of +/- scores for each required section of the documentation submission. The RBT submitted the session note, and then the session note was scored by the experimenter. After the note had been scored, the experimenter delivered the scored session note back to the RBT for review, along with verbal feedback explaining and elaborating on the written feedback on the checklist. The RBT was given the chance to ask questions and clarify notes based on the feedback. The experimenter answered the RBTs questions regarding their performance.

After baseline data were collected and the non-indicated intervention had been selected, Jersey received the non-indicated intervention. After five data points were collected for Jersey, Montana received the non-indicated intervention. After four data points were collected for Montana, Boston received the non-indicated intervention and five data points were collected.

As researchers initially planned, if the non-indicated intervention was effective at changing employee performance to the mastery criterion, the indicated intervention would not be implemented. The mastery criterion for all subjects required the participants to have 90% or more of the required aspects of session notes over 3 data collection days. Since the data showed that the non-indicated intervention was effective in improving all of the participant's scores to the mastery criterion, the indicated intervention was not implemented after the non-indicated intervention. Although Jersey and Boston had both met mastery before five data points were collected, the researchers decided to continue to collect data on their performance to demonstrate performance stability during the non-indicated intervention rather than discontinuing data collection after mastery. Only four data points were collected for Montana since she developed an illness and was unable to work.

If an RBT® who was participating in the study did not submit a session note on time, a follow up would have been sent to the RBTs® to submit their documentation, without programmed contingencies if the session note was not completed on time. This would have minimized prompting as a variable affecting the results of the study since the prompting would have been consistent during both baseline and the non-indicated

intervention phases. However, during this study, none of the participants required prompting to turn in their session notes.

Maintenance

A maintenance probe was collected after ten session notes for Jersey, after eight notes for Montana, and after one note for Boston after meeting the mastery criterion during the non-indicated intervention condition. The researchers collected maintenance data at different intervals post-mastery due to the company implementing changes to the session note submission forms based on an audit deadline. These company changes added possible confounding variables to the study so maintenance data were collected across participants before the company changed submission forms so that there could be some observation of maintained skills under the same conditions as the non-indicated intervention was introduced.

Another maintenance probe was collected for each of the participants at three weeks post-mastery in the non-indicated intervention, as was previously proposed for the study. This data does include changes, including the changed submission form, by the company.

Maintenance data were scored the same as the baseline data were scored. For any maintenance data points that fell below the mastery criterion of 90%, additional feedback was provided to the RBT®.

CHAPTER III

RESULTS

According to the results shown in Figure 2, Jersey showed a consistently low-level during baseline with little variability (*M* = 60%, range = 40–70%). In the non-indicated intervention phase, Jersey showed a significant change from baseline levels (*M* = 100%). Jersey's data during the non-indicated intervention phase shows her maintaining a high level above mastery for all the data points, meaning that all the required components in the documentation submissions were present. This sudden level change in the results suggests that the non-indicated intervention was effective in changing the objectivity and completeness of Jersey's documentation submissions while it was being implemented. Maintenance data suggests after ten session notes without feedback given after each session note, Jersey maintained high levels. However, when maintenance data were pulled after three weeks (45 notes), and after the additional changes were made by the company, Jersey's score dipped to 80% of required components present.

Montana showed a low-level of performance during baseline with some variability ranging between 40% to 70% (*M* = 54%, range = 40–70%) of the required parts present in documentation submissions. In the non-indicated intervention feedback phase, Montana showed an increased level change from baseline levels (*M* = 87.5%, range = 80–90%) with three of the four data points meeting the mastery criterion of 90%. Montana's data during the feedback phase shows little variability and an increasing trend with maintaining the score of 90% across the last three data points. This suggests that the indicated intervention was effective for changing the objectivity and completeness of

Montana's documentation submissions. Maintenance data suggests after eight session notes without feedback given after each session note, Montana maintained a score at criterion level. When maintenance data were pulled after three weeks (45 notes), and after the additional changes were made by the company, Montana's score remained at 90% of required components present.

