

**Improving Access to Early Childhood Special Education: Evaluating the Impact of
Implementing the Performance Diagnostic Checklist-Human Services (1.1)**

By

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Dissertation Abstract

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Title: Improving Access to Early Childhood Special Education: Evaluating the Impact of Implementing the Performance Diagnostic Checklist-Human Services (1.1)

Early childhood special education evaluation teams in public education settings experience large caseloads and extensive waitlists with limited time and resources to improve practices. This study evaluated the use of the Performance Diagnostic Checklist-Human Services (1.1) to improve early childhood special education evaluation processes to reduce the length of time from referral to intervention in a California school district. Performance Diagnostic Checklist-Human Services (1.1) results were used to identify challenges and individualize improvement plans to guide professional development and coaching. The study used a concurrent multiple baseline single-case design, with public school district employees from the screening and assessment unit. Individualized performance goals from improvement plans, timeline data from referral to intervention, process fidelity checklists, and social validity surveys were used to assess outcomes. The Performance Diagnostic Checklist Human-Services (1.1) and resulting improvement plans were effective in improving individual performance of evaluation team members and were rated helpful by participants, but did not advance evaluation processes and reduce timelines from referral to intervention. The study contributes to the fields of special education, applied behavior analysis, and organizational behavior management by evaluating an easy and effective practice to support access to early childhood special education services.

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Chapter I: Introduction

Chapter I introduces the topic and provides background information that will be expanded on in the literature review in Chapter II.

Background

Access to timely, effective early childhood special education (ECSE) services is integral for the development and future outcomes of students with disabilities (Hebbeler et al., 2007; National Academies of Sciences, Engineering, and Medicine, 2023). Special education mandates require school districts to find, evaluate, and provide evidence-based early intervention to children eligible for special education services (United States Department of Education, 2024b). Public schools and early education schools within school districts and county offices of education (COEs) allow children to access early intervention services that may otherwise be unavailable. In fact, 79% of children ages 3 through 5 years old with disabilities receive early intervention services through their local education agency (LEA), with 75% receiving services within a public school setting from district staff (Lipscomb et al., 2020). However, many districts are challenged with providing timely assessment and intervention for students with disabilities (National Academies of Sciences, Engineering, and Medicine, 2023; Peyton et al., 2021).

There are various factors contributing to the delay of access to ECSE services through public school districts including staff shortages, increased referrals, Covid-19 pandemic disruptions/backlogs, socio-economic status, family functioning, and an increase in students with support needs (Bettini and Gilmour, 2024; Brunt et al., 2024; Sapiets et al., 2021). Many children do not receive timely access to critical evaluation and early intervention services also due to racial, ethnic, or linguistic minority status, and/or immigration status, creating an increased need for intensive intervention later (National Academies of Sciences, Engineering, and Medicine,

2023; Sapiets et al., 2021). School districts are faced with a need for additional staff given the increase in referrals, however there is a lack of qualified ECSE teachers, related service providers, and school psychologists/evaluators (Suhrheinrich et al., 2021). Some districts are also faced with funding shortfalls as special education has historically been underfunded and early education funding is not guaranteed (Connor & Ferri, 2007). Many states do not have universal preschool, and public preschool is not available in most districts, also limiting access to services (American Public Health Association, 2017; Barnett, 2010).

While many of these factors are complex and challenging to solve, school districts can make improvements in a few key areas to mitigate delays in accessing early intervention services. Districts can reduce unnecessary wait times for students requiring ECSE services by streamlining the referral and evaluation processes and increasing the efficiency of internal practices. Districts can improve evaluation team performance through targeted training and by refining practices to speed up the evaluation processes, which are often impacted by procedural bottlenecks (Hunt et al., 2020; Steed & Stein, 2023). Prioritizing the improvement of evaluation processes and team performance can help districts more efficiently identify students eligible for ECSE, even when faced with staff shortages, high referral rates, and limited resources. Although these steps will not solve larger complex issues related to staff shortages, funding gaps, systemic disparities, and increases in referrals, school districts can focus on changes within their control to improve timely access to ECSE services. This can make a meaningful difference, allowing students to benefit from special education services during crucial early years of development, where interventions have the most impact (American Public Health Association, 2017; Connor & Ferri, 2007). Despite best intentions and efforts, school and leadership teams may be unaware of how to improve practices or may not have sufficient time and resources to do so (Shakman et al.,

2020). Applied behavior analysis (ABA), more specifically organizational behavior management (OBM), can offer feasible practices that could be used in a variety of organizations including school districts to improve access to early intervention services (Ludwig, 2015; Luiselli et al., 2022; Wilder et al., 2009). OBM has potential to address complex challenges such as educator burnout, leadership development, and implementation fidelity of evidence-based practices in education systems (Starling et. al., 2020).

OBM assesses the effectiveness of interventions that improve desired behaviors with an individual, group, or organization by applying principles of behavior to identify, analyze, and adjust the environment (Wilder et al., 2009). More specifically, OBM pinpoints and defines target performance, develops systems to track performance, and analyzes antecedents and consequences through a functional assessment process within organizations (Brethower et al., 2021). Performance analysis, a subarea of OBM can be viewed as a functional assessment for a performance concern within an organization and identifies specific interventions matched to the issue (Carr et al., 2013). Functional behavior assessment of contingencies of reinforcement and punishment in the workplace can improve the success of outcomes of interventions with staff (Carr et al., 2013), but these procedures are still inconsistently used to address performance issues within human service organizations (Austin et al., 1999; Gravina et al., 2018; Hanley et al., 2003), despite being the gold standard.

There are several considerations when selecting assessment tools to evaluate organizational and performance issues (Austin et al., 1999; Wilder et al., 2019). Given the limited resources in public school settings, it is important to select tools that are cost-effective, fast, and easy to administer with limited training. There are a few assessment tools that are part

of the functional assessment process that have shown to be effective to identify performance concerns and improve performance in organizations, and are easy, free, and sustainable.

The Performance Diagnostic Checklist (PDC), the Performance Diagnostic Checklist-Human Services (PDC-HS) (Austin et al., 2000; Carr et al., 2013; Gilbert, 1978/1996), the Performance Diagnostic Checklist-Parent (PDC-P) (Hodges et al., 2020), and the PDC-HS (1.1) (Jimenez et al., 2023) are tools that use a function-based approach to evaluate performance and processes in organizations and homes. These checklists can help identify performance and process challenges, needs, and barriers within an organization, department, or environment, which can then be used to identify matched interventions to improve processes or performance (Carr et al., 2013). Although the PDC-HS has been used in many settings with different populations (Echeverria & Wilder, 2024b), it has only been minimally used in educational settings (Bowe & Sellers, 2018). In addition, the PDC-HS has not yet been implemented with interdisciplinary staff in public school settings, nor with evaluation professionals, and has not yet been used to improve access to early intervention services in public schools. In addition, the PDC-HS (1.1) has not yet been used as part of a self-assessment and improvement process with educational professionals as suggested by Echeveria & Wilder (2024a).

Chapter II: Literature Review

Chapter II is a literature review of the research concerning (a) the importance of timely access to early intervention, (b) federal and state special education mandates and early intervention processes, (c) the composition and function of ECSE evaluation teams (d) the current state of referral to intervention in ECSE, and (e) organizational behavior management and performance management, including applications of the PDC, PDC-P, PDC-HS, the PDC-HS (1.1) to improve personnel performance. The purpose statement and research questions for the concurrent multiple baseline single-case research design study using the PDC-HS (1.1) are also described.

Importance of Timely Access to Early Intervention

Timely access to early intervention for children with disabilities is crucial for a variety of reasons. Early childhood is a critical period for brain development as the brain shows remarkable plasticity, is more adaptable, and allows children to form connections and learn new skills efficiently (Guralnick, 2016). Children with disabilities typically have needs that require early, intensive intervention to make the most developmental progress possible (Smythe, 2021). Delaying access to essential early intervention services can widen the developmental gaps and further highlight symptoms related to disabilities (Sapiets et al., 2021; U.S. Department of Education, 2021a). Long-term behavioral, social, and academic outcomes for children with disabilities have been shown to be better for those who received early intervention services than those who did not (Fuller & Kaiser, 2020; Schweinhart, 2024).

Early intervention can teach important pivotal skills that are required to be successful in school and in society (Guralnick, 2011). It has potential to reduce or prevent the need for intensive and/or long-term supports, saving scarce resources from special education funding, and

allowing more students to access curriculum in the least restrictive environment (Osborne, 2023). Also, early intervention services benefit families as it gives them strategies and resources to support their child, reducing uncertainty and stress that often follows a child's diagnosis (National Academies of Sciences, Engineering, and Medicine, 2019). Caregivers may feel empowered after participating in early intervention and are more likely to advocate for their child, to generalize skills to new settings/people/activities, and to take a proactive role in their child's development and education (Ragni et al., 2022). Social-emotional development including learning how to regulate emotions can also be taught during early intervention services, and helps children with disabilities interact with others, communicate effectively, and develop new skills (Blewitt et al., 2018), reducing need for supports such as intensive behavioral intervention.

Special Education Mandates and Early Intervention

Not only is early intervention beneficial, it is also required. The Individuals with Disabilities Education Improvement Act (IDEIA) Part C mandates early intervention services for infants and toddlers with disabilities (0-3 years) and Part B ensures children with disabilities (3-22 years) receive special education and related services personalized to their individual needs through an Individualized Education Program (IEP). Part C requires states to provide supports and services to infants and toddlers to develop motor, speech/communication, adaptive, and cognitive skills, typically delivered in natural environments, such as a home or a daycare center (U.S. Department of Education, 2024b). IDEIA requires that LEAs provide a free and appropriate public education (FAPE) for all children found eligible for special education services requiring intervention through an IEP, which outlines present levels of performance, goals based on needs, accommodations, modifications, supports, and services to work on individualized goals (U.S. Department of Education, 2024b).

Additional laws such as Section 504 of the Rehabilitation Act of 1973 protects people with disabilities from discrimination in programs receiving federal funding, including public schools. Section 504 provides access to accommodations and modifications for students with disabilities even if they do not meet criteria for special education services under IDEIA, so that they can access learning and participate in school activities (U.S. Department of Education, 2024c). Title II of the Americans with Disabilities Act (ADA) also requires state and local government agencies to provide equal access to educational opportunities, settings/facilities, and extracurricular activities for students with disabilities (U.S. Department of Justice, 2024).

State Specific Mandates in California

While California follows federal IDEIA mandates, it has additional regulations and programs available to its residents. The California Early Start Program is a state early intervention program for infants and toddlers with disabilities and aligns with Part C of IDEIA. Early Start services are typically provided through the California Department of Developmental Services (DDS) and are provided in partnerships with local regional centers and LEAs (California Department of Developmental Services, 2023). Further, California Assembly Bill (AB) 3632 mandates collaboration between LEAs and county mental health departments to provide mental health services (e.g., behavioral intervention, counseling services, and parent training) as part of the IEP to help students access curriculum (California Department of Education, 2024).

Early Childhood Special Education Evaluation Teams

As children receiving early intervention through IDEIA Part C approach age 3, the team works to transition the child to Part B services, ECSE and related services. ECSE evaluation teams are key in finding, assessing, and matching children with disabilities with appropriate

interventions and services in the school district (Hunt, 2020) and COEs. The evaluation team, in collaboration with families and professionals, identifies and evaluates children between the ages of 3-5 years to determine eligibility for special education services (U. S. Department of Education, 2020b). Some evaluation team members also develop and implement supports and services through the IEP process. For example, the evaluation team supports families as they navigate the initial special education referral and evaluation system by providing information, resources, and educating caregivers of their rights. The ideal evaluation team is comprised of a multidisciplinary team of professionals who are specialized in a variety of fields, have expertise in assessing and supporting young children, and collaborate throughout the process (Ömür, 2021; Steed & Stein, 2023). The team can include a combination of the following members: speech and language pathologist, school psychologist, physical therapist, occupational therapist, special education teacher, general education teacher, behavior analyst, school nurse, and school administrator.

The evaluation process at a school district is initiated with a referral from either a parent/guardian, healthcare providers, childcare or preschool staff, or early intervention providers (through Part C) concerned about the child's development. After acquiring caregiver consent, the evaluation process begins with an initial screening which consists of demographic information, medical/health/intervention history, developmental milestones, a structured description of the child, their strengths, challenges, and concerns. The evaluation team (or designated administrator) determines if there will be a comprehensive evaluation with a team or if a narrower evaluation with one or more professionals will be conducted. An evaluation is completed in all areas of observed or reported need by the related professional using various data sources (e.g., interviews, formal assessments, observations, rating scales). Following evaluation,

the IEP team must make an eligibility determination for special education services based on thirteen eligibility categories, typically at an initial IEP meeting, within 60 days of receiving caregiver consent for evaluation (U.S. Department of Education, 2024). The purpose of the initial IEP meeting is to review evaluation results and develop the IEP document outlining why, which, and how supports and services will be provided to address IEP goals in identified areas of need. The initial IEP meeting and *all* IEP meetings must involve the parents/educational rights holders and include their input in California. Parent/educational rights holder consent is required once again to initiate supports and services for the student (California Department of Education, 2023). In some cases, some evaluation team members continue to work with the family and school staff and may support annual IEP reviews and/or provide direct services to the student (e.g., speech language pathologist, behavior analyst).

Current State of Referral to Intervention in Early Childhood Special Education

Although there are laws and protections for students with disabilities, school districts face challenges with the referral to intervention process (Steed & Stein, 2023). As a result, there is under- and over-identification of children with disabilities, delays with referral, and barriers to accessing services (National Academies of Sciences, Engineering, and Medicine, 2023; U.S. Commission on Civil Rights, 2019). Different states, counties, and school districts have varied access to early intervention services, based on staff shortages, geographic location, increases in referrals, availability of funding, and Covid-19 pandemic disruptions/backlogs (Sapiets et al., 2021). Some districts may also have administrative and bureaucratic bottlenecks affecting the referral to intervention process. In addition, families from non-English speaking and underrepresented backgrounds often experience additional challenges navigating the referral to intervention process (Morgan et al., 2017; National Center for Learning Disabilities, 2020).

While some of these disparities stem from cultural differences and stigma related to disabilities, others are created due to lack of information about available services, and/or communication barriers between families and service providers (Jo et al., 2015). In addition, research has shown that children from low-income and underrepresented communities are less likely to be referred to early intervention services, delaying identification of needs and access to intervention (Constantino et al., 2020; Cycyk et al., 2022; Wallis & Guthrie, 2024; Zuckerman et al., 2021).

Many school districts also don't have sufficient staff to conduct evaluations and provide early intervention services to children found eligible for special education supports and services (Mason-Williams, 2020). As a result, many evaluation team members are faced with large caseloads, short timelines, and lack of resources (e.g., test kits, materials, space) (Bettini & Gilmour, 2024; Kasprzak et al., 2020). In fact, there is a national shortage of interventionists and special educators, with continued declining enrollment in higher education and certification programs (Ondrasek et al., 2020). Staff shortages are exacerbated by high turnover in special education, given the emotional toil and expectations of the work (U.S. Department of Education, 2024a).

Although there has been improvement in recent years, disparities in accessing early intervention services continues to exist between various groups (Morgan et al., 2017; National Center for Learning Disabilities, 2020). Indigenous American, Latino, Black, and low-income families continue to experience disparities in accessing ECSE services (Castro-Hostetler et al., 2021; Morgan et al., 2017; Skiba et al., 2006). For example, Latinx children in California are less likely to receive early intervention compared to their White counterparts even when similar delays were observed and/or reported (Shenouda et al., 2022). Also, rural areas and some geographical regions may not have adequate personnel or resources to conduct timely

evaluations contributing to disparities in access (Howe et al., 2023; Vilches et al., 2023). If families are spread out geographically, staff have difficulty not only identifying for referral, but also evaluating and providing intervention (Howe et al., 2023).

The Covid-19 pandemic disruptions and backlog in the referral to intervention process, resulted in unrealistic waitlists for evaluations, as well as increased needs of children (due to lack of timely intervention). The long-term impact of the pandemic continues to be studied, but there are definitive concerns that developmental delays have been exacerbated for children who didn't receive timely intervention during that time (Egan et al., 2022; Yoshikawa et al., 2020). The waitlists created during the pandemic along with increases in the prevalence of conditions such as autism, have caused an increase in referrals for evaluations for special education services (Brunt et al., 2024). The pandemic also created economic hardships for many communities, resulting in budget reductions for critical services such as early intervention (Yoshikawa et al., 2020). In some states and districts, funding formulas have not been able to keep up with the demand and need for supports and services for children and adults with disabilities (Kolbe et al., 2022). Finally, some districts may experience administrative and bureaucratic challenges impacting the referral to intervention process. There may be unnecessary steps, redundancies, and "permissions" in processes (Matey et al., 2021; McGee & Crowley-Koch, 2021) that cause delays and extend timelines from referral to initiation of early intervention services.

In addition to the challenges mentioned above, research has shown that employee motivation directly impacts performance in various organizations, including school districts. Productivity is improved when there is higher morale, especially when organizational leadership prioritizes work quality while fostering a positive culture (Weakliem & Frenkel, 2006). Studies have also found that higher employee morale correlates with improved safety behaviors, when

consistent feedback with reinforcement systems are used to support safety goals (Sulzer-Azaroff et al., 1990). In addition, a positive work environment improves employee performance by increasing commitment and motivation for achievement (Gu et al., 2022), and employees' wellbeing is improved when leaders prioritize the needs of individuals of the organization (Mallik et al., 2019). In contrast, low morale is associated with lower productivity, adversely affecting profits (Osho et al., 2006). Excessive workloads, equity concerns, and organizational politics can result in disengagement at work, particularly in public sector organizations (Aslam et al., 2018), which can lead to poor, inefficient performance.