The data for Boston show a low-level during baseline (*M* = 53.3%, range = 40–70%). In the non-indicated feedback phase, Boston showed a large increase in performance (*M* = 96%, range = 90–100%). As seen in Figure 2, Boston did not fall below 90% after the feedback intervention began. These results suggest that the non-indicated intervention of feedback was effective in increasing the objectivity and completeness of Boston's documentation submissions. Maintenance data suggests after one session note without feedback given after each session note, Boston maintained a score above criterion level. When maintenance data were pulled after three weeks (45 notes), and after the additional changes were made by the company, Boston's score remained at the criterion level of required components present.

Although slight variability is shown in the non-indicated feedback intervention data, none of the participants' scores fell below or were equal to their scores represented in the baseline data. This suggests that the non-indicated intervention from the PDC-HS was effective for all the participants in increasing the quality and completeness of session notes they submitted during the data collection period.

CHAPTER IV

DISCUSSION

As seen in Figure 1, data show the PDC-HS non-indicated intervention was in the area of Performance Consequences, Effort, and Competition. We implemented the non-indicated intervention by providing RBTs® with a graded checklist with both written and verbal feedback of the required components of the session note delivered after they completed their documentation. The feedback included examples and non-examples of the required components to complete and objective documentation submissions. The feedback was delivered quickly to the RBTs after they had completed the session documentation note as was done by Carr et al. (2013).

Implications

This study implies that the PDC-HS non-indicated intervention was effective in determining an intervention that increased the objectivity and completeness of session notes written by three RBTs® in an autism clinical setting. Although we initially attempted to compare the indicated and non-indicated interventions from the PDC-HS, the non-indicated intervention was effective in this study. These results suggest a new finding that the non-indicated intervention might be effective in improving employee performance for a targeted performance problem, especially when the non-indicated intervention is given a good faith effort to be effective.

Wilder et al. (2020) suggested more research be conducted comparing the non-indicated and indicated interventions from the PDC-HS, this study contributes to that call. Few studies have compared non-indicated and indicated interventions with the exception of Bowe and Sellers (2019), who found the non-indicated intervention was not effective

and the indicated intervention was effective in improving error correction procedures by preschool professionals (also see Hoffmann and Pastina, 2024). The non-indicated intervention in the current study was effective in changing the behavior of RBTs® to write complete and objective session notes so a comparison with an indicated intervention was not possible. Since the findings of this study are in contrast to the results from Bowe and Sellers (2017), further investigations on the validity of the PDC-HS may be necessary. We would suggest future researchers examine specific skills for which the PDC-HS is more likely to produce more effective indicated interventions relative to ineffective non-indicated outcomes. That is, it may be the case that the PDC-HS is more appropriate for some skills (e.g., error correction procedures, Bowe & Sellers, 2017; implementing behavioral interventions, Hoffmann & Pastina,2024) compared to other skills (e.g., correct session note completion).

This study also expands the findings of Luna and Rapp (2019) and Brown et al. (2021), by using an empirically supported assessment (PDC-HS). Although the PDC-HS non-indicated intervention in this study was effective in improving session note objectivity and completeness, this study addressed the limitations of their findings by pinpointing an intervention that decreases the time and resources of interventions used in a treatment package to better the performance of staff (Brown et al., 2021). It should be considered, however, that the non-indicated intervention was effective at changing the performance of the participants in this study, so more research needs to be done to explore the efficacy of the PDC-HS assessment in relation to determining effective interventions to improve session note writing in RBTs®.

Another implication of this study may be that the PDC-HS non-indicated intervention is effective in improving performance in a purely applied setting. Since the majority of previous research in using the PDC-HS has been conducted in carefully controlled university clinical settings, more studies should explore the PDC-HS indicated and non-indicated interventions in applied settings like clinics, schools, and for in-home services. Analyzing the PDC-HS in applied settings might be useful in developing more naturalistic or combined training methods to dynamically meet the needs of staff.

This study was cost effective and although it required a significant amount of time per participant at the start, each RBT quickly improved their performance and required about two days of feedback to meet mastery. This shows that the interventions suggested from the PDC-HS can be more economical than treatment packages while still being effective.

Finally, as shown in Figure 1, this study suggests how that the PDC-HS is a reliable assessment by having a high level of agreement between two supervisors who filled out the PDC-HS independent of an interviewer about the same staff members who demonstrated poor performance (Wilder et al. 2020). We calculated the Spearman rank correlation coefficient of $p = .869$ which indicates a strong positive correlation between the results between the BCBAs®. This suggests that the PDC-HS can be filled out with high reliability by supervisors that lack in-depth training about the PDC-HS.

Limitations

This study contains many limitations which require consideration. One limitation of this study is the lack of control over the RBTs® discussing the interventions with each other. In the applied clinical setting, it is impossible to control all private conversations

between RBTs® or their observations of coworkers. Due to limitations of staffing availability in the applied setting, feedback was given as privately as possible, but it was possible that other RBTs® observed the feedback being delivered. Another limitation of this study is that there were only 3 participants observed in this study, so the effects of the changes observed cannot be generalized to larger groups of RBTs®.

There was a large confounding variable of the company introducing a new submission form to the RBTs® before all maintenance data could be collected. This introduction of another variable compromised the validity of the maintenance data taken after 3 weeks and limited the time for Montana and Boston's first maintenance data points.

Another limitation to consider in this study is the checklist itself. The last two requirements on the session note checklist were turning in the session note on time and having two or less grammatical and spelling errors. The most frequent points missed on the checklist were timely submission and spelling errors. Frequently, when the feedback was delivered to the RBTs that they their submission contained too many errors or was late, they were disheartened and explained that it was difficult to complete the requirements during the allotted time or that the spell-check feature on the tablets they were using to complete the session note automatically corrected their spelling incorrectly, as if it defaulted to an incorrect spelling.

This is an important point to consider since it is possible that the session note requirements on the checklist covered multiple areas addressed in the PDC-HS and that a combination of interventions could have been more effective (i.e., resources and materials combined with feedback). It is possible that even a combination of non-

indicated area interventions might be effective in improving performance. More research should be done to explore this idea. It is also important to consider if skills such as spelling could have been effectively taught using the indicated intervention (i.e., BST).

The accuracy of the session notes was not measured in this study, as was done by Brown et al. (2021). It would likely be beneficial to behavior technicians to also have feedback on the accuracy of their session notes representing to insurance what programs were run and what client behaviors were targeted during the session.

Procedural fidelity was taken by the researcher on herself due to staffing limitations. It would have been more valid to have another observer take data on the researcher's implementation of the feedback intervention. This would be an important part to future research in considering the potential effectiveness of the non-indicated intervention since it would add data to support that the non-indicated intervention was implemented correctly and accurately.

Anecdotally, the participants seemed highly motivated by in-person feedback and interaction. All three participants often made comments to the researcher that they were excited to receive feedback after submitting their notes, with Jersey making the most comments. As the data show in Figure 2, Jersey's maintenance data after three weeks was the lowest out of all three participants. It could be that since receiving feedback was very motivating for her, after many notes without feedback, her scores decreased below mastery. More research should be conducted to explore the maintenance of skills from the non-indicated interventions and address this potential limitation.

Future Research

Future research should explore the long-term maintenance of the change in behavior observed from the PDC-HS non-indicated intervention in this study. Although this study measured the short-term maintenance of skills, the effects of the intervention should be observed for its effects on long term maintenance without confounding variables (i.e., the introduction of an additional intervention).

More research should be conducted to examine the effects of the non-indicated versus the indicated intervention; however, Wilder et al. (2020) suggested, the non-indicated intervention should not be expected to fail. Additionally, future research should continue to measure the reliability of the PDC-HS across multiple supervisors and for supervisors that conduct the PDC-HS independent of an interviewer, especially those who have little training with the PDC-HS.

Researchers could also investigate using the PDC-HS as a self-monitoring resource for staff. Since this study showed that there were high levels of agreement between two BCBAs who lacked in-depth training of the PDC-HS, it could be used as a resource for RBTs® to use as a reflection of their own performance deficits. It could also be used both by an RBT® and a BCBA® independently and then the supervisor and supervisee could meet to come to decide an intervention that would be effective for the supervisee.