Supportive workplace practices and effective leadership systems are crucial for creating positive environments, improving morale, and enhancing organizational performance. Although leadership in organizations often rely on controlling consequences to change behavior, effective leaders create a culture that selects favorable behaviors that transcend compliance (Geller, 2003). Workplace culture can also be improved by providing programs to support employee needs, such as caregiver-friendly initiatives, which have been shown to create better work-life balance (Dardas et al., 2021). These strategies underscore the importance of using flexible, employee-centered strategies in accomplishing both employee and organizational success. Not only are supportive leadership and organizational systems beneficial for employees, they can create better customer-centered organizations (Tosti & Herbst, 2009). Although public education systems may not be equipped to attend to or remedy many factors impacting delayed early intervention, applications from OBM can be used as potential solutions for challenges that could be influenced.

Organizational Behavior Management and Performance Management

OBM is the application of applied behavior analysis in organizations with an emphasis on analyzing work settings to improve performance and outcomes in a scientific manner (Brethower, 1972). One of the goals of OBM is to disseminate behavioral science and offer evidence-based solutions to address concerns in organizations (Brethower et al., 2021). OBM has been used to address various work-related concerns such as employee safety (Hickman & Geller, 2003), accuracy in staff performance (Bowe & Sellers, 2018), and employee tardiness (Merritt et al., 2019). Research on OBM have shown the effectiveness of using OBM strategies to change socially significant behaviors of individuals in organizations and change the performance of the whole system (Cook & Dixon, 2005; Gavoni & Rodriguez, 2016; Shapiro et al., 2016; Wilder et al., 2009). OBM has potential to solve problems in organizations to improve staff performance and productivity through evaluation of concerns and development of related interventions. In turn, staff satisfaction and well-being are enhanced, the mission of the organization is supported, and overall outcomes can be improved (Hantula, 2015).

OBM has subareas such as behavioral systems analysis, performance management, and behavior-based safety (Wilder & Cymbal, 2022). Each of these areas focuses on different issues such as occupational injuries, productivity, and improvement of skills and quality (Gravina et al., 2018). OBM interventions fall into two categories, antecedent-based interventions and consequence-based interventions (Luiselli, 2021). Antecedent-based interventions include goal setting, task clarification, adjustment to materials/equipment, prompting, and training (Wilder et al., 2009). Consequence-based interventions include feedback and incentives (Matey et al., 2019; Wilder et al., 2009). It is common to combine antecedent- and consequence-based interventions in OBM (Wilder & Cymbal, 2022).

Performance management includes application of behavioral principles to manage performance of individuals or groups within an organization (McGee & Crowley-Koch, 2021). Individuals or groups engage in performance concerns because there may be lack of antecedents or consequences (Johnson et al., 2023) that maintain their behavior or due to lack of resources to complete the activity (Carr et al., 2013). Examples of missing, insufficient, or inadequate antecedent interventions include, lack of clear expectations, limited training, lack of job aides, prompting, and support to complete tasks. In addition, consequences may not be enforced immediately or ever, due to unskilled or absent supervisors, lack of progress checks, and insufficient support from leadership (Austin et al., 1999; Kreitner, 1982). Strategies and interventions derived from performance management, such as diagnostic checklists, offer feasible options for school districts to improve practices, including referral to intervention for ECSE and related services.

Performance Diagnostic Checklist and Some Variations

Performance Diagnostic Checklist.

The Performance Diagnostic Checklist (PDC) is an informant-based assessment that evaluates components of interlocking contingencies contributing to performance or productivity challenges in organizations (Austin, 2000). The PDC recommends strategies based on the outcomes of the assessment from a 20-item questionnaire to evaluate antecedents, processes, skills, resources, and consequences for industrial jobs (Austin, 2000). The PDC has been shown to be effective in implementing successful interventions in restaurants and shops (Doll et al., 2007; Rodriguez et al., 2006).

The PDC is an informant-based assessment and has four categories: (a) antecedents, (b) equipment and processes, (c) knowledge and skills, and (d) consequences. Questions assess

training needs, the company mission, job descriptions, reliability of equipment, completion and demonstration of tasks, consequence delivery, and fluency of behaviors (Pampino et al., 2004). The results of the PDC are evaluated and an intervention can be created to address the areas with performance needs in the organization (Austin, 2000). The PDC is a fast and easy to administer assessment, that evaluates the staff member's knowledge of the requirements for the task, environmental factors of the organization, in addition to antecedents and consequences (Rodriguez et al., 2006). Since the PDC is informant-based, it relies on reported behaviors as opposed to direct observations or experiments within the natural context (Fante et al., 2010).

The PDC has been used in retail stores, customer service food business, and a physical therapy clinic. Eikenhout and Austin (2004) used the PDC to conduct a study across three large department stores with over 100 employees to successfully increase customer service satisfaction. A functional assessment including the PDC was used, and the results of the PDC were used to create an intervention package consisting of goal setting, performance feedback, and reinforcement. Another study using the PDC was conducted in a small framing store comparing the frequency of feedback delivery on improved performance (Pampino et al., 2004) and found that daily and weekly feedback were effective, with the daily feedback having a slight advantage to improve performance. Doll et al. (2007) used the PDC in a ski shop to improve the cleaning behavior of staff at closing. The resulting intervention package included both antecedent and consequence interventions with a checklist, task clarification, and graphic and written feedback.

The PDC has also been used in customer service and food management as well (Amigo et al., 2008; Austin et al., 2005; Pampino et al., 2004; Rodriguez et al., 2006). Four employees and a manager at a small coffee shop used the PDC to analyze why maintenance tasks were not

completed (Pampino et al., 2004). The results found inadequate antecedents and consequences and the resulting intervention with checklists, task clarification, a lottery reinforcement system, and public posting improved performance. Rodriguez et al. (2006) used the PDC in two stores to increase staff offering of promotional stamps to customers. The results of the PDC found antecedents, consequences, equipment, processes, and knowledge and skills to be concerns. Intervention packages comprising of task clarification, goal setting, self-monitoring, and graphic feedback increased performance means from 26% to 72% for one store and from 11% to 81% for the other store. In addition, a pizza restaurant used the PDC to successfully reduce busing time (Amigo et al., 2008) by using similar interventions such as goal setting, task clarification, and feedback to reduce busing time by 50% following the PDC implementation (Amigo et al., 2008). In another study, a restaurant owner was the informant for a study to improve completion of closing tasks (Austin et al., 2005). The PDC found that most of the 18 employees did not know the expectations for the closing routine and there were no consequences for inadequate closing. The resulting intervention of a posted checklist and graphic feedback was effective in improving performance in as little as two to three weeks.

The PDC was created for private, for-profit businesses, and applications in human services organizations have been limited and considered inappropriate (Carr et al., 2013). There has been one instance of the PDC being used in a human services setting; a physical therapy clinic (Gravina et al., 2008). The PDC was used to identify reasons for incomplete morning task completion in a clinic serving people with developmental disabilities. Task clarification, feedback, and environment adjustments were indicated, and were found to increase task completion in morning routines, while graphic feedback was found to be more effective than verbal feedback (Gravina et al., 2008).

Performance Diagnostic Checklist-Parent (PDC-P).

In an underused variation of the PDC, the PDC-P was used by Hodges et al. (2020) to identify implementation fidelity of behavioral interventions by caregivers. Two experiments were conducted to compare indicated interventions vs. non-indicated interventions. The results showed that the PDC-P effectively selected interventions (e.g., prompting, task clarification) increasing parent implementation fidelity. The indicated interventions were shown to outperform non-indicated interventions and implementation fidelity was sustained for up to 12 weeks. The PDC-P could be a potential tool to be used to improve implementation of suggested practices following parent/caregiver training sessions, often a required component in behavior intervention programs. It should be noted that the PDC-P has only been used in one published study and generalization of findings should be limited.

Performance Diagnostic Checklist-Human Services (PDC-HS).

The PDC-HS was created specifically for use in human service contexts in 2013 and updated in 2015, as it was suggested that the original PDC did not capture the nuances of human service work settings (Carr et al., 2013; Carr & Wilder, 2015). The PDC-HS is a diagnostic assessment designed for human services staff that can be used to identify reasons for the challenges related to training, performance, motivation, processes, and management. The assessment indicates interventions based on the areas of need and recommends indicated interventions to address the concern (Carr et al., 2013). The PDC-HS has 13 questions in the areas of (a) Training, (b) Task Clarification and Prompting, (c) Resources, Materials, and Processes, and (d) Performance Consequence, Effort, and Competition, along with seven questions that require direct observation (Carr et al., 2013). It is typically administered in interview or survey format with direct observations of work activities.

The PDC-HS has been used to address performance concerns across contexts, such as a university-based autism center (Carr et al., 2013; Ditzian et al., 2015; Wilder et al., 2018), stores (Smith & Wilder, 2018), hospitals (Hays & Romani, 2021), behavioral intervention programs in homes (Melendez et al., 2020), clinics (Russell et al., 2020), libraries (Hess et al., 2022), and residential homes/facilities (Blackman et al., 2022; Guercio & Hunyadi, 2022). Although use has been limited in educational settings, the PDC-HS has also been used in recent years to evaluate performance in non-public schools (Merritt et al., 2019) and public schools (Bowe & Sellers, 2018; Collier-Meek et al., 2021). There have been additional articles to evaluate the validity and reliability of the checklist (Cymbal et al., 2020; Wilder, 2019), to offer procedural refinements (Merritt et al., 2019; Vance et al., 2022), and to provide administration guidelines (Brand et al., 2022).

The initial study to evaluate the PDC-HS by Carr et al. (2013) showed that the PDC-HS was effective in improving room cleaning tasks in a university-based intervention center. The area of performance concern was found to be lack of training and feedback, which was remedied by providing additional training, and using graphed feedback as compared to task clarification and availability of materials (non-indicated interventions). Limitations of the study were lack of assessment of other potential non-indicated interventions and use of interventions with multiple parts, as it is difficult to know which part of the intervention was effective. Ditzian et al. (2015) used the Carr et al. (2013) as a framework to investigate staff performance issues when securing therapy rooms in a university autism clinic. Three Board Certified Behavior Analysts (BCBA) and four therapists were the participants and results of the PDC-HS found performance consequences to be the contributing factor of poor performance. The researchers compared an

indicated intervention (verbal and graphed feedback) and a non-indicated intervention (written prompt) and found the indicated interventions to be more effective.

Additional research was done at a university-based autism clinic by Wilder et al. (2018), who used the PDC-HS to evaluate performance concerns related to teaching verbal operants and use of timers by four interventionists and BCBA supervisors. Results of the study found that there were different areas of need including performance consequences, training, and task clarification for different interventionists. Non-indicated interventions were compared to indicated interventions in two of the four participants, and were found to be less effective to improve teaching of verbal operants. The researchers wanted to evaluate the Resources, Materials, and Processes domain of the PDC-HS, an indicated area of concern, as it was not addressed in previous experiments. Two interventionists and two supervisors participated in a study to evaluate the use of a timer during discrete trial teaching (DTT) sessions. Increased availability to the timer was found to be effective in increasing the use of a timer during teaching sessions.

Two supervisors with intellectual disabilities and one manager without disabilities working at a thrift store were the participants in a study to investigate the effectiveness of the PDC-HS on improving the steps of tagging items in the store (Smith & Wilder, 2018). The manager evaluated the supervisor's responses to the PDC-HS, and the resulting indicated interventions highlighted training needs for employees. The supervisors successfully trained employees to implement the steps of the tagging process, supporting the use of the tool with people with disabilities. The researchers found the checklist to be user-friendly for people with disabilities and easy to use for the supervisors. The PDC-HS was also used in a hospital with nine participants to increase adherence to the hand hygiene routine by implementing the

indicated interventions of goal setting and performance feedback (Hays & Romani, 2021). An additional intervention of task clarification was added to one participant's plan, and results showed that the indicated interventions were effective in improving hand hygiene and maintaining skills for all participants.

Wilder et al. (2018) and Melendez et al. (2020) used the PDC-HS with behavior technicians and BCBA's to identify barriers for teaching requesting access to, and/or requesting to end an activity, in home-based behavior intervention programs. The implementation of the PDC-HS was done in the natural environment during regularly scheduled sessions. Behavior Skills Training (BST; Parsons et al., 2013) was used in brief 10-15 minute sessions following PDC-HS administration, as training was identified as the primary area of need, and was found to be an effective intervention to improve and maintain staff performance. The PDC-HS was also used to evaluate performance of interventionists in clinic-based behavior intervention programs. Russell et al. (2020) used the PDC-HS to improve staff-client interactions during break time in a behavioral intervention clinic. The intervention package consisted of the PDC-HS indicated intervention, one antecedent-based intervention, and one consequence-based intervention. The antecedent-based intervention was a visual prompt (rules posted) in the play area and the consequence-based intervention was daily display of graphical data of staff-client interactions. The indicated intervention was an additional performance consequence of public recognition on the "All Star" board. Results found that the PDC-HS indicated interventions were the most effective in improving and maintaining staff-client interactions compared to the general antecedent-based and consequence-based interventions (Russell et al., 2020).

Hess et al. (2022) administered the PDC-HS to evaluate the process of cleaning bookshelves in a library. The participants were three adults with intellectual disabilities and the

employment coordinator, and modifications were made to the PDC-HS based on the communication levels and skills of the participants. Two interventions were prioritized, training, and task clarification and prompting. BST with video modeling and a prompting procedure with verbal instructions (read and vocal) and visuals in large font were used to teach the cleaning process. Although all participants improved performance, two out of three participants did not maintain the behavior.

The PDC-HS has also been used in residential homes to improve data collection for behavior challenges exhibited by adults with extensive support needs (Guercio & Hunyadi, 2022). Thirty staff participated in the study and the PDC-HS was informed by the researcher and a doctoral level board certified behavior analyst. Results of the PDC-HS found Task Clarification, Consequences, Effort, and Competition to be areas of concern for staff, and researchers chose to focus on task clarification as that was an area they could impact. The indicated intervention included prompts via text reminder at the beginning of the session and were found to be effective for all staff to improve data collection. The PDC-HS was used with direct care staff in roles as peer trainers for new employees working at a facility serving people with intellectual and developmental disabilities (Blackman et al., 2022). A systems-level training intervention was used after identifying performance barriers such as lack of feedback and prompts, and unclear expectations using the PDC-HS. Interventions consisting of continuous feedback, prompting, and monetary incentives were used to significantly improve implementation fidelity. Blackman and colleagues (2022) emphasize the importance of feedback and reinforcement systems to improve and sustain staff performance in human service organizations.

The PDC-HS has been used a few times in non-public and public schools. In 2018, Bowe & Sellers used the PDC-HS to address paraprofessional performance of incorrectly implementing an error-correction procedure when teaching in public preschool classrooms. Four paraprofessionals working in three classrooms participated in the study and completed the PDC-HS. Insufficient training was found to be the primary reason for poor performance and BST was used as the indicated intervention and was compared to non-indicated intervention of task clarification by posting and using vocal reminders at the beginning of the sessions (Carr et al., 2013; Ditzian et al., 2015). The PDC-HS indicated intervention was found to be effective in increasing and maintaining a high percentage of correct error-correction implementation across all participants.

The PDC-HS was used by Merritt et al. (2019) to decrease staff tardiness in a non-public special education school. Three teachers evaluated the tardiness of four classroom teacher assistants using the PDC-HS and the teacher assistants also completed the PDC-HS themselves. The results of the PDC-HS administration found several performance concerns and two separate interventions were developed. One intervention used task clarification, an expectation to sign a written summary, participate in an individual problem-solving meeting, and performance consequences (end of week graphical feedback and daily verbal feedback), while the other intervention continued with graphic feedback, but did not use verbal feedback. Instead, a positive consequence-based strategy of raffle tickets that could be exchanged for a gift card was used. The results found that tardiness improved slightly, but was not maintained over time. The interventions that were found to be effective were problem-solving meeting, raffle tickets, task clarification, and graphic feedback, although no interventions worked for one participant.

The PDC-HS was also used in a public school setting with a special education teacher and five paraeducators to improve treatment fidelity of behavior intervention plans (Collier-Meek et al., 2021). BST and task clarification were indicated for all participants, while materials and prompts were adjusted for some participants, and one paraeducator was provided with additional performance feedback. Four of the five paraeducators improved their performance and fidelity of implementation of behavior plans increased. However, one paraeducator did not respond to any interventions resulting from the PDC-HS, similar to Merritt et al. (2019). The PDC-HS was effectively used to improve implementation of teacher delivery of tokens (reinforcement system) in an educational setting (Hoffmann & Pastina, 2024). Non-indicated interventions were compared to indicated interventions and improvement in token delivery was observed following PDC-HS and resulting indicated intervention implementation. The PDC-HS was found to be an effective tool to improve procedural fidelity when implementing a school-wide positive behavior reinforcement system.