Figure 1

Results of the PDC-HS Assessment

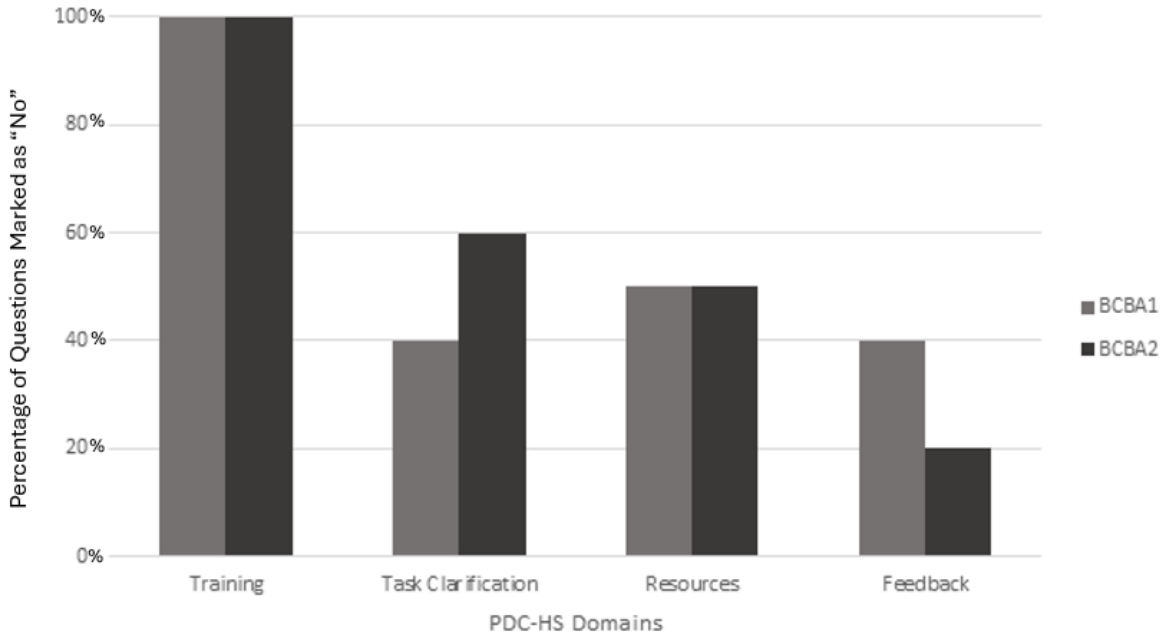
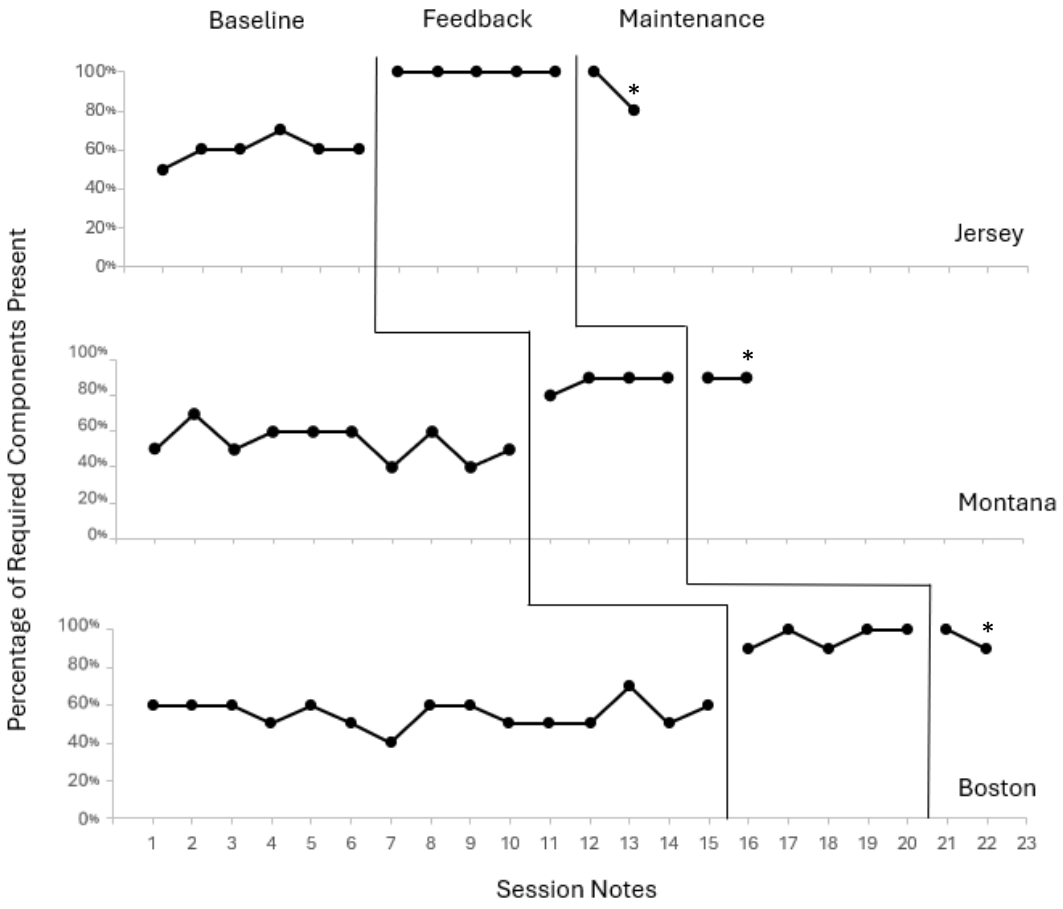


Figure 2

The effects of the PDC-HS non-indicated intervention on complete and objective session notes



Note. Feedback = PDC-HS non-indicated intervention of feedback. Asterisks indicate data at 3-week follow-up probe following company session note requirement changes.

Table 1

Social Validity Survey Data

Question	*n*	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
My knowledge of writing objective and complete session notes has increased after the intervention.	3	100	0	0	0	0
My application of independently writing objective and complete session notes has increased after the intervention.	3	100	0	0	0	0
I have continued to use the skills I learned to write objective and complete session notes for each 1:1 session.	3	100	0	0	0	0
I was satisfied with the intervention.	3	100	0	0	0	0
I would recommend other RBTs receive this intervention to improve session note writing.	3	100	0	0	0	0

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APPENDICES

Appendix A: Session Note Requirements Grading Checklist

Submission contains 3 objective motivators. (Do not list food as a motivator)	+/-
Submission contains a description of how the motivators were used. **Example**: Max was motivated by playing with a red toy car, which was used to transition, a purple balloon which we filled with water to play with, and racing in the gym, which we used to model manding. **Non-example**: Max was motivated by Cheetos, sitting, and being at lunch club.	+/-
Submission lists 5 goals that were targeted during the session. Should include details and avoid vague statements. **Example**: Max worked on tacting pictures of his family members on his AAC, manding for cessation from peer play, following a task analysis to wash his hands in the bathroom, using a visual first/then board to complete tech-led transitions, and we practiced riding a bike for 20 seconds using differential reinforcement. **Non-example**: Max worked on tacting, manding, washing his hands, and riding a bike.	+/-
Submission cites behaviors of concern that occurred or did not occur during the session. **Example**: Max demonstrated behaviors of concern which looked like self-pinching by using his thumb and index finger to pinch his skin on his right arm in the gym after a demand was placed to transition away from the room to the hallway. **Non-example**: Max pinched himself really hard when I told him to leave.	+/-
Submission contains effective consequence strategies for the recorded behaviors of concern. If there were no behaviors of concern recorded, antecedent strategies used must be included. **Example**: The effective consequence strategies were providing Max his choice board and prompting him to stay in the gym to take a break. **Non-example**: No consequences worked to get Max to stop him from screaming.	+/-
Description of behaviors of concern or antecedent strategies are objective and behavior analytic.	+/-