Finally, the PDC-HS was used to improve data collection of direct care staff at a residential facility supporting individuals with intellectual and developmental disabilities (Guercio et al., 2025). Indicated interventions resulting from the PDC-HS paired with staff preferences within a group-contingency reinforcement system was used to improve data collection of behavior challenges. Performance drastically improved when the reinforcement system was introduced, but was not sustained when reinforcement was removed. Guercio and colleagues advocate for ongoing use of the PDC-HS and reinforcement systems when implementing indicated interventions resulting from the PDC-HS.

The validity and reliability of the PDC-HS was recently evaluated for the first time since its creation (Cymbal et al., 2020; Wilder et al., 2019). The study was conducted by Wilder et al.

(2019) with twenty-one participants, who were BCBAs, some studying to become BCBAs, and others with no training in behavior analysis. Three video-vignettes with scripts for the role of the consultant, the role of the supervisor of a behavior therapist, and the role of the behavior therapist were created for different performance problems. The researcher asked the participants the same questions across all videos, and the validity of the PDC-HS was evaluated by having the participant watch the video, complete the PDC-HS, and identify the correct domain for performance concerns. Reliability measures were conducted two to four weeks later, where participants were asked to watch the videos and complete the PDC-HS a second time. Results of the study showed that all participants correctly identified the PDC-HS domain for performance concerns and 97% of participants completed the PDC-HS the same way as the first, with the BCBA group at almost 100% reliability. This study provides support for the use of the PDC-HS with professionals with varying levels of expertise in behavior analysis. A replication and extension of the Wilder et al. (2019) study was conducted by Cymbal et al. (2020). Video vignettes were created with actual consultants who also completed interviews using the PDC-HS, without scripts. The same number of participants as the previous study were involved and they were placed in three groups: Master's levels, Bachelor's level, and Associate/high school diploma. Participants were provided with a verbal description of the PDC-HS, and given time to review the tool before watching the video and completing the PDC-HS. The results were lower than those found by Wilder et al. (2019) with 86% of the participants correctly identifying the indicated domain, but there were no differences in responses based on level of education or training. Reliability percentages were also lower than the previous study at 84%.

Procedural refinements to the PDC-HS have been incorporated by Merritt et al. (2019) and by Vance et al. (2022), who created two procedural refinements when selecting an

intervention based on the results of the PDC-HS. Vance et al. (2022) conducted a virtual study with over 200 participants who were primarily certified behavioral intervention practitioners across levels and a few non-certified participants. Comparisons were made between a control and refinement group, where participants were asked to review vignettes and complete surveys. The refinement group participants were provided access to a cut-off threshold and decision-making model when developing the most appropriate intervention based on the results of the PDC-HS. Results of the study found that the participants in the refinement group were more likely to select a single indicated intervention than those in the control group, and that experience and certification level did not impact the results.

In 2022, Brand and colleagues developed updated guidelines for administration of the PDC-HS. The authors recommended using the PDC-HS regularly, especially if staff are new and/or inexperienced. They also recommended the PDC-HS being administered by someone with experience, ideally a supervisor with experience or with the support of a mentor. Employee input was recommended as supervisors may not know employees' potential reinforcers and permanent products of the PDC-HS were also recommended. Direct observations conducted in the natural environment during typical work duties were best and the number of observations can be varied based on the employee and performance concern. Although Brand et al. (2020) did not recommend a specific amount of observations, they recommended observing until the supervisor had sufficient information to complete the PDC-HS. The authors recommended using BST when training individuals to use the PDC-HS and also recommended including additional activities such as role-playing, reading articles, observing the trainer complete the PDC-HS, and comparing results after completing the PDC-HS simultaneously with the supervisor. They further recommended paying special attention to questions that are answered *No*, as it is usually an

opportunity for intervention, and can help prioritize interventions that require immediate attention and are feasible to implement. The authors stress the importance of using the PDC-HS more than once to compare data and evaluate if interventions to improve performance have been effective. A brief review of the PDC-HS (Wilder et al., 2020) found the Performance Consequences, Effort, and Competition domain to be the most indicated across studies, with recommendations for future research to be completed in this domain and used by professionals who are not behavior analysts. An updated systematic review of the PDC and its variants by Echeverria & Wilder (2024b) evaluated its use across organizations, especially human services organizations. The review found the PDC to be a free, easy, effective tool in identifying performance concerns and matching functionally equivalent interventions to improve staff performance and organizational outcomes.

Goldman et al. (2024) conducted a systematic review of the methods used to administer the PDC-HS and compared and contrasted practices to recommended guidelines and previous research. Fifteen articles meeting inclusion criteria were reviewed and authors generally agreed on how the PDC-HS results were discussed, but there was variation in descriptions of methods used to administer the PDC-HS. Goldman and colleagues (2024) recommend using technological descriptions and suggest future research to develop a more standardized tool. They also emphasize the importance of procedural integrity, collaborative implementation and intervention development, and data-informed decision making. Overall, they found the PDC-HS to be an effective, practical, evidence-based approach to improve staff performance in applied settings. The PDC and its variants have been found to be socially valid, reliable, and data-informed, supporting their use in human-service organizations such as schools.

Performance Diagnostic Checklist-Human Services (1.1).

The PDC-HS (1.1) is an adapted version of the PDC-HS (Carr et al., 2013), and has 22 questions within the same domains as the PDC-HS: (a) Training, (b) Task Clarification and Prompting (c) Resources, Materials, and Processes; and (d) Performance Consequence, Effort, and Competition (Jimenez et al., 2023). The PDC-HS (1.1) extends the PDC-HS by improving instructions for the assessment and updating the references for indicated interventions. A few of the questions and example descriptions were adjusted to support implementers of the tool. The Resources, Materials, and Processes sections, the Performance Consequences, Effort, and Competition, and the Training section of the PDC-HS were also updated in the (1.1) version, with detailed definitions of high-quality training, expectations for direct observations, and the wording of questions were changed to identify concerns accurately.

Jimenez et al. (2023) evaluated the test validity, inter-rater reliability, and test-retest reliability of the PDC-HS (1.1). The psychometric properties of the revised tool were measured by analyzing responses from watching three video vignettes of interviews between consultants and supervisors discussing employee performance concerns. Replicating Cymbal et al. (2020) and Wilder et al. (2019), twenty-one participants with varying levels of experience and education in behavior analysis recruited from private autism clinics completed the PDC-HS (1.1) after watching the videos. Seven participants completed high school and were enrolled in an undergraduate program, seven had undergraduate degrees in psychology or related field, and seven participants had master's degrees in psychology or related fields and were mostly Board Certified Behavior Analysts. The high school group had the least experience in behavior analysis (average of 0.42 years) with the undergraduate group having an average of 4.21 years of experience, and the master's group having the most experience with 9.21 years on average

(Jimenez et al., 2023). Three different video vignettes with video scripts based on six real-world uses of the PDC-HS (1.1) were used when evaluating validity and reliability. Validity of the PDC-HS (1.1) was measured by participants identifying the indicated domain and related interventions correctly for each vignette. To evaluate test-retest reliability, participants' PDC-HS (1.1) scores at the beginning and end of the study were compared. In contrast to previous studies, an item error analysis was added, and participants' selection of an appropriate indicated intervention was evaluated. The errors on some of the questions were common, although errors varied widely across participants. In addition, the instructions and questions of the assessment were modified to improve scoring and interpretation of results, and the Intervention Planning section was updated with new references. Results showed strong test validity (mean = 90.36%), and participants generally selected suitable interventions, though accuracy decreased with increasing vignette complexity. An item-level error analysis revealed that the Resources, Materials, and Processes domain was the most error-prone (Jimenez et al., 2023). The findings support the PDC-HS (1.1) as a reliable and valid assessment tool, with implications for more accurate diagnosis of staff performance issues and targeted intervention development in varied settings with different professionals.

The outcome agreement on the PDC-HS (1.1) between supervisors and supervisees was evaluated with BCBAs and Senior Behavior Analysts (SBA) working in home- and community-based settings (Echeverria & Wilder, 2024a). Results found moderate alignment between BCBAs and SBAs supporting the need for ongoing use of the PDC-HS (1.1) with a variety of staff roles when addressing performance concerns and further need for refinement of the tool and indicated interventions. The authors recommend inclusion of supervisees in identification and improvement of their own performance concerns as it can improve reliability and social validity

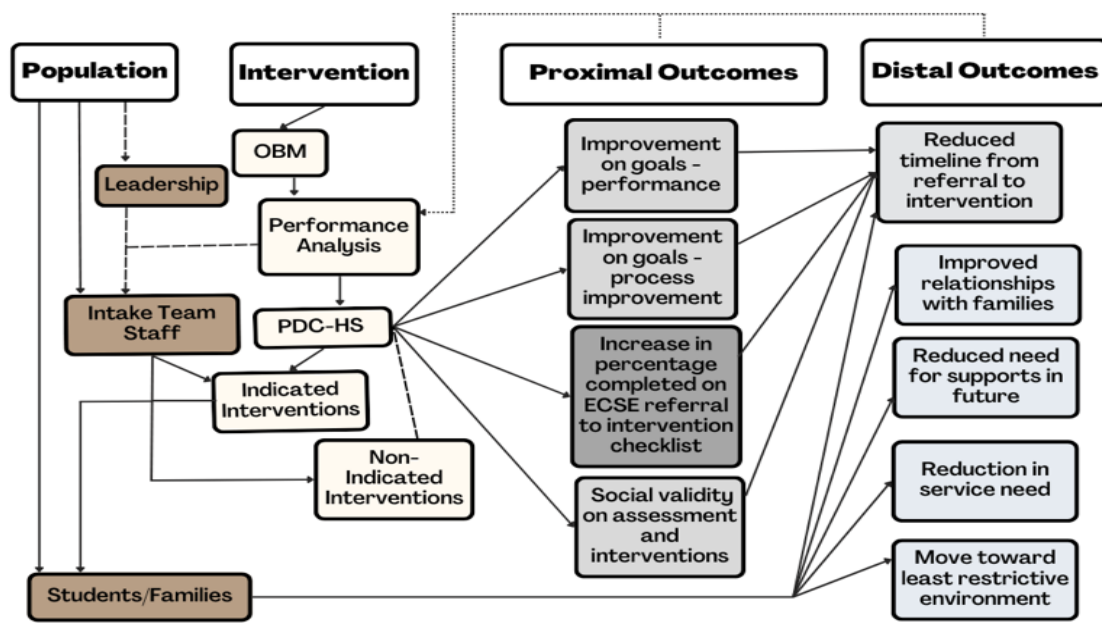
of the PDC-HS (1.1) and resulting interventions. Echeverria & Wilder (2024a) also recommend using the PDC-HS (1.1) as a self-monitoring tool as part of a performance improvement package.

Purpose Statement and Significance

The purpose of this study was to use the PDC-HS (1.1) with ECSE evaluation team professionals to improve performance related to the referral to intervention process and to reduce wait time to access intervention for students. The study attempted to reduce timelines from referral to the initial IEP meeting to determine eligibility for special education services by identifying and improving performance concerns of the evaluation team using the PDC-HS (1.1). The study's outcomes included teaching district staff to implement efficient, effective, and positive methods to improve personnel performance concerns related to delayed referral and timely access to assessment and services and providing them with evidence-based training and coaching on how to complete the PDC-HS (1.1) process for performance concerns.

Figure 1

Logic Model



The logic model for the study is described in Figure 1. The population considered are evaluation team staff as well as the students and families who are recipients of services. Although not considered in the current study, leadership staff could potentially implement the PDC-HS (1.1) for themselves or with staff. The intervention, PDC-HS (1.1) stems from OBM, specifically performance analysis, and recommends indicated interventions based on identified performance concerns. Evaluation staff may use indicated interventions or non-indicated interventions (business as usual) when conducting evaluation and eligibility determination processes, which impacts the fidelity, efficiency, and timelines from referral to intervention. Use of the PDC-HS (1.1) and resulting indicated interventions can lead to proximal and distal outcomes for staff, students, and families. The proximal outcomes listed include improvement on individual performance and process goals, increase in percentage completed on the ECSE Referral to Intervention Checklist, and social validity measures regarding the assessment and interventions. Distal outcomes impacting both ECSE evaluation team staff and students/families are reduced timelines from referral to intervention, improved relationships with families, reduced need for supports and services in the future, and movement towards the least restrictive environment. The theory of change in the current study are the indicated interventions from the PDC-HS (1.1) and resulting intervention plans and coaching, impacting both proximal and distal outcomes for staff and students/families.

Hypothesis Based on Logic Model (Figure 1)

1. Implementation of the PDC-HS (1.1) with indicated interventions will result in improved percentages of completion of ECSE referral intervention checklist steps by the ECSE evaluation team members.

2. Implementation of the PDC-HS (1.1) with indicated interventions will result in improvement in personnel performance goals and process improvements for ECSE evaluation team members.
3. Implementation of the PDC-HS (1.1) with indicated interventions will result in a decrease in the timeline from referral to the initial IEP meeting.
4. The PDC-HS (1.1) is viewed as an easy, effective tool to address current and future performance and process concerns by ECSE evaluation team members.
5. The use of the PDC-HS (1.1) will be generalized to other contexts, challenges, and people.

Null Hypotheses

1. There will not be a decrease in timeline from referral to initial IEP meeting following implementation of PDC-HS (1.1) and indicated interventions.
2. There will not be an improvement of personnel performance goals and process improvements for ECSE evaluation team members following implementation of the PDC-HS (1.1) with indicated interventions.
3. There will not be improved percentages of completion of ECSE referral intervention checklist steps following implementation of the PDC-HS (1.1) with indicated interventions.

Research Questions

The study addressed the following research questions:

1. Is there a functional relation between implementation of the PDC-HS (1.1) with resulting indicated interventions and improvement on percentage of completion of ECSE Referral to Intervention Checklist steps?

2. Is there a functional relation between implementation of the PDC-HS (1.1) with resulting indicated interventions and improvement in goals targeting personnel performance and process improvements of ECSE evaluation team members?
3. Is there a functional relation between implementation of the PDC-HS (1.1) with resulting indicated interventions and a decrease in the timeline from referral to the initial IEP meeting to determine eligibility for ECSE services in public schools?

Other questions:

1. What are evaluation team members' perceptions of the acceptability, feasibility, and effectiveness of the current evaluation referral to eligibility determination processes, and goals/procedures/outcomes of the PDC-HS (1.1), identified interventions, and professional development/coaching practices?

Chapter III: Method

The methodology that was used in the study is described in Chapter III. The recruitment procedures, inclusion criteria for the participants, demographics of participants, setting, attrition, and general procedures used during the study are explained. Each phase of the study is discussed in detail including recruitment, participant and researcher performance, measurement and instruments used, data collection procedures, interobserver agreement, and implementation fidelity. The data analysis process used is described in detail, including decision protocols, and methods for visual and statistical analysis that were used during the study. The study protocol was preregistered using the Open Science Framework platform at <http://osf.io/dt6qa/> (Foster & Deardorff, 2017).

Recruitment Procedures

Participant Recruitment

Participants were recruited through email communication (Appendix A) sent directly to three school district ECSE evaluation teams and leadership teams in a densely populated area in Northern California. Email addresses of school district evaluation and leadership teams were gathered from publicly available information (e.g., district website) and through existing contacts. Priority was given to the largest school district as it employed the most ECSE evaluation team members. A recruitment flyer (Appendix B) was attached to recruitment and informational emails. ECSE members representing different roles were recruited, with preference given to speech/language pathologists and school psychologists as they are the most common ECSE evaluation team members. Participants were eligible to participate if (a) they worked in public school district ECSE evaluation teams, (b) the ECSE evaluation team they work on had

more than an average one-month delay in initiating the referral process to access services, (c) individual participants provided informed consent.

Potential participants were provided with opportunities to ask questions and clarify information about the study during the informational meetings and through email and phone communication prior to providing consent. There were seventeen ECSE team members who initially contacted the researcher with questions regarding the study. An initial meeting describing the study and procedures, participant requirements, consent procedures, potential risks and benefits was held for anyone interested in participation, with six ECSE team members meeting with the researcher.

Participant consent for the study was acquired through an electronic survey link on the Qualtrics platform with an opportunity for participants to disclose demographics information. The consent survey (Appendix C) included detailed information about the study, consent information, and gave potential participants an opportunity to deny or confirm their consent and participation in the research study. Interpretation and translation services were available and offered for participants who spoke another language other than English as their primary language per state and federal laws (State of California, 2024). There were no participants who requested translation or interpretation services during the study.

Participants were provided compensation for their time and participation as follows: Average hourly pay for related services professionals in California public schools of \$65 per hour (calculated at an average of \$104,400/year for 195 workdays, 8 hours per day) multiplied by the number of hours of participation. Compensation was provided in the form of a gift card of participants choice at the end of the study for all participants.

Participants

Twelve participants initially provided consent, and two participants revoked consent due to time limitations following initial informational meetings about the study. The ten participants who provided continued consent were randomly assigned equally to the intervention group and the delayed-intervention group by a research assistant, with one of the participants in each group designated as an alternative in case of attrition. The delayed-intervention group participants were reminded that their participation would not begin until the intervention group completed all phases of the study, and would likely occur in the fall or spring of the following school year. The current study reflects information for the intervention group only. One participant who initially provided consent, did not complete the required data collections forms until the fifth week and was non-responsive to communication from the researcher, and therefore was considered the alternative participant in the intervention group. There were four participants in the intervention group that continued to provide consent and participate in the study for its duration. All four participants worked at the same school district and none of them worked with each other as a team on evaluations. Pseudonyms were used for all participants throughout the study.