Description of behaviors of concern include the setting events and topography of behavior OR the antecedent strategies include detail on how they were used. **Example**: The antecedent strategies used were priming before transitions to the gym and green room and offering choices between work tasks. **Non-example**: The antecedent strategies used were priming and offering choices.	+/-
Submission contains a highlight from the session. (purpose: highlight for parents) **Example**: Max did a fantastic job tracing the letters of his name today on a whiteboard. **Non-example**: Max did good listening.	+/-
Submissions are submitted during the last 15 minutes of the session.	+/-
Submission contains two or less spelling or grammar errors.	+/-

Appendix B: Social Validity Survey Rating Scale

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My knowledge of writing objective and complete session notes has increased after the intervention.					
My application of independently writing objective and complete session notes has increased after the intervention.					
I have continued to use the skills I learned to write objective and complete session notes for each 1:1 session.					
I was satisfied with the intervention.					
I would recommend other RBTs receive this intervention to improve session note writing.					

Appendix C: Procedural Fidelity Data Collection

Scored as all or nothing using requirements below

Date	Was the treatment delivered?
Jersey 1	**YES** NO
Jersey 2	**YES** NO
Jersey 3	**YES** NO
Jersey 4	**YES** NO
Jersey 5	**YES** NO
Jersey 6	**YES** NO
Jersey 7	**YES** NO

Date	Was the treatment delivered?
Montana 1	**YES** NO
Montana 2	**YES** NO
Montana 3	**YES** NO
Montana 4	**YES** NO

Montana 5	**YES** NO
Montana 6	**YES** NO

Date	Was the treatment delivered?
Boston 1	**YES** NO
Boston 2	**YES** NO
Boston 3	**YES** NO
Boston 4	**YES** NO
Boston 5	**YES** NO
Boston 6	**YES** NO
Boston 7	**YES** NO

Steps of treatment:

1. The experimenter will assess if the treatment is needed based on data levels.
2. The experimenter will deliver the treatment as described in the PDC-HS and based on the PDC-HS results.
3. Experimenter ensured comprehension and allowed for/responded to questions from the RBT.
4. The experimenter delivered the treatment before the employee is required to complete the next session note.

Appendix D: Previous Documentation Template for Technicians

(Client) was motivated by _____, _____, and _____. With these motivations we worked on _____, _____, and _____. (Client) demonstrated maladaptive behaviors for the function of _____ which looked like _____. The effective intervention was _____. (Client) did a fantastic job with _____.

Appendix E: Performance Diagnostic Checklist – Human Services Assessment

PDC-HS

Performance Diagnostic Checklist – Human Services

Employee's Name: _____ Interviewer: _____ Date: _____

Describe Performance Concern: _____

Instructions: Answer the questions below about the employee's specific performance problem (not the employee in general). The problem should be operationalized as either a behavioral excess or deficit. Items with an asterisk (*) should be answered only after the information is verified through direct observation.

TRAINING

1	❍ Yes ❍ No	Has the employee received formal training on this task? If yes, check all applicable training methods: ❍ Instructions ❍ Demonstration ❍ Rehearsal
2*	❍ Yes ❍ No	Can the employee accurately describe the target task and when it should be performed?*
3	❍ Yes ❍ No	Is there evidence that the employee has accurately completed the task in the past?
4*	❍ Yes ❍ No ❍ N/A	If the task needs to be completed quickly, can the employee perform it at the appropriate speed?*

TASK CLARIFICATION & PROMPTING

1	❍ Yes ❍ No	Has the employee been informed that he/she is expected to perform the task?
2*	❍ Yes ❍ No	Can the employee state the purpose of the task?
3*	❍ Yes ❍ No	Is a job aid (e.g., a checklist, data sheet) for completing the task visibly located in the task area?
4	❍ Yes ❍ No	Is the employee ever verbally, textually, or electronically reminded to complete the task?
5	❍ Yes ❍ No	Is the task being performed in an environment well-suited for task completion (e.g., not noisy or crowded)?