Participant Demographics

Participants provided voluntary demographics information through a Qualtrics platform survey (consent survey). All participants identified as female, with two of the participants being school psychologists and the other three being speech and language pathologists on the ECSE evaluation team. Two participants identified as Asian or Asian American, one participant identified as Black, and the other two participants identified as White. There were two participants with 1-5 years of work experience, one participant with 5-10 years, and two participants with more than 10 years of work experience. All participants spoke English as their

first language except for one participant, whose first language was Mandarin. See Table 1 for details.

Table 1

Participant Demographics

Participant Pseudonyms	Gender	Race/Ethnicity	Role	Years Experience	First Language
Mary	F	White	Speech Pathologist	1-5 years	English
Ruth	F	Asian or Asian American	Speech Pathologist	< 10 years	Mandarin
Grace	F	Asian or Asian American	School Psychologist	< 10 years	English
Patricia	F	Black	School Psychologist	1-5 years	English
Charlotte	F	White	Speech Pathologist	5-10 years	English

Setting

The study was conducted virtually over a secure, HIPAA compliant synchronous video-conferencing software provided by the University of Oregon, used from a secure home office (research team and ECSE staff) and district location (ECSE staff). Participants were offered meetings in-person at school district evaluation offices, central offices, or at school sites outside of student instructional time and all participants chose to participate virtually. Recruitment was done in a densely populated, metropolitan area with a racially and ethnically diverse population on the west coast of the United States.

Attrition

The study initially recruited twelve participants, with ten maintaining consent, and five participants being randomly assigned each to the intervention and delayed-intervention groups.

Three demonstrations of a basic effect of the intervention impacting the dependent variables at three different times is required to show a functional relation in a multiple baseline single-case design. Five participants were included in the intervention group and one of those participants only completed one week of data collection following consent. A total of four participants completed the study for the entire duration.

Roles

Early Childhood Special Education Evaluation Team Members

The evaluation team members were participants in the study. School psychologists and speech language pathologists were given priority (as they are the most common team members) and participated in the study from twelve to fifteen weeks, on average one hour each week, from providing initial consent to completion of the final survey following the maintenance phase. The participants completed the PDC-HS (1.1) and improvement plan in collaboration with the researcher during the baseline phase, which took one and a half hours to two and a half hours, across one to two sessions. They also completed a short social validity survey at the beginning and end of the study. The ECSE team members completed typical work duties during all phases of the study and participated in one-hour professional development and coaching for four weeks. Participants completed data collection forms described in the measurement section and were offered 30-minutes per week of discretionary time for study activities, and total time engaging in study activities did not exceed 15 hours for any one participant. The participant who completed data for one week was also compensated for their participation. The participant information collected as part of the research was not and will not be used or distributed for future research studies.

Researcher

The principal investigator (PI) of the study was the primary researcher and was responsible for various aspects of the study including: (a) recruitment and gaining consent, (b) scheduling and communication with participants, (c) conducting the PDC-HS, (d) creating the improvement plan with participants, (e) developing materials and tools based on individual improvement plans, (f) training and coaching during the intervention phase (g) organizing data from each data source, (h) training graduate research assistants in data collection and coding procedures, (i) analyzing data, and (j) reporting and disseminating results and future directions.

The PI identifies as a cis-gender, heterosexual, married, immigrant female from South Asia, living in the United States since they were a child. She has formal academic training in special education, applied behavior analysis, psychology, sociology, and criminology. Professionally, the PI has worked in special education in the public and private sector, primarily with people with disabilities, their families, and educators for over 27 years in various roles including direct-care staff, teacher, behavior analyst, consultant, and administrator. The PI is a certified special education teacher (up to age 22 years), a BCBA, and doctoral candidate in special education.

Research Assistants

Research assistants were paid, trained graduate students who supported the PI by (a) collecting inter-observer agreement data, (b) coding data, and (c) sending out social validity surveys. The research assistants were trained by the PI, provided with opportunities to practice, and ask questions and they had all completed CITI training. Research assistants were recruited from the University of Oregon College of Education's special education and clinical sciences department. The research assistants had extensive experience and education in the fields of

special education, early childhood education, speech and language pathology, and applied behavior analysis.

Materials

PDC-HS 1.1

The PDC-HS (1.1) is an adapted version of the PDC-HS, which is an informant-based performance assessment designed for human services staff that can be used to identify reasons for challenges related to training performance, motivation, processes, and management. The PDC-HS suggests evidence-based interventions to address the issues identified, referred to as indicated interventions (Carr et al., 2013). The PDC-HS (1.1) has instructions for 22 questions within the same domains as the PDC-HS: (a) Training, (b) Task Clarification and Prompting, (c) Resources, Materials, and Processes, and (d) Performance Consequence, Effort, and Competition. See Appendix D for a copy of the PDC-H.S (1.1).

Improvement Plan

The results of the PDC-HS (1.1) and resulting indicated interventions were used to create improvement plans with input from each participant, specific to the areas of need reported by them. Each improvement plan was individualized based on participant preferences, feasibility of implementation, and availability of resources. Materials related to the indicated interventions on the improvement plan included textual materials, checklists/instructions, video models, and strategies related to self-management, and reinforcement systems. The improvement plan was used to collaboratively develop individualized Improvement Plan Checklists for each participant (Appendix F).

Measurement

ECSE Evaluation Team Referral to Intervention Checklist

The ECSE evaluation team Referral to Intervention Checklist (Appendix E) outlines the processes, responsibilities, and related activities required to effectively evaluate, collaborate, and determine eligibility for ECSE at the initial IEP meeting. The checklist is comprised of typical processes within ECSE evaluation units and considered educational laws and regulations. The ECSE team members participating in the study completed the Referral to Intervention Checklist during all phases of the study.

Improvement Plan Checklist and Goals for Performance Concerns

Goals targeting personnel performance and process improvements of ECSE evaluation team members' individual plans were created collaboratively with participants, and used to evaluate progress on improvement plans resulting from the PDC-HS (1.1). Improvement Plan Checklists (Appendix F) were comprehensive plans tied to the improvement plan goals, existing practices, and included steps related to direct actions to be taken by the participant. Improvement Plan Checklists were used to evaluate the percentage of procedural steps implemented correctly before and after coaching, based on a pre-determined performance goal. For example, for a performance concern related to improving the efficiency of the report writing process, the goal was as follows: By the end of the next two consecutive reports, I will increase the efficiency of my scheduling and report writing process to 90%, as measured by the scheduling and report writing checklist and timely task completion within work hours. Improvement plans consisted of the following: (a) PDC-HS (1.1) results (b) performance concerns and goals (c) identified indicated sections and indicated interventions (d) additional information and notes as applicable. All interventions and strategies included in the improvement plan were evidence-based, inclusive of best practices in adult learning, and were chosen based on participant preferences, feasibility, and contextual factors.

Timeline from Referral to Initial IEP Meeting

The timelines from the referral consent date to the initial IEP meeting date was recorded for a minimum of two students per participant. Each participant recorded the referral timeline data for the student they were completing data collection forms for (e.g., Intervention Plan Checklist, ECSE Referral to Intervention Checklist), as well as a second student on their caseload. If the first student's assessment process was completed prior to the end of the study, data was collected for another student. Timeline data was reported as follows: (a) date of initial referral (b) date of receipt of consent for assessment (c) expected assessment plan end date (60-day timeline) (d) actual assessment plan end date (date of initial IEP meeting). The number of days exceeding the assessment plan end date was calculated as follows: (actual assessment plan end date - expected assessment plan end date).

Social Validity

Social validity data was collected from evaluation team members using surveys through the Qualtrics platform by a research assistant. A researcher developed social validity measure evaluating the acceptability, feasibility, and effectiveness of the goals, procedures, and outcomes of the PDC-HS (1.1), identified interventions, and training/coaching practices was used. Information about perceptions of existing ECSE referral to intervention processes were also gathered using the social validity measure. The social validity measure was adapted based on the Treatment Acceptability Rating Form – Revised (TARF-R; Reimers, et al., 1992) and is titled Improvement Plan Acceptability Rating (IPAR; Appendix G). The first six questions on the measure were related to current referral to intervention practices, completed at the beginning of the study, and the remainder of the questions about the PDC-HS (1.1), improvement plan, and coaching process were completed at the end of the study.

Intervention Fidelity

Implementation fidelity checklists for each improvement plan and performance concern goal were used to evaluate the percentage of procedural steps implemented by the participants. The researcher reviewed the previous weeks' improvement plan completed by the participants and verified their self-report to ensure correct implementation of steps and clarify uncertainties during weekly meetings.

The percentage of procedural steps implemented during the referral to evaluation process, before (baseline) and after implementation of the performance improvement plan (intervention and maintenance) for individual cases was recorded by the participants. If the participant completed all of the steps of the Referral to Intervention Checklist for one student before the end of the study, they were instructed to complete the form for a new student on their caseload.

Inter-Observer Agreement

Interobserver agreement (IOA) data was collected for randomly selected sessions across participants and experimental conditions. During baseline, intervention and maintenance phases, IOA was collected on completion of ECSE Referral to Intervention Checklists and Improvement Plan Checklists, timelines from referral to initial determination of eligibility for special education services, and scoring of social validity forms. In addition, agreement data on the completion of the PDC-HS (1.1) results and identification of indicated interventions was measured during the end of the baseline phase.

Research team members were trained by the PI on IOA data collection procedures. IOA data was collected for 79.25% of opportunities across measurements. Occurrence and non-occurrence agreement IOA was calculated by dividing the number of agreements for occurrences by the number of agreements and number of disagreements, and multiplying by 100 to obtain a

percentage score. Non-occurrence agreement was calculated by dividing the number of agreements for non-occurrences by the number of agreements and disagreements for non-occurrences. Use of occurrence and non-occurrence agreement is suggested when rates of behavior are expected to be low (Tawney & Gast, 1984). Research assistants were blinded to interventions and did not know which participants were in each of the conditions while they were in the study. They were also blinded to the research questions and coded identifiers were used to minimize bias. Interobserver data was calculated after all participants completed engagement in the study.

Experimental Design

The study used a concurrent multiple baseline single-case design across participants (Baer, Wolf, & Risely, 1968) incorporating between-case intervention randomization and case randomization (Levin & Kratochwill, 2021). Ten participants who provided continued consent following informational meetings were randomly assigned to either an (a) intervention group or a (b) delayed-intervention group, with equal distribution of five into each. The delayed intervention group will engage in study activities in the following school year. Data from the delayed intervention group will be used as a comparison group to the intervention group to test the validity of the PDC-HS (1.1). The remainder of the current document describes the intervention group, and no additional information will be provided on the delayed-intervention group at this time. There were three phases in the study: baseline, intervention, and maintenance, with one participant requesting a booster phase following maintenance.

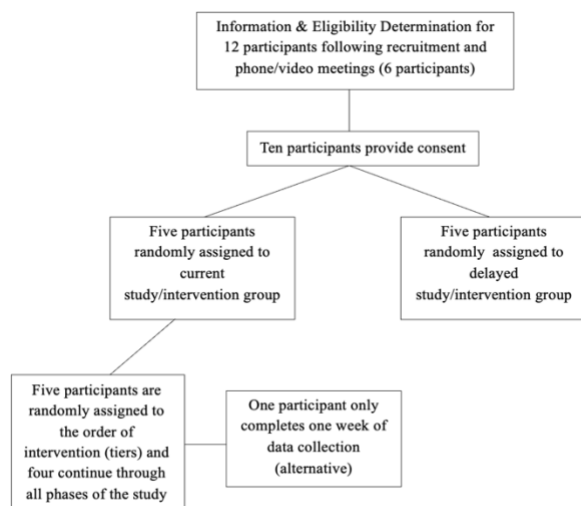
Randomization

A priori randomization was used to counteract bias, increase internal validity by decreasing Type 1 errors inherent to response guided single-case designs (Levin & Kratochwill,

2021). All participants who consented were randomly assigned to the intervention and delayed-intervention groups. The five participants in the intervention group were randomly assigned to the order of intervention or tiers. An online random number generator was used by a research assistant to assign participants to the intervention groups and tiers. Figure 2 shows the randomization process for participants. Pseudonyms were used for all participants and research assistants were not privy to participant information. Each participants' introduction to the intervention condition was staggered within two to four weeks of the previous participant entry into intervention, and was informed by participant data.

Figure 2

Participant Randomization Process Flowchart



Procedures and Phases

The study occurred over 12-15 weeks with a two week break between the intervention and maintenance phases for all participants. The intervention phase lasted four weeks, and was the same length of time for all participants. The length of baseline varied for each participant and the maintenance phase was two consecutive weeks, with maintenance data collected for three out

of four participants. One participant had an additional two-week booster intervention phase following the maintenance phase.

Baseline

During baseline, participants continued their duties as usual, and data was collected on the following dependent variables each week: percentage completion on evaluation unit Referral to Intervention Checklist and timelines from referral to initial eligibility determination of services through self-report by participants. Participants did not receive professional development and coaching from the researcher related to improving the referral to intervention processes during baseline. Steady state responding and a stable baseline trend was required for participants to move from baseline to the intervention phase, which was introduced in a staggered manner. Steady state responding is defined as a pattern where the data shows minimal variability across consecutive sessions, with consistent levels, and no clear increasing or decreasing trends. This indicates that the behavior is under stable baseline conditions and are necessary for establishing experimental control. A minimum of four consecutive data points in baseline is required for a stable baseline (Ledford et al., 2023) and was used as a guideline for all participants. Each consecutive participant continued in the baseline phase with steady state responding for a minimum of two weeks after the previous participant entered intervention. After a stable baseline was established and intervention effects were observed for one participant, another participant was introduced to the intervention phase, and so on. Mary was in baseline for four weeks, Ruth for seven weeks, Grace for nine weeks, and Patricia for eight weeks with a four week gap after week five.

PDC-HS (1.1) Administration and Improvement Plan Development

During the last two weeks of baseline, the researcher completed the PDC-HS (1.1) and the resulting improvement plan with each participant. The researcher administered the PDC-HS (1.1) to identify variables and specific areas of concern impacting specific performance and process concerns that may contribute to delays in timely access to ECSE services. The results of the PDC-HS (1.1) were then used to create individualized improvement plans for each participant, specific to the areas of need reported by them, using suggested indicated interventions from the PDC-HS (1.1). The PDC-HS (1.1) assessment and improvement plan development process took an average of 1.5 hours across participants with a range of 1 hour to 2 hours across two sessions.

The improvement plan included the following parts for all participants: (a) results of the PDC-HS (1.1) summarized visually, (b) performance or process concern(s) identified for improvement by the participant, (c) measurable performance goal related to concern, (d) summary of PDC-HS (1.1) results and suggested indicated interventions for each area of concern, (e) notes with individualized information. Some participant improvement plans also included a secondary goal and more detailed reinforcement and self-management plan information. Data was collected on the improvement plan during the two weeks of finalizing the document and reviewing results of the PDC-HS (1.1).

Intervention

The intervention phase began after administration of the PDC-HS (1.1) followed by collaborative development of a corresponding improvement plan with participants. The participants received individualized professional development and coaching related to indicated areas of need and indicated interventions from the improvement plan, for one hour each week from the researcher, to support experimental control. They also had access to reference materials

and resources related to professional development (e.g., example videos, websites, journal articles). The researcher planned to support concerns related to materials and/or resources, however, this was not an indicated domain of concern for any of the participants. An individualized improvement plan checklist was used to measure progress on the goals for performance concerns on each improvement plan.

The intervention phase continued for a total duration of four weeks for all participants as planned, since none of the participants reached mastery criteria on their goals before the four-week intervention period. Content related to the indicated interventions and evidence-based practices used in the improvement plans were covered during the first two weeks of the intervention phase for all participants. The additional two weeks of content included review of information provided, problem solving, and introduction of supplemental content. Best practices in adult professional development delivery and coaching practices were used during the study (e.g., goal oriented, relevant to work, opportunities to practice, etc.). The intervention phase was limited to four weeks, as it was expected to be challenging for ECSE evaluation team members to find additional time in their schedules each week. All participants collected self-reported data on the implementation of the performance improvement plans for their specific performance or process concern during the intervention phase, the ECSE Referral to Intervention Checklists, and timeline data from referral to initial IEP meetings for at least two students.

Maintenance

The maintenance phase was introduced two weeks after the completion of the intervention phase and continued for two consecutive weeks. Participants did not receive professional development or coaching related to improvement of referral to intervention processes during the maintenance phase. The same data as in baseline and intervention were

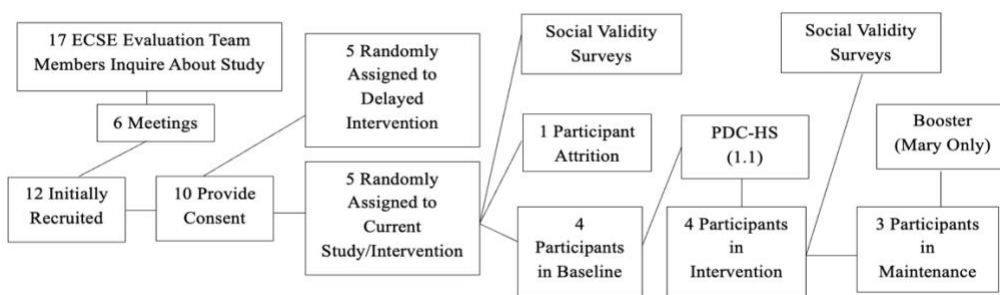
collected during the maintenance phase. Maintenance data was collected for three out of four participants, as one participant stopped working at the end of the school year, a week after the last intervention phase session, and did not work extended calendar as the other participants.

Booster Intervention Session

In addition, one participant was provided a booster session following the maintenance phase as her scores on the Improvement Plan Checklist fell below intervention levels (with the exception of first intervention data point) and she expressed interest in receiving additional support. The two-week session consisted of reviewing the PDC-HS (1.1) and the improvement plan once again, troubleshooting, and collaborating on additional interventions and potential changes to the improvement plan.

Figure 3

Study Recruitment and Participation Process



Data Collection

The participants completed the Referral to Intervention Checklist for the same student each week during baseline, intervention, and maintenance phases of the study. If participants completed the referral to intervention process for the student before the end of the study, they were instructed to complete the checklists for another student moving forward. Referral to intervention timeline data was collected with the ECSE Referral to Intervention Checklists,

through emails, and/or during coaching meetings. Self-reported Improvement Plan Checklists were used to collect data on individual goals and related steps for the performance concerns analyzed through the PDC-HS (1.1). Social validity survey data was collected at the beginning and end of the study, with data reflecting perceptions on current ECSE team practices and participation in the PDC-HS (1.1) intervention process.

Paid research assistants summarized data for the same checklists as participants with IOA being collected for 47% of Referral to Intervention Checklists and 90% of Improvement Plan Checklists. A research assistant also collected IOA data on the results of the PDC-HS (1.1) and identification of the resulting indicated interventions for 100% of PDC-HS (1.1) data. Another research assistant collected IOA data on 80% of social validity surveys. The IOA data for the Referral to Intervention Checklists and Improvement Plan Checklists were collected after the participants completed the checklists on their own, as there were no opportunities to complete the checklists alongside the participants. The PDC-HS (1.1) data was summarized by research assistants following implementation by the researcher and participants during the baseline phase.

Analysis Plan

Data was graphed throughout the study and analyzed using visual analysis and statistical analysis. Visual analysis is required in single-case research designs to determine if there is a functional relation, specifically evidence of a basic effect at three different points in time. Data was graphed on bar graphs and line graphs during the study. Different symbol markers were used on the line graphs to differentiate between the two checklists (referral to intervention and improvement plan). Bar graphs were used to summarize PDC-HS (1.1) results and timeline from referral to intervention data. Visual analysis was used as it allows for observation of potential changes in the dependent variable from baseline to intervention phases for participants. Phases

for all participants were analyzed for level, trend, variability, immediacy, and overlap and compared between baseline and intervention phases. Graphs were also visually inspected vertically to evaluate potential history effects, carryover across tiers, or other confounding variables.

The Tau-U non-overlap statistic was used to calculate a single effect size by quantifying differences between phases accounting for both the change in level and any existing trend in the baseline phases (Brossart et al., 2014; Parker et al., 2011), and to compliment visual analysis of overlap. Tau-U is a non-parametric effect size measure used in single-case research designs that combines non-overlap between phases and trend control within baseline (Parker et al., 2011; Vannest et al., 2016). Tau-U estimates the changes from baseline to intervention while accounting for trends in baseline and can be used with small sample sizes and autocorrelation (Tarlow, 2017). Tau-U was calculated using a free, web based calculator at singlecaseresearch.org/calculators/tau-u (Vannest et al., 2016).

The percentage of goal obtained (POGO; Ferron et al., 2020) metric was used to assess intervention effectiveness for the dependent variables. POGO is a goal-referenced effect size measure used in single-case research designs to evaluate the change demonstrated relative to a pre-defined goal. POGO translates raw data into measures of progress, is easy to interpret for participants, is practical, and is complementary to other effect size measures such as Tau-U (Ferron et al. 2020). While Tau-U specifies if change occurred, it does not show how much change there was towards mastery criteria or a goal. POGO summarizes the distance from baseline to the goal that was achieved during intervention and supports social significance in practice. POGO was calculated using the following formula in Figure 4, where the average from

baseline is subtracted from the average in intervention, then divided by the average from baseline subtracted by the pre-determined goal, and multiplied by 100.

Figure 4

POGO Formula

$$\text{POGO} = \left(\frac{\bar{X}_{\text{intervention}} - \bar{X}_{\text{baseline}}}{\text{Goal} - \bar{X}_{\text{baseline}}} \right) \times 100$$

For example, in this study, the baseline mean for the number of days from referral to the initial IEP is subtracted by the mean in intervention, then divided by the mean from baseline subtracted by the pre-determined time goal (60 days), and multiplied by 100.

Chapter IV: Results

PDC-HS (1.1) Administration and Improvement Plans

The results of the PDC-HS (1.1) across participants in the ECSE evaluation unit found the Performance Consequences, Effort, and Competition domain to be the most indicated (average 62.5%), and then Training (average 35%) and Task Clarification and Prompts (average 35%) domains as the next. The Resources, Materials, and Processes (average 14.25%) domain was the least indicated for three out of four ECSE team members. The Performance Consequences, Effort, and Competition domain was indicated as the most relevant and indicated domain by all four of the study participants. Table 2 shows the rank and percentage indicated for specific domains based on the results of the PDC-HS (1.1) for each participant and average for all participants.

Table 2

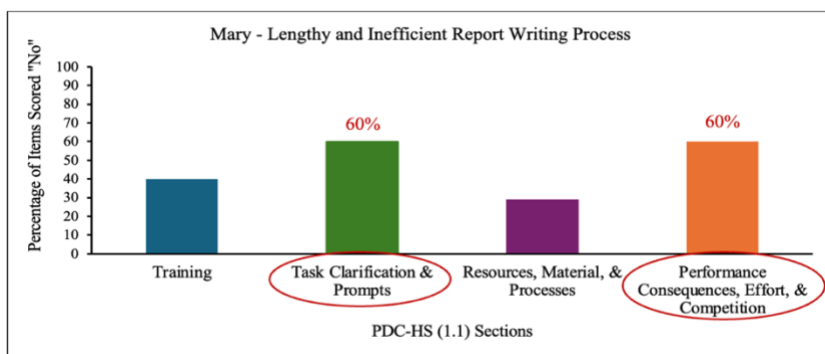
PDC-HS (1.1) Indicated Domains for All Participants

	Percentage for Domains Based on PDC-HS (1.1) Results				
PDC-HS Indicated Domains	Mary	Ruth	Grace	Patricia	Average for All Participants
Training	2 (40%)	3 (40%)	2 (20%)	2 (40%)	35%
Task Clarification and Prompts	1 (60%)	2 (60%)	4 (0%)	3 (20%)	35%
Resources, Materials, and Processes	3 (29%)	4 (0%)	3 (14%)	4 (14%)	14.25%
Performance Consequences, Effort, and Competition	1 (60%)	1 (80%)	1 (50%)	1 (60%)	62.5%

Mary

Figure 5

Summary of Mary's PDC-HS (1.1)



Mary identified inefficient and lengthy report writing processes as a performance concern to address using the PDC-HS (1.1) after discussion with the researcher. Initially, Mary wanted to address the evaluation scheduling processes, as report writing and timely completion of assessments is impacted by overall scheduling practices in the department. However, given that most scheduling related issues are out of control of individual evaluation team members (e.g., team availability, IEP meeting date scheduling, timely assignment of cases), Mary decided to focus on improving her own report writing process during assessments.

Results of the PDC-HS (1.1) administration with Mary (Figure 5) rated both Performance Consequences, Effort, and Competition, and Task Clarification and Prompts as highest with 60% "No" responses for each section. Training was rated next at 40%, and Resources, Materials, and Processes was rated lowest at 29%. Addition of prompts and adjustment of task location were indicated suggested interventions for the Task Clarification and Prompts domain, and reducing response effort, providing performance feedback, and increased supervisory presence were indicated for the Performance Consequences, Effort, and Competition domain. In collaboration with the researcher, Mary prioritized indicated interventions that were feasible, preferred, and

practical to implement when developing the implementation plan based on the results of the PDC-HS (1.1) (Figure 6).

Figure 6

Summary of Mary's PDC-HS (1.1) Intervention Planning

INTERVENTION PLANNING			
Each item scored as NO on the PDC-HS (Revised) 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.			
Domain	Item #	Sample Intervention(s)	Literature Citations
Training	1, 2, 3, 4, 5	Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback)	Barnes, Dunning, & Rehfeldt (2011); Parsons, Rollyson, & Reid (2012);
		Improved personnel selection	Gatewood, Feild, & Barrick (2016)
	1a	Enhanced written instructions	Graff & Karsten (2012)
	1b	In-vivo/Video modeling	Catania, Almeida, Liu-Constant, & DiGennaro Reed (2009); Vladescu, Carroll, Paden, & Kodak (2012)
	1c, 1d	Rehearsal with feedback	Palmen, Didden, & Korzilius (2010); Hogan, Knez, & Kahng (2015)
Task Clarification & Prompting	1, 2	Task clarification & Checklists	Gravina, VanWagner, & Austin (2008); Reetz, Whiting, & Dixon (2016)
	3, 4	Prompts	May, Austin, & Dymond (2011); Loughrey, Marshall, Bellizzi, & Wilder (2013); Downing, Capriola, & Geller (2018)
	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); Abellon & Wilder (2014)
	5, 6	Reassess task process and personnel	Diener, McGee, & Miguel (2009); McGee & Diener (2010)
Performance Consequences, Effort, & Competition	1	Increased supervisor presence	Bracket, Reid, & Green (2007); Mowery, Miltenberger, & Weil (2010)
	2	Performance feedback	Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)
	3	Regularly highlight task outcomes	Methot, Williams, Cummings, & Bradshaw (1996)
	4	Reduce task effort	Abellon & Wilder (2014); Casella et al. (2010)
	5	Reduce aversive task properties	Green et al. (2008); Reed, DiGennaro Reed, Campisano, Lacourse, & Azuly (2012)

Improvement Plan - Mary

The resulting improvement plan for Mary (Appendix H) was based on the PDC-HS (1.1) results, suggested indicated interventions, Mary's preferences, and ease of implementation. The goal addressed by the improvement plan was as follows: By the end of the next two consecutive reports, I will increase the efficiency of my scheduling and report writing process to 90%, as measured by the scheduling and report writing checklist and timely task completion within work hours. The improvement plan targeted task clarification and performance consequences for

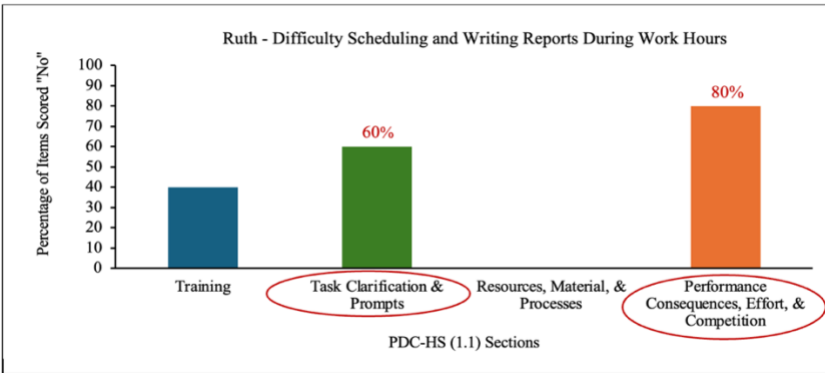
report writing using textual and visual prompts, and used self-management and reinforcement systems to provide performance feedback. Response effort and prompting required for writing evaluation reports were addressed using report templates, behavior-skill-analysis-recommendations and intervention match systems, artificial intelligence chatbots, and other writing efficiency tools, organizational software (e.g., Teams), and real-time collaboration platforms (e.g., Google Sheets). Lack of performance feedback, both positive and corrective, was addressed using a self-management system inclusive of schedules of reinforcement for report writing. Self-delivered performance feedback and reinforcement for report writing was included in Mary's improvement plan. Increased supervisory presence was not selected as an intervention for the improvement plan per Mary's preference. The professional relationship between Mary and their supervisor was not described to be positive, and feedback from them was not welcomed by Mary.

Visual and textual prompts, created collaboratively, were used in the improvement plan to support efficient report writing. Prompts included checklists for parts of task completion, reinforcement reminders, affirmation statements, reinforcers, and electronic prompting methods. Although adjustment of the task location was an indicated intervention, Mary reported space limitations at the evaluation unit and other district offices. As such, Mary and the researcher brainstormed on strategies within Mary's control to adjust task locations. The improvement plan included arrival to work early and scheduling report writing time during "slow" or "quiet" periods in the office.

Ruth

Figure 7

Summary of Ruth's PDC-HS (1.1)



Ruth had a similar concern to Mary regarding writing reports during work hours, but also had difficulty scheduling report writing time in her weekly schedule. Results of the PDC-HS (1.1) administration with Ruth (Figure 7) rated Performance Consequences, Effort, and Competition highest with 80% “No” responses and Task Clarification and Prompts as secondary with 60% “No” responses. Training was only indicated at 40%, with Resources, Materials, and Processes having 0% “No” responses. Performance Consequences, Effort, and Competition and Task Clarification and Prompts were targeted in the resulting improvement plan. Providing performance feedback, regularly highlighting task outcomes, reducing aversive task properties, reducing task effort, and increasing supervisor presence were all indicated for the Performance Consequences, Effort, and Competition domain. Like Mary, supervisory presence was not welcomed by Ruth and was not used in the improvement plan. Addition of task clarification, checklists, and prompts were indicated suggested interventions for the Task Clarification and Prompts domain for Ruth.

Figure 8

Summary of Ruth’s PDC-HS (1.1) Intervention Planning

INTERVENTION PLANNING			
Each item scored as NO on the PDC-HS (Revised) 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.			
Domain	Item #	Sample Intervention(s)	Literature Citations
Training	1, 2, 3, 4, 5	Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback)	Barnes, Dunning, & Rehfeldt (2011); Parsons, Rollyson, & Reid (2012);
		Improved personnel selection	Gatewood, Feild, & Barrick (2016)
	1a	Enhanced written instructions	Graff & Karsten (2012)
	1b	In-vivo/video modeling	Catania, Almeida, Liu-Constant, & DiGennaro Reed (2009); Vladescu, Carroll, Paden, & Kodak (2012)
	1c, 1d	Rehearsal with feedback	Palmen, Didden, & Korzilius (2010); Hogan, Knez, & Kahng (2015)
Task Clarification & Prompting	1, 2	Task clarification & Checklists	Gravina, VanWagner, & Austin (2008); Reetz, Whiting, & Dixon (2016)
	3, 4	Prompts	May, Austin, & Dymond (2011); Loughrey, Marshall, Bellizzi, & Wilder (2013); Downing, Capriola, & Geller (2018)
	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); Abellon & Wilder (2014)
	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); Mowery, Miltenberger, & Well (2010)
	2	Performance feedback	Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)
	3	Regularly highlight task outcomes	Methot, Williams, Cummings, & Bradshaw (1996)
	4	Reduce task effort	Abellon & Wilder (2014); Casella et al. (2010)
	5	Reduce aversive task properties	Green et al. (2008); Reed, DiGennaro Reed, Campisano, Lacourse, & Azuly (2012)

Improvement Plan – Ruth

The improvement plan for Ruth (Appendix I) was based on the results of the PDC-HS (1.1), suggested indicated interventions, Ruth’s preferences, and contextual variables (e.g., family obligations, types of cases assigned). The goal addressed by the improvement plan was as follows: By the end of the next two consecutive reports, I will improve my scheduling and report writing process to 90% as measured by the scheduling and report writing checklist and timely task completion within work hours. Ruth’s improvement plan focused on providing performance feedback, highlighting task outcomes, reducing aversive task properties, but did not use increased supervisor presence, under the Performance Consequences, Effort, and Competition domain.

Performance feedback was self-delivered through a self-management system, similar to Mary. Various schedules of reinforcement were used as part of the self-management system to

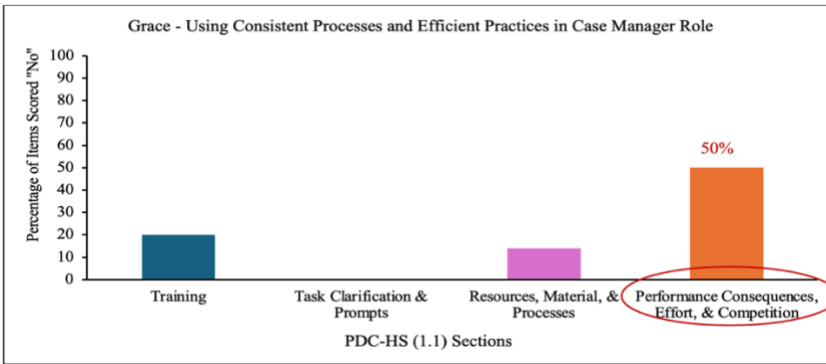
schedule report writing time consistently and improve efficiency of writing reports during work hours. Accurate task completion was highlighted by recommendations to schedule report writing time blocks for specified hours during the work week, based on the complexity and levels of need of evaluations. Aversive task properties were reduced by identifying and prioritizing the most and least liked tasks, most and least competing tasks, and using a modified hi-p/low-p procedure (McComas et al., 2000) to increase motivation. Additionally, time-management and motivational strategies such as the Pomodoro technique were included in the improvement plan. Aversiveness of task properties were further reduced by having designated time scheduled and blocked off for report writing weekly, and by using tools to improve the efficiency of report writing (e.g., templates, voice-to-text software) and by using organizational software and automated functions (e.g., notifications).

Task clarification, checklists, and prompts were included in the improvement plan to address the needs in the Task Clarification and Prompts domain. The steps of scheduling report writing time and the report writing process were broken down collaboratively into manageable steps, with sub-tasks clarified and matched to Ruth's job duties. A variety of prompts were included in the improvement plan and coaching process in the form of job aids, checklists, and individualized supports for reinforcement and self-management systems.

Grace

Figure 9

Results of PDC-HS (1.1) – Grace



Grace described difficulty with consistently and efficiently completing the case manager duties as a performance concern to target using the PDC-HS (1.1). Results of Grace’s PDC-HS (1.1) (Figure 9) clearly showed Performance Consequences, Effort, and Competition as the section to focus on, with 50% of items in the section scored as “No”. The Training section had 20% of items scored “No”, Resources, Materials, and Processes showed 14% of items scored “No” and no items were indicated in the Task Clarification and Prompts section. Providing performance feedback, reducing task effort, and increasing supervisor presence were all indicated for the Performance Consequences, Effort, and Competition domain for Grace. Increased supervisory presence was not included in the improvement plan, similar to other team members. Performance feedback was addressed through a self-management procedure, schedules of reinforcement, and response effort was reduced by blocking off one-two blocks of time per week for duties.

Figure 10

Summary of Grace’s PDC-HS (1.1) Intervention Planning

INTERVENTION PLANNING			
Each item scored as NO on the PDC-HS (Revised) 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.			
Domain	Item #	Sample Intervention(s)	Literature Citations
Training	1, 2, 3, 4, 5	Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback)	Barnes, Dunning, & Rehfeldt (2011); Parsons, Rollyson, & Reid (2012);
		Improved personnel selection	Gatewood, Feild, & Barrick (2016)
	1a	Enhanced written instructions	Graff & Karsten (2012)
	1b	In-vivo/video modeling	Catania, Almeida, Liu-Constant, & DiGennaro Reed (2009); Viadescu, Carroll, Paden, & Kodak (2012)
	1c, 1d	Rehearsal with feedback	Palmen, Didden, & Korzilius (2010); Hogan, Knez, & Kahng (2015)
Task Clarification & Prompting	1, 2	Task clarification & Checklists	Gravina, VanWagner, & Austin (2008); Reetz, Whiting, & Dixon (2016)
	3, 4	Prompts	May, Austin, & Dymond (2011); Loughrey, Marshall, Bellizzi, & Wilder (2013); Downing, Capriola, & Geller (2018)
	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); Abellon & Wilder (2014)
	5, 6	Reassess task process and personnel	Diener, McGee, & Miguel (2009); McGee & Diener (2010)
Performance Consequences, Effort, & Competition	1	Increased supervisor presence	Bracket, Reid, & Green (2007); Mowery, Miltenberger, & Well (2010)
	2	Performance feedback	Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)
	3	Regularly highlight task outcomes	Methot, Williams, Cummings, & Bradshaw (1996)
	4	Reduce task effort	Abellon & Wilder (2014); Casella et al. (2010)
	5	Reduce aversive task properties	Green et al. (2008); Reed, DiGennaro Reed, Campisano, Lacourse, & Azuly (2012)

Improvement Plan – Grace

The improvement plan (Appendix J) resulting from the PDC-HS (1.1) was individualized based on input from Grace, time constraints, and other factors related to team dynamics outside of Grace’s control. The goal addressed by the improvement plan was as follows: By the end of the next two consecutive reports, I will improve my case manager related practices to 90% by following the case manager role checklist and completing related tasks within the pre-determined timeline. Increased supervisor presence was not included in the improvement plan; however a structured self-management plan was included with multiple checks for the case manager duties to be performed during the evaluation process.

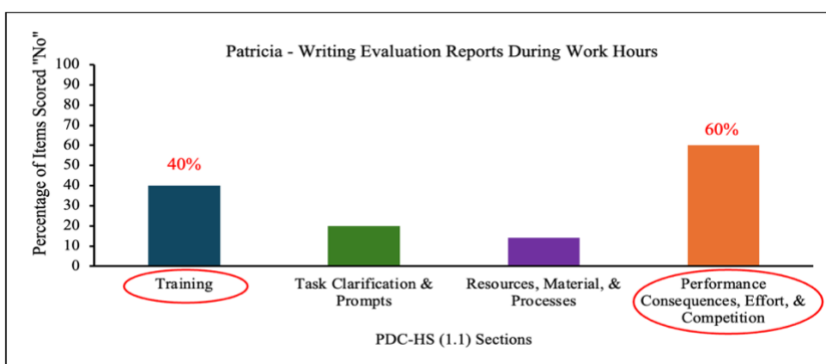
Grace reported she solicits positive and corrective feedback from her colleagues often and would like performance feedback from her supervisor, if their relationship improved. A detailed self-management system with self-feedback was included in the improvement plan with

instructions for a generalized reinforcement system, preference assessments, and best practices when providing reinforcement. Immediate and contingent reinforcers for challenging tasks, requiring increased response effort, or those requiring additional motivation and support were prioritized in the plan. Schedules of reinforcement related to various case manager tasks based on complexity, ease, and preferences were linked to case manager tasks and the self-management system. Additional self-monitoring and task management tools found effective were incorporated into the self-management procedures.

Patricia

Figure 11

Results of PDC-HS (1.1) – Patricia



Patricia reported difficulty with consistently writing evaluation reports during work hours as the identified concern to be used with the PDC-HS (1.1) process. Patricia’s assessment results (Figure 11) show Performance Consequences, Effort, and Competition, as the primary indicated section with 60% of items scored “No” and Training as the secondary with 40% of items scored “No”. Task Clarification and Prompts had a score of 20% and Resources, Materials, and Processes had a score of 14% of items scored “No”. Providing performance feedback, reducing task effort, and increasing supervisor presence were all indicated for the Performance Consequences, Effort, and Competition domain for Patricia, as it was for Grace. Behavior skills

training was also indicated for Patricia in the Training domain although it was not directly used as part of the improvement plan given time limitations. Increased supervisory presence was also not included in the improvement plan, similar to other team members, due to the same relationship concerns with their supervisor.

Figure 12

Summary of Patricia's PDC-HS (1.1) Intervention Planning

INTERVENTION PLANNING			
Each item scored as NO on the PDC-HS (Revised) 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.			
Domain	Item #	Sample Intervention(s)	Literature Citations
Training	1, 2, 4, 5	Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback)	Barnes, Dunning, & Rehfeldt (2011); Parsons, Rollyson, & Reid (2012);
		Improved personnel selection	Gatewood, Feld, & Barrick (2016)
	1a	Enhanced written instructions	Graff & Karsten (2012)
	1b	In-vivo/video modeling	Catania, Almeida, Liu-Constant, & DiGennaro Reed (2009); Vladescu, Carroll, Paden, & Kodak (2012)
	1c, 1d	Rehearsal with feedback	Palmen, Didden, & Korzilius (2010); Hogan, Knez, & Kahng (2015)
Task Clarification & Prompting	1, 2	Task clarification & Checklists	Gravina, VanWagner, & Austin (2008); Reetz, Whiting, & Dixon (2016)
	3, 4	Prompts	May, Austin, & Dymond (2011); Loughrey, Marshall, Bellizzi, & Wilder (2013); Downing, Capriola, & Geller (2018)
	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, Neiderl, Rey, Compton, & Chong (2010); Abellon & Wilder (2014)
	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); Mowery, Mittenberger, & Well (2010)
	2	Performance feedback	Arcs (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)
	3	Regularly highlight task outcomes	Methot, Williams, Cummings, & Bradshaw (1996)
	4	Reduce task effort	Abellon & Wilder (2014); Casella et al. (2010)
	5	Reduce aversive task properties	Green et al. (2008); Reed, DiGennaro Reed, Campisano, Lacourse, & Azuly (2012)

Improvement Plan – Patricia

Patricia's improvement plan (Appendix K) considered many contextual factors (e.g., time left in school year, scheduling demands, personal factors) and was finalized with continuous input from Patricia. The goal targeted in the improvement plan was as follows: By the end of the next two consecutive reports, I will improve my report writing process to 90% by following the report writing checklist and completing related tasks within designated work hours. Similar to Grace, Patricia also reported that they often rely on colleagues for input when making decisions, navigating challenging circumstances, and finding resources. A detailed self-management system with self-feedback and peer-feedback was included in the improvement plan. Specific schedules

of reinforcement were linked to the reinforcement and support systems and were individualized based on Patricia's input.

Response effort reduction was included as antecedent interventions such as, blocking off designated times on the schedule, using technological reminders, and using organizational tools. In addition, use of voice-to-text software, artificial intelligence chatbots, organizational software, and real-time collaboration platforms were included to reduce response effort. Previous research found simple interventions such as email prompts, task clarification, and access to materials improved staff performance related to response effort (Felde et al., 2020)

PDC-HS (1.1) and Indicated Interventions – All Participants

The primary indicated intervention category identified on the PDC-HS (1.1) for all participants was Performance Consequences, Effort, and Competition with the Task Clarification and Prompts and the Training domain being indicated next. The Resources, Materials, and Processes category was indicated the least for all but one participant (Grace), which will be discussed in more detail in the discussion section. There was overlap between

PDC-HS (1.1) indicated interventions selected by participants. Table 3 summarizes each participants improvement plan based on PDC-HS (1.1) results and indicated interventions.

Table 3

Summary of PDC-HS (1.1) Results and Indicated Interventions

Participant	Performance Goal	Top Indicated Domain	Indicated Interventions Selected	Excluded/Non-Preferred Indicated Interventions
Mary	Increase efficiency of report writing and scheduling.	1. Performance Consequences, Effort, and Competition (60%) 2. Task Clarification	1. Performance feedback: Self-management system with self-delivered feedback and reinforcement. Reduce response effort: Technological tools for report writing (chatbots, templates, collaborative platforms),	1. Increased supervisory presence.

		and Prompts (60%)	behavior/skill analysis-intervention/recommendation match. 2. Prompts: Visual and textual prompts (checklists, reminders, affirmations, reinforcers). Change/alter location: Schedule adjustment (quiet time blocks, early arrival).	
Ruth	Improve scheduling and report writing efficiency.	1. Performance Consequences, Effort, and Competition (80%) 2. Task Clarification and Prompts (60%)	1. Performance feedback: Self-management system with self-delivered feedback and reinforcement. Regularly highlighting task outcomes: Scheduling report writing time. Reducing aversive task properties: Identifying and prioritizing the most and least liked tasks, most and least competing tasks, and using a modified hi-p/low-p procedure. Using time management strategies/tools/software. Scheduling writing time. Reducing response effort: Scheduling report writing time, use of efficiency tools (e.g., chatbots, software, templates), use of organizational tools. 2. Task clarification & checklists: checklists with tasks broken down, tasks matched to role expectations, Prompts: job aides, professional development and coaching.	1. Increased supervisory presence.
Grace	Improve case management duties and task completion.	1. Performance Consequences, Effort, and Competition (50%)	1. Performance feedback: Self-management system with self-delivered feedback and reinforcement, structured self-monitoring tools.	1. Increased supervisory presence.

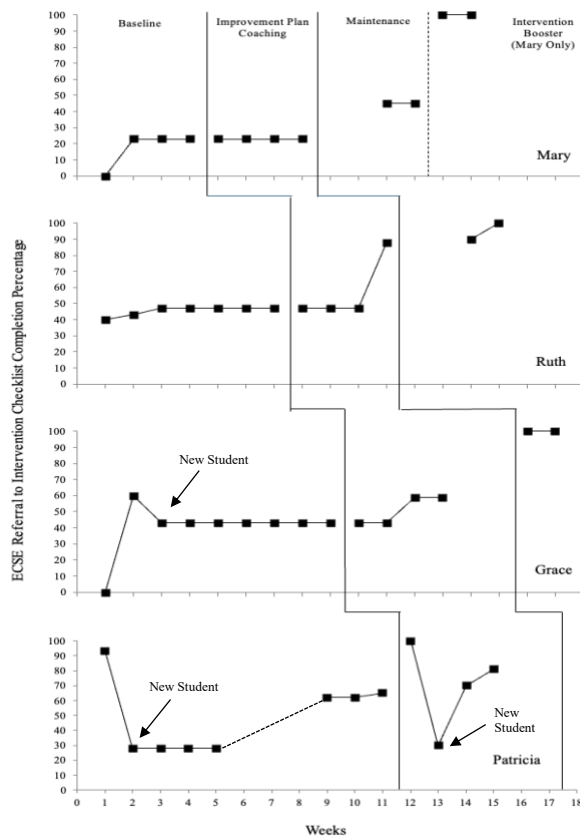
			Reducing response effort: Scheduling report writing time, use of efficiency tools (e.g., chatbots, software, templates), use of organizational tools.	
Patricia	Improve efficiency and consistency of report writing to 90%	1. Performance Consequences, Effort, and Competition (60%) 2. Training (40%) <i>Not implemented</i>	1. Performance feedback: Self-management system with self-delivered feedback and reinforcement, peer-mediated feedback system, coaching. Reducing response effort: Scheduling report writing time, use of efficiency tools (e.g., chatbots, software, templates), use of organizational tools.	1. Increased supervisory presence. 2. Behavior skills training on report writing.

Dependent Variable – ECSE Referral to Intervention Checklist

The ECSE evaluation team Referral to Intervention Checklist (Appendix E) outlines the processes, responsibilities, and related activities required to effectively evaluate, collaborate, and determine eligibility for ECSE at the initial IEP meeting. The checklist is comprised of typical processes within ECSE evaluation unit and considered educational laws and regulations. The ECSE team members participating in the study completed the Referral to Intervention Checklist during all phases of the study. This dependent variable was evaluated using visual analysis, specifically for level, trend, variability, immediacy, and overlap. It was also analyzed statistically using a Tau-U effect size and POGO. Figure 13 shows the graphed data for ECSE Referral to Intervention Checklist completion percentages for all participants across phases.

Figure 13

ECSE Referral to Intervention Checklist Completion Graph



Summary of Visual & Statistical Analysis

Mary

Mary completed the ECSE Referral to Intervention Checklist for four weeks during the baseline phase, for four weeks during the intervention phase, and for two weeks during the maintenance phase. Mary also completed an additional two weeks of booster sessions with the researcher following the maintenance phase and completed the ECSE Referral to Intervention Checklist during that time as well. Mary had a low, stable baseline with a range of 0-23% which continued into the intervention phase without change in level or trend, and increased in level in the maintenance phase, up to 45%. There was overlap of data points and no variability in the data from baseline to intervention with the exception of the first data point, but there was a large

increase in level from the maintenance to the booster phase. Mastery criterion was met during the booster session with two times at 100% completion on the ECSE Referral to Intervention Checklist with a strong immediacy effect. There was no overlap between the intervention and maintenance phases, nor between the maintenance and booster phases. The Tau-U effect size for Mary's data from baseline to intervention phases indicated small non-significant effects (Tau-U = 0.25, $p = 0.56$). There was no immediate level change demonstrated during the intervention phase and increases in percentage completion on the ECSE Referral to Intervention Checklist occurred in the maintenance or booster phases, suggesting other factors may have contributed to the increase (e.g., booster session, time).

Ruth

Ruth completed the ECSE Referral to Intervention Checklist for seven weeks during the baseline phase, for four weeks during the intervention phase, and for two weeks during the maintenance phase. There was a low, stable trend in the baseline phase with a slightly increasing trend during the first few weeks and a range of 40-47%. The level and trend continued into the intervention phase with overlapping data until the last intervention data point which increased to sharply to 88%. There was an increasing trend in the maintenance phase and mastery criteria was met during the maintenance sessions at 90% and 100% completion of the ECSE Referral to Intervention Checklist. The Tau-U effect size for Ruth's data from baseline to intervention phases was moderate and statistically non-significant (Tau-U = 0.46, $p = 0.22$). There is minimal overlap between the intervention and maintenance phase, but the increase in completion percentage occurs too late to attribute the change to the intervention. There is potentially a delayed effect, but functional control is weak.

Grace

Grace completed the ECSE Referral to Intervention Checklist for nine weeks during the baseline phase, for four weeks during the intervention phase, and for two weeks during the maintenance phase. The data began at 0 levels and immediately increased up to 60% before decreasing to 43% and leveling out for the remainder of the baseline phase. Grace reported a change in the student they were collecting data for during the third week of baseline due to an unforeseen change in caseload. There was no change in trend into the intervention phase and the level continued at 43% into the intervention phase without change until the last two intervention data points, which showed an increase in level to 59%. There was a large increase in level in the maintenance phase with mastery criterion being met with two sessions at 100%. The Tau-U effect size for Grace's data from baseline to intervention phases was moderate and non-significant ($\text{Tau-U} = 0.39, p = 0.28$). Grace's data showed no clear differentiation between baseline and intervention trends and increases in percentage completion in maintenance cannot be linked to the intervention.

Patricia

Patricia completed the ECSE Referral to Intervention Checklist for eight weeks during the baseline phase (with a four week gap) and for four weeks during the intervention phase. Patricia did not participate in the maintenance phase as the school year ended, and they were not contracted to work extended calendar. Baseline data levels began very high at 93% and immediately decreased to a low, stable level at 28% and increased following a four week break to a moderate to high level with a slightly increasing trend (range 62-65%). The intervention phase data was variable, beginning at a high level at 100%, immediately decreasing to a low level at 30%, and increasing once again to a moderate level with an increasing trend (70% and 81%). Like Grace, Patricia also began data collection for a different students (beginning second

week of baseline and second week of intervention) due to caseload changes. The Tau-U effect size for Patricia's data from baseline to intervention showed a large effect size that was not statistically significant (Tau-U = 0.63, $p = 0.09$). Patricia's data showed overlap between phases and high variability and improvement in ECSE referral to intervention process cannot be attributed to the intervention.

Omnibus Tau-U

The omnibus Tau-U effect size takes all participant phase contrasts and combines them for one effect size. The omnibus Tau-U effect size for the ECSE Referral to Intervention Checklist data was moderate and shows a statistically significant (Tau-U = 0.44, $p = 0.023$) change from baseline to intervention. See Table 4 for details on Tau-U results for phase comparison. Tau-U values can be interpreted based on guidelines by Parker and colleagues (2011) as follows: 0 – 0.20 = weak/small effect, 0.21 – 0.60 = moderate effect, 0.61 – 0.80 = large effect, > 0.80 = very large effect.

Table 4

ECSE Referral to Intervention Checklist Tau-U Results and Interpretation

Participant	Comparison	Tau	Z	p	95% CI	Interpretation of Effect Size
Mary	BL vs. Int	0.25	0.58	0.56	[-0.46, 0.96]	Small, not significant
Ruth	BL vs. Int	0.46	1.23	0.22	[-0.16, 1.00]	Moderate, not significant
Grace	BL vs. Int	0.39	1.08	0.28	[-0.20, 0.98]	Moderate, not significant
Patricia	BL vs. Int	0.63	1.70	0.09	[0.02, 1.00]	Large, not significant
Combined	BL vs. Int	0.44	2.27	0.023	[0.06, 0.82]	Moderate, statistically significant

Note. Tau = Nonparametric effect size. CI = Confidence Interval. BL = Baseline, Int = Intervention

POGO – ECSE Referral to Intervention Checklist

Percent of Goal Obtained (POGO) was used to quantify participants' progress towards pre-determined goals. POGO was calculated by evaluating the means of the baseline and intervention phases relative to the pre-determined goal (Ferron et al., 2020). Mary had a baseline

mean of 17.25, an intervention mean of 23, with a goal of 100, resulting in a POGO score of 6.95% on completion of the ECSE Referral to Intervention Checklist. Ruth had a baseline mean of 45.43, a mean of 57.25 during intervention, with a goal of 100, and a resulting POGO of 21.66%. Grace had a POGO of 18.18% derived from a baseline mean of 40.11 and an intervention mean of 51. Patricia had a baseline mean of 41.25 and an intervention mean of 70.25, with a POGO of 41.38%. The average POGO across participants was 22% and did not show substantial progress towards the goal of 100%. POGO scores and interpretations are shown in Table 5 below.

Table 5

ECSE Referral to Intervention Checklist POGO Results

Participant	Baseline Mean	Intervention Mean	Goal	POGO (%)	Interpretation
Mary	17.25	23	100	6.95	Minimal progress
Ruth	45.43	57.25	100	21.66	Minimal progress
Grace	40.11	51	100	18.18	Minimal progress
Patricia	41.25	70.25	100	41.38	Some progress

Vertical Analysis

Participant performance was stable or slightly variable for each participant before the intervention was introduced, allowing adequate experimental control to demonstrate intervention effects. The introduction of the intervention phase was staggered across participants to support multiple baseline logic. Mary received training and coaching first while the other participants remained in baseline. Next, Ruth entered the intervention phase, while Grace and Patricia were still in baseline, and Mary entered the maintenance phase. The non-intervened tiers remained stable when intervention was introduced and maintained in earlier tiers. The introduction of the intervention does not align with immediate, consistent improvement across participants, and mastery criterion was not achieved for two out of four participants (Ruth and Grace) until the

maintenance phase. Patricia did not participate in the maintenance phase and Mary did not achieve mastery criterion until the booster intervention phase.

The increases in percentage completion of the ECSE Referral to Intervention Checklist occurred at different times, often after completion of the intervention phase and a replicated or predictable pattern was not observed. A functional relation is not clearly demonstrated between the implementation of the PDC-HS (1.1) based interventions and coaching and an increase in ECSE Referral to Intervention Checklist completion. There are no immediate changes in level across at least three tiers, there are no immediate changes with the introduction of the intervention, increases in percentages are observed after intervention phases are completed suggesting potential delayed effects and possible external influences. Although the intervention may have had some positive influence on completion of the ECSE referral to intervention process, the visual analysis does not confirm a functional relation.

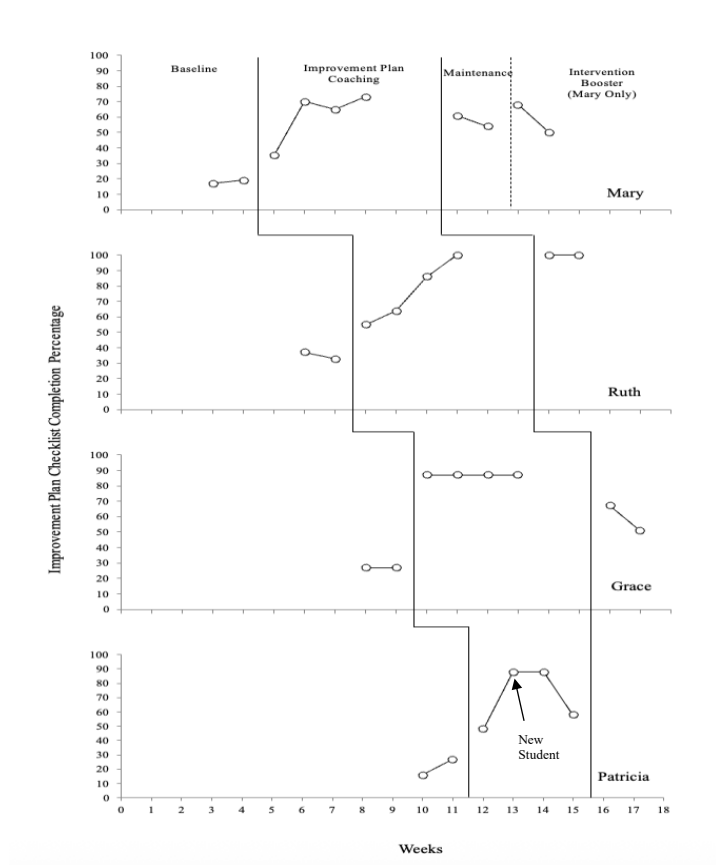
Dependent Variable – Improvement Plan Checklist

The results of the PDC-HS (1.1) and resulting indicated interventions were used to collaboratively create improvement plans with individualized goals addressing performance or process concerns. An individualized Improvement Plan Checklist was used for each participant as a data collection tool and intervention strategy. Each participant completed their respective Improvement Plan Checklist during intervention and during the two weeks preceding intervention, when the improvement plan was being finalized. They also completed the checklists during the maintenance phase. All participants completed the Improvement Plan Checklists for two weeks during baseline, four weeks during intervention, and two weeks during maintenance with the exception of Patricia, who did not participate in the maintenance phase. Mary participated in an additional booster phase following the maintenance phase. The data were

evaluated using visual analysis, for level, trend, variability, immediacy, and overlap. Data were also analyzed statistically using a Tau-U effect size and POGO. Figure 14 shows the graphed data for each participants' Improvement Plan Checklist results.

Figure 14

Improvement Plan Checklist Completion Graph



Improvement Plan Checklist – Summary of Visual & Statistical Analysis

Mary

Mary had a low, slightly increasing baseline of 17% and 19%, with an immediate increase in level without overlap and an increasing trend in the intervention phase with a range of 35% to 73%. The maintenance phase did not sustain gains from intervention and showed a

decreasing trend, with a decrease in level to 61% and 54%. There was a slight increase during the first week of the booster session, but the second week saw a decrease from 68% to 50%. Mastery criterion was not met during any of the phases for Mary. The Tau-U effect size for Mary's data from baseline to intervention phases indicated large, non-significant effects (Tau-U = 1, $p = 0.56$). Tau-U results for all comparisons and participants with interpretations are shown in Table 6 below.

Table 6

Improvement Plan Checklist Tau-U Results and Interpretation

Participant	Comparison	Tau	Z	p	95% CI	Interpretation
Mary	BL vs. Int	1	1.85	0.56	[-0.462, 0.962]	Large, not significant
Ruth	BL vs. Int	1	1.85	0.22	[-0.157, 1.00]	Large, not significant
Grace	BL vs. Int	1	1.85	0.28	[-0.203, 0.981]	Large, not significant
Patricia	BL vs. Int	1	1.85	0.09	[0.020, 1.00]	Large, not significant
Combined	BL vs. Int	1	3.7	0.0002	[0.112, 1.00]	Large, statistically significant

Note. Tau = nonparametric effect size. CI = confidence interval. BL = baseline, Int = intervention

Ruth

Ruth began baseline with a low-moderate level with a slightly decreasing trend at 37% and 33% with an immediate increase without overlap in intervention up to 55%. The data continued with an increasing trend to high levels, with a range of 55% to 100%. Mastery criterion was achieved and maintained in the maintenance phase at 100%. The Tau-U effect size for Ruth's data from baseline to intervention phases indicated large, non-significant effects (Tau-U = 1, $p = 0.22$).

Grace

Grace's baseline data were at a low level with a stable trend at 27%. There was an immediate, large change in level to high levels at 87% also remaining stable during the intervention phase without any variability. There was a change in level in the maintenance phase

with a decreasing trend at 67% and 51%. Mastery criteria were not achieved, although it was three percentage points away during the intervention phase. The Tau-U effect size for Grace's data from baseline to intervention phases indicated large, non-significant effects (Tau-U = 1, $p = 0.28$).

Patricia

Patricia's baseline data were low with an increasing trend at 16% and 27% with an initial increase in the intervention phase without overlap. The data continued with an increasing and stable trend, with a range of 48-88%, and then decreased to 58%. Mastery criteria were not achieved, and Patricia did not participate in the maintenance phase. The Tau-U effect size for Patricia's data from baseline to intervention phases indicated large, non-significant effects (Tau-U = 1, $p = 0.09$).

Omnibus Tau-U

The omnibus Tau-U effect size takes all participant phase contrasts and combines them for one effect size. The omnibus Tau-U effect size for the Improvement Plan Checklist data was very large and shows a statistically significant (Tau-U = 1, $p = 0.0002$) change from baseline to intervention. See Table 6 for details on Tau-U results for phase comparison. Tau-U values can be interpreted based on guidelines by Parker and colleagues (2011) as follows:

0.0 – 0.20 = weak/small effect, 0.21 – 0.60 = moderate effect, 0.61 – 0.80 = large effect, > 0.80 = very large effect.

POGO – Improvement Plan Checklist

POGO was used to quantify participants' progress towards pre-determined goals. POGO was calculated by evaluating the means of the baseline and intervention phases relative to the pre-determined goal (Ferron et al., 2020). Mary had a baseline mean of 18, an intervention mean

of 60.75, with a goal of 90, resulting in a POGO score of 59%. Ruth had a baseline mean of 35, a mean of 76.25 during intervention, with a goal of 90, and a resulting POGO of 75%. Grace had a POGO of 95% derived from a baseline mean of 27 and an intervention mean of 87. Patricia had a baseline mean of 21.5 and an intervention mean of 70.5, with a POGO of 72%. The average POGO across participants was 75.25% and showed moderate progress towards the goal of 100%. The POGO values are consistent with visual and statistical analyses, demonstrating a positive change, supporting functional relations of the intervention, with some variability in magnitude across participants. See Table 7 for details.

Table 7

Improvement Plan Checklist POGO Results

Participant	Baseline Mean	Intervention Mean	Goal	POGO (%)	Interpretation
Mary	18	60.75	90	59	Some progress
Ruth	35	76.25	90	75	Moderate progress
Grace	27	87	90	95	A lot of progress
Patricia	21.5	70.5	90	72	Moderate progress

Vertical Analysis

Overall, baseline levels were consistently low and stable across participants and varied between 15-35%. Completion percentage levels on improvement plans immediately increased during the intervention phase to high levels between 60-90%. Levels remained relatively the same with some decline during maintenance phases (Mary and Grace) showing partial retention of effects. Mary alone received a booster session and results on the Improvement Plan Checklist demonstrated the responsiveness to additional support. Internal validity is supported as the baseline trends are generally flat before intervention and there is a clear positive slope during intervention for all participants except Grace, who showed an immediate level change and stable

trend. The variability between sessions for some participants indicates a need for ongoing or a longer intervention period. There is minimal overlap between baseline and intervention phases for all participants supporting a strong intervention effect. Grace demonstrated the least overlap with almost complete separation of phase for Improvement Plan Checklist data. There is clear demonstration of immediate improvement after intervention for each participant. Changes in percentages within 1-2 sessions supports a strong functional relation between interventions and outcomes.

Vertical analysis shows that each participant did not show increases in percentages on Improvement Plan Checklists until after the intervention phase was introduced for them. The sequential improvement across tiers supports experimental control, replication effect across participants, and a strong functional relation between the improvement plan coaching intervention and improved improvement plan process/checklist completion. Maturation and external factors were unlikely to explain increases in Improvement Plan Checklist completion as tiers not yet introduced to intervention remained stable, while earlier tiers improved, and all four participants had low, stable baselines prior to intervention. Replication of improvement on Improvement Plan Checklists across three participants (Mary, Ruth, and Grace) further supports a functional relation between the improvement plan coaching intervention and improved checklist completion. However, the variability during the maintenance and booster phases indicates that the effect may have been partially maintained following the intervention phase.

Dependent Variable – Timeline from Referral to Initial IEP Meeting

The timeline from referral to the expected end of the evaluation period and the date the assessment plan expected end date (60-day timeline – Appendix L), and the actual assessment timeline end date (initial IEP meeting date) was summarized for two students per participant in

Table 8. Also, Mary reported timeline data for seven additional students (Table 9). Timeline data was reported as follows: (a) date of initial referral (b) date of receipt of consent for assessment (c) expected assessment plan end date (60-day timeline) (d) actual assessment plan end date (date of initial IEP meeting). The number of days exceeding the assessment plan end date was calculated as follows: (actual assessment plan end date - expected assessment plan end date). Overall, there was an average delay of 86 days beyond the 60-day evaluation timeline for fifteen students across all four participants, for an average duration of 146 days from referral to the initial IEP meeting, signifying the end of the assessment period (See Figure 15). Although timeline data was collected during all phases of the study, given the long duration for completion of assessments across participants, there was little change in timeline data across phases.

Table 8

Assessment Timeline Data for Two Students Per Participants

Participant & Intervention Start Date	Assessment Plan Received Dated	Assessment Plan Due Date (60-days)	Assessment Plan Actual End Date (Initial IEP)	Delay Over 60-Day Timeline	Average Number of Days for Evaluation Process
Mary 3/17/25	1. 10/2/24 2. 1/22/25	1. 11/30/24 2. 3/22/25	1. 4/18/25 2. 5/23/25	113 Days 52 Days	151 days (including data for seven additional students)
Ruth 4/7/25	1. 10/22/24 2. 10/28/24	1. 12/20/25 2. 1/11/25	1. 6/2/25 2. 5/29/25	139 Days 128 Days	194 days
Grace 4/21/25	1. 2/24/25 2. 2/28/25	1. 5/4/25 2. 5/8/25	1. 5/21/25 2. 6/2/25	17 Days 25 Days	81 days
Patricia 5/5/25	1. 11/14/24 2. 12/12/24	1. 1/28/25 2. 2/25/25	1. 5/29/25 2. 5/2/25	111 Days 56 Days	144 days

Mary

Mary reported delays of 113 and 52 days past the 60-day assessment completion timeline for the two students she reported data for. She also reported delays of 45 days, 132 days, 57 days, 80 days, 85 days, 150 days, and 101 days for seven additional students. There was an average delay of 91 days past the 60-day timeline, with an average evaluation period of 151 days, reported by Mary for a total of 9 students.

Ruth

The two students on Ruth's caseload that she completed data for had delays of 139 days and 128 days. Ruth reported an average delay of 134 days past the 60-day timeline, with an average evaluation period of 194 days for two students.

Grace

Grace reported a delays of 17 days and 25 days past the 60-day timeline for two students, with an average delay of 21 days, with an average evaluation period of 81 days.

Patricia

Patricia's students had delays of 111 days and 56 days beyond the 60-day timeline, for an average delay of 84 days, with an average evaluation period of 144 days.

Table 9

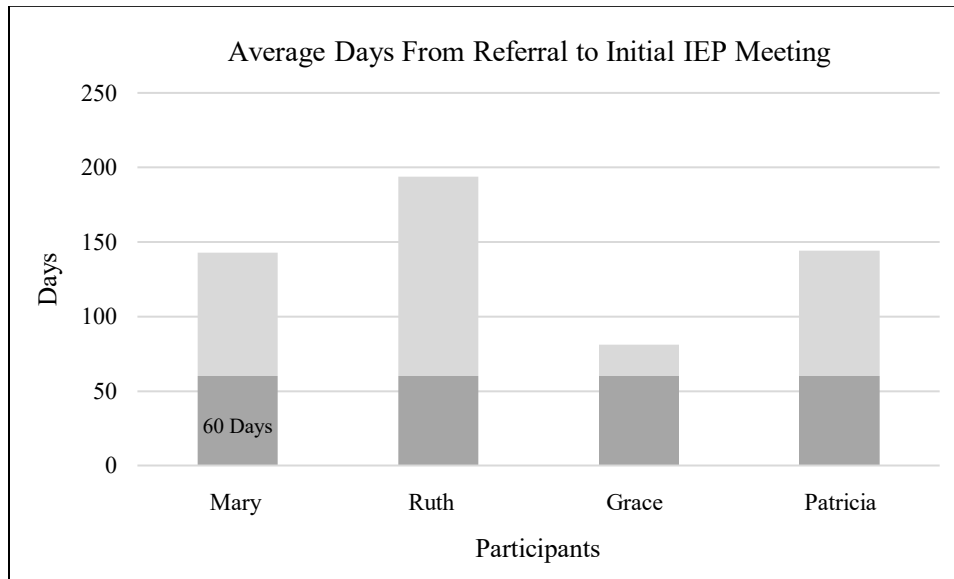
Mary's Additional Timeline Data

Participant	Assessment Plan Received Dated	Assessment Plan Due Date (60-days)	Assessment Plan Actual End Date (Initial IEP)	Delay Over 60-Day Timeline	Average Number of Days for Evaluation Process
Mary	1. 1/23/25	1. 3/23/25	1. 5/17/25	45 days	105 days
	2. 10/28/24	2. 1/11/25	2. 6/2/25	132 days	192 days
	3. 1/23/25	3. 3/23/25	3. 5/29/25	57 days	117 days
	4. 10/22/24	4. 12/20/24	4. 4/7/25	80 days	140 days
	5. 10/17/24	5. 12/15/24	5. 4/7/25	85 days	145 days

	6. 9/27/24 7. 9/30/24	6. 11/25/24 7. 11/28/24	6. 5/21/25 7. 3/31/25	150 days 101 days	210 days 161 days
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Figure 15

Timeline Data from Referral to Initial IEP Meeting



Social Validity Measure

Social validity data was collected from evaluation team members using surveys through the Qualtrics platform. A researcher developed social validity measure, IPAR, was used to (Appendix G) evaluate the acceptability, feasibility, and effectiveness of the goals, procedures, and outcomes of the PDC-HS (1.1), identified interventions, and training/coaching practices. Information about existing ECSE referral to intervention processes was gathered using the social validity measure as well. Data was collected using the survey in two parts, once at the beginning for questions one through six, and at the end of the study for questions seven through twenty seven. Table 10 summarizes social validity data for all participants.

Five participants completed the first survey, consisting of questions one through six. Three of the participants rated the current referral practices at the district to be unacceptable, one

rated them neutral, and another stated that practices were acceptable. All participants found the evaluation processes to be difficult and inefficient, and all stated that they would perform more effectively if processes were improved, and all stated that they were extremely willing to complete the evaluation process. Two participants stated that they complete their duties somewhat well, two stated they complete them slightly well given current district processes while one participant remained neutral. Finally, two participants stated they were extremely willing to participate in an updated evaluation process and two stated they were somewhat willing.

All four participants who completed the study completed both social validity surveys. All four participants also stated they were extremely willing to participate in the PDC-HS (1.1) and improvement plan development process, and rated the experiences as extremely acceptable. Three of the four participants were extremely willing to implement the improvement plan while the other participant was somewhat willing. The participants were either extremely or somewhat confident that the PDC-HS (1.1) and improvement plan would be effective and all of them reported using 30-minutes or less each day on improvement plan related tasks. Two participants reported experiencing some discomfort and a few side effects while two participants reported very little discomfort and no side effects during the PDC-HS (1.1) and improvement plan process. In addition, the participants did not find the assessment and improvement plan process to be disruptive, most participants (3) found no disadvantages and one participant stated there were a few disadvantages. The participants reported no cost (3) or minimal cost (1) for implementation of the plan and most of them liked the PDC-HS (1.1) and improvement plan process very much and one of them liked it somewhat.

One participant reported they were extremely unwilling to change their routines to implement the improvement plan and the other three stated they were somewhat willing. Two of the participants believed the intervention process fit extremely well into the existing routines in the department, one participant stated it fit somewhat well, and another participant was neutral on the matter. All participants found the PDC-HS (1.1) and improvement plan process to be effective for the evaluation team, however they thought others on the team would only be somewhat willing to engage with the process. Given the current barriers to timely evaluation, one participant found the current study process to be extremely reasonable, two found it to be somewhat reasonable, while one participant found it to be somewhat unreasonable. All participants believed that the PDC-HS (1.1) and improvement plan could lead to behavioral changes for team members and they all stated they would either highly (2) or somewhat recommend (2) the intervention process to improve performance concerns to their colleagues.

Table 10

IPAR Data for All Participants

Questions	Ratings				
1. How acceptable are the current referral to initial eligibility evaluation practices at your district?	Extremely Acceptable	Acceptable	Neutral	Slightly Unacceptable	Extremely Unacceptable
		1	2	1	1
2. How easy and efficient are the current referral to initial eligibility evaluation processes at your district?	Very Easy & Efficient	Easy & Slightly Efficient	Neutral	Difficult & Inefficient	Very Difficult & Inefficient
				4	1
3. Would you be able to complete your job duties more effectively if the evaluation processes at your district were improved?	Much More Effectively	More Effectively	Neutral	Slightly More Effectively	Not Any More Effectively
	2	3			
4. How willing are you to complete the steps	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling

evaluation process at your district?	5				
5. How well are you able to complete your job duties given the current evaluation processes and practices?	Extremely Well	Somewhat Well	Neutral	Slightly Well	Not Well At All
		2	1	2	
6. How willing are/were you to participate in an updated evaluation process?	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling
	2	3			
7. How willing are you/were you to complete the Performance Diagnostic Checklist-Human Services (1.1) (PDC-HS (1.1)) process?	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling
	4				
8. How acceptable is/was the PDC-HS (1.1) implementation process?	Extremely Acceptable	Somewhat Acceptable	Neutral	Somewhat Unacceptable	Extremely Unacceptable
	4				
9. How willing are you/were you to participate in the creation of the PDC-HS (1.1) improvement plan process?	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling
	4				
10. How willing are you/were you to implement the improvement plan with support, professional development, and coaching from the research team	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling
	3	1			
11. How confident are/were you that the PDC-HS and resulting improvement plan will be effective?	Extremely Confident	Somewhat Confident	Neutral	Somewhat Unconfident	Extremely Unconfident
	2	2			
12. How much additional time is/was required each day for you to implement practices from the improvement plan?	30-Minutes of Less	30-Minutes to 1-Hour	1-Hour	1-Hour to 2-Hours	More than 2-Hours
	4				

13. How much discomfort are you likely to experience or did you experience during the PDC-HS (1.1) and improvement plan process?	No Discomfort	Very Little Discomfort	Neutral	Some Discomfort	A Lot of Discomfort
		2		2	
14. Are there undesirable side effects likely to result or that resulted from the PDC-HS and improvement plan process?	No Side Effects	A Few Side Effects	Neutral	More Than A Few Side Effects	Many, Many Side Effects
	2	2			
15. How disruptive is it or was it to implement the PDC-HS (1.1) and improvement plan process?	Not Disruptive At All	Slightly Disruptive	Neutral	Somewhat Disruptive	Extremely Disruptive
	2	2			
16. Do you think there will be, are, or were disadvantages to using the PDC-HS (1.1) and resulting improvement plan?	No Disadvantages	A Few Disadvantages	Neutral	More Than a Few Disadvantages	Many, Many Disadvantages
	3	1			
17. How costly is it or was it to carry out the PDC-HS (1.1) and improvement plan process?	No Cost At All	Minimal Cost	Neutral	Somewhat Costly	Very Costly
	3	1			
18. How much do you or did you like the PDC-HS (1.1) implementation process?	Disliked Very Much	Slightly Disliked	Neutral	Somewhat Liked	Liked Very Much
				1	3
19. How much do you or did you like the resulting improvement plan process?	Disliked Very Much	Slightly Disliked	Neutral	Somewhat Liked	Liked Very Much
				1	3
20. How willing are you or were you to change your routines to implement the PDC-HS (1.1) and improvement plan process?	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling
		3			1
21. How well will or did the PDC-HS (1.1) and	Extremely Well	Somewhat Well	Neutral	Slightly Well	Not Well At All

improvement plan fit into the existing routine of the ECSE team and department?	2	1	1		
22. In your opinion, how effective is or was the PDC-HS (1.1) and improvement plan for the ECSE evaluation team?	Extremely Effective	Somewhat Effective	Neutral	Somewhat Ineffective	Extremely Ineffective
	2	2			
23. How willing are or were or will other ECSE team members to implement the PDC-HS (1.1) and improvement plan process?	Extremely Willing	Somewhat Willing	Neutral	Somewhat Unwilling	Extremely Unwilling
		2	2		
24. Considering current barriers to timely completion of referral to access to intervention process in ECSE, how reasonable is or was the PDC-HS (1.1) & improvement plan process?	Extremely Reasonable	Somewhat Reasonable	Neutral	Somewhat Unreasonable	Extremely Unreasonable
	1	2		1	
25. In your opinion, how likely is or was or will it be that the PDC-HS (1.1) will make permanent improvements in the ECSE evaluation team members' behavior?	Extremely Likely	Somewhat Likely	Neutral	Somewhat Unlikely	Extremely Unlikely
		4			
26. Would you recommend the PDC-HS and improvement plan process to other ECSE team members and district colleagues?	Highly Recommended	Somewhat Recommended	Neutral	Slightly Recommended	Do Not Recommend
	2	2			
27. Is there anything else you want to tell us?	“The timing for me was impacting my ability to allot brain time to adjust to a new system while in a highly impacted schedule with almost no time to meet even basic personal needs. So in a more appropriate work-life balance time of the year, and after getting more comfortable with the routine, meeting weekly and submitting weekly documents while trying to be intentional and provide valuable results would have improved and been less difficult. I did not adequately sustain my participation in the latter part of the reinforcement improvement plan which is on me.” “Thanks, I enjoyed participating!”				

	“Thank you so much for including me in your research. I appreciated our check-ins and your insights” “Thank you again for letting me participate in your research project. I learned a lot and have changed many things. So helpful!”
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Interobserver Agreement Data

IOA data on the results of the PDC-HS (1.1) and intervention matching was done for 100% of participants with 95% average agreement. ECSE Checklist IOA data was collected for 47% and for 90% of Improvement Plan Checklists. Agreement was high for both, with 92% for ECSE Referral to Intervention Checklists and 97% for Improvement Plan Checklists. There was also 100% agreement in calculation of timelines from referral to initial IEP meetings.

Summary of Research Questions

1. Is there a functional relation between implementation of the PDC-HS (1.1) with resulting indicated interventions and improvement on percentage of completion of ECSE Referral to Intervention Checklist steps?

The data does not demonstrates a functional relation between implementation of the PDC-HS (1.1) and coaching on indicated interventions and improvement on percentage of completion of ECSE Referral to Intervention Checklist steps. All participants showed low or variable completion percentages during baseline and intervention with systematic increases for most participants following improvement plan coaching, and levels stabilizing at high rates. The improvements were not immediate for most participants and occurred during the maintenance or booster phase, which also coincided with the end of the school year. Three of the four participants maintained completion levels during the maintenance phase, and Mary showed dramatic improvement from 45% in maintenance to 100% during the booster intervention phase. The staggered introduction across participants in a multiple baseline design supports some

experimental control, but the lack of immediate level changes does not support a functional relation. These findings are supported by the Tau-U and POGO results.

2. Is there a functional relation between implementation of the PDC-HS (1.1) with resulting indicated interventions and improvement in goals targeting personnel performance and process improvements of ECSE evaluation team members?

There was a functional relation observed for all participants between implementation of the PDC-HS (1.1) with resulting indicated interventions and improvement in completion of the Improvement Plan Checklist. There were immediate increases in level in the intervention phase for all participants with no overlap between the baseline and intervention phase for the Improvement Plan Checklists following implementation of the PDC-HS (1.1) and indicated interventions. Although improvement was made during intervention, skills were not maintained during maintenance for two out of three participants, indicating the need for ongoing evaluation and coaching and/or a longer intervention period. The omnibus Tau-U (1.0, $p = 0.0002$) results were a very large, statistically significant effect. POGO scores showed meaningful progress towards goal mastery with an average of 75.25% across participants. Visual analysis, Tau-U and POGO results all support a functional relation.

3. Is there a functional relation between implementation of the PDC-HS (1.1) with resulting indicated interventions and a decrease in the timeline from referral to the initial IEP meeting to determine eligibility for ECSE services in public schools?

Based on the results and the analysis, a functional relation could not be established between the implementation of the PDC-HS (1.1) with resulting indicated interventions and a

decrease in the timeline from referral to the initial IEP meeting. Three of the four participants reported average delays of over 80 days past the 60-day evaluation timeline, while one of the participants reported delays of less than 25 days, for an average of 86 days beyond the 60-day timeline. There was a mean duration of 146 days from referral to the initial IEP meeting. It should be noted that the same participant reported data for two students who began their assessment timeline during the second week of the study, while all the other participants reported data for students that began their timelines well before the beginning of the study. However, it is unclear if participation in the PDC-HS (1.1) and improvement plan process resulted in a shorter delay past the 60-day timeline for that participant as there was no comparison with students who began their timelines prior to the beginning of the study. In addition, staffing shortages, workload, procedures bottlenecks, and lack of clear expectations likely contribute to timeline delays. As such, a functional relation could not be established.

Other questions:

1. What are evaluation team members' perceptions of the acceptability, feasibility, and effectiveness of the current evaluation referral to eligibility determination processes, and goals/procedures/outcomes of the PDC-HS (1.1), identified interventions, and professional development/coaching practices?

Social validity data collected through surveys found that half of the participants found existing evaluation practices as unacceptable and all reported challenges with processes, and expressed a willingness to improve. Following the study, all participants rated the PDC-HS (1.1) and improvement plan process as extremely acceptable and effective, requiring 30-minutes or less daily with minimal discomfort, and all believed it could improve team practices.

Participants expressed interest in recommending the tool to colleagues, but were unsure of their colleagues' willingness to make changes.

Chapter V: Discussion

ECSE evaluation teams in public education encounter significant adversities including staff shortages, increased caseloads, long waitlists, limited time, and bureaucratic constraints. Given existing barriers and challenges to provide timely supports and services, evaluation teams require easy, free methods to conduct fast, efficient assessments. While most potential solutions are unrealistic or out-of-reach for evaluation team members, interventions rooted in ABA and OBM can be viable and effective to improve school district and evaluation team processes and practices (Ludwig, 2015; Luiselli et al., 2022; Wilder et al., 2009). There have been limited applications of performance management tools, derived from OBM, used with evaluation teams in public educational settings, especially with ECSE evaluators. The purpose of this study was to evaluate the impact of the PDC-HS (1.1) and indicated interventions on improving ECSE team members' professional goals and evaluation processes on timely access to early intervention services for eligible students.

Summary of Results

Results found the Performance Consequences, Effort, and Competition domain of the PDC-HS (1.1) to be the most indicated, followed by the Training and Task Clarification and Prompts domains. The primary domain consistency indicates a lack of consistent performance feedback systems, reinforcement systems, as well as increased response/task effort related to the evaluation, and more specifically the report writing process within evaluation teams. The Resources, Materials, and Processes domain was the least selected based on participants' scoring. This suggests adequate access to materials and tools and performance concerns were related to effort, feedback, and reinforcement contingencies instead of resource limitations.

Implementation of the PDC-HS (1.1), resulting improvement plan and coaching was found to improve individual evaluation team member goals, but did not show changes in timelines from referral to the initial IEP meeting nor impact the ECSE referral to intervention process. Although there was improvement with completion of the ECSE Referral to Intervention Checklist for several participants, the increases were not seen immediately after implementation of the intervention phase. The changes in scores are likely due to the natural progression of time, sequential completion of tasks, as well as the requirement to finish most assessments at the end of the school year.

Participants' improvement on individual evaluation process goals were demonstrated immediately following the implementation of indicated interventions and coaching, however, only one participant (Ruth) maintained improvements into the maintenance phase. This suggests need for a longer intervention/coaching period, additional research with evaluation teams, and implementation of all indicated interventions (e.g., supervisor feedback). All participants reported positive experiences with the PDC-HS (1.1) implementation and coaching process and found the intervention to be novel, effective, and easy, suggesting social validity and possibility of generalization across additional educational teams in future research and applications. Educators, including ECSE evaluation team members, are likely to encounter various performance and process challenges in their roles. The PDC-HS (1.1) may be a feasible option to be used as part of a self-monitoring, problem-solving, performance improvement process in public educational settings to improve individual practices. However, additional systems-level interventions are required to make long-term structural changes to move processes forward, to ensure timely access to ECSE supports and services.

Implementation of PDC-HS (1.1) in Educational Settings

The current study extends previous research on impact of PDC-HS in educational settings, by using it with ECSE evaluation teams in a public school district. The PDC-HS (1.1) was effective in identifying reasons and matched interventions for staff performance challenges to inform an individualized, contextually appropriate improvement plan for each participant. The Performance Consequences, Effort, and Competition domain being designated the most corroborates previous reports identifying lack of performance feedback, unclear expectations, and competing task/demands as common issues impacting staff performance (Jimenez et al., 2023; Wilder