RESOURCES, MATERIALS, & PROCESSES

1	❍ Yes ❍ No	Are there sufficient numbers of trained staff available in the program?
2*	❍ Yes ❍ No ❍ N/A	If materials (e.g., teaching stimuli, preferred items) are required for task completion, are they readily available (e.g., easy to find, nearby)? If no materials are required, proceed to question 5. List materials below and indicate their availability. Item 1: _____ Item 2: _____ Item 3: _____ Item 4: _____

3*	❍ Yes ❍ No ❍ N/A	Are the materials necessary to complete the task well designed for their intended purpose?
4*	❍ Yes ❍ No ❍ N/A	Are the materials necessary to complete the task well organized for their intended purpose?
5	❍ Yes ❍ No	Can the task be completed without first completing other tasks?? If not, indicate below the tasks that must be completed first. Task 1: _____ Task 2:_____ Task 3: _____ Task 4: _____
6	❍ Yes ❍ No ❍ N/A	If you answered NO for Question 5, are other employees responsible for completing any of the earlier tasks in the process? If so, indicate the employee(s) below. Task 1: _____ Task 2: _____ Task 3: _____ Task 4: _____

PERFORMANCE CONSEQUENCES, EFFORT, & COMPETETION

1	❍ Yes ❍ No	Is the employee ever directly monitored by a supervisor? If so, indicate the frequency of monitoring. ❍ hourly ❍ daily ❍ weekly ❍ monthly ❍ Other: _____
2	❍ Yes ❍ No	Does the employee ever receive feedback about the performance? If yes, indicate below. By whom? _____ How often? _____ Delay from task? _____ Check all that apply: Feedback Focus: ❍ Positive ❍ Corrective Feedback Type: ❍ Written ❍ Verbal ❍ Graphed ❍ Other: _____
3	❍ Yes ❍ No	Does the employee ever see the effects of accurate task completion? If yes, how? _____
4	❍ Yes ❍ No	Is the task simple or does it involve relatively low response effort?
5	❍ Yes ❍ No	Does the task generally take precedence over other potentially competing tasks? If not, indicate these competing tasks below. Task 1: _____ Task 2: _____ Task 3: _____ Task 4: _____

INTERVENTION PLANNING

Instructions: Each item scored as *NO* on the PDC-HS should be considered as an opportunity for intervention with priority given to areas in which multiple items are endorsed. Interventions may be implemented concurrently or consecutively, with the latter option being preferred for settings in which staff resources are limited. Sample interventions and illustrative literature citations for each area are provided below.

Area	Item #	Sample Intervention(s)	Literature Citations
Training	1, 2, 3, 4	Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback)	• Barnes, Dunning, & Rehfeldt (2011) • Nabeyama & Sturmey (2010)
		Improved personnel selection	• Gatewood, Feild, & Barrick (2008)
Task Clarification & Prompting	1, 2	Task clarification & checklists	• Cunningham & Austin (2007) • Gravina, VanWagner, & Austin (2008) • Bacon, Fulton, & Malott (1982)
	3, 4	Prompts	• May, Austin, & Dymond (2011) • Petscher & Bailey (2006)
	5	Change/alter task location	• Green, Reid, Passante, & Canipe (2008)
Resources, Materials, & Processes	1	Adjust staffing	• Strouse, Carroll-Hernandez, Sherman, & Sheldon (2003)
	2, 3, 4	Improve access to (2), redesign (3), or reorganize (4) task materials	• Casella, Wilder, Neidert, Rey, Compton & Chong (2010)
	5, 6	Reassess task process and personnel	• Diener, McGee, & Miguel (2009) • McGee & Diener (2010)
Performance Consequences, Effort, & Competition	1	Increased supervisor presence	• Brackett, Reid, & Green (2007) • Mozingo, Smith, Riordan, Reiss, & Bailey (2006)
	2	Performance feedback	• Arco (2008) • Green, Rollyson, Passante, & Reid (2002)
	3	Regularly highlight task outcomes	• Methot, Williams, Cummings, & Bradshaw (1996)
	4	Reduce task effort	• Casella, Wilder, Neidert, Rey, Compton, & Chong (2010)
	5	Reduce aversive task properties	• Green, Reid, Passante, & Canipe (2008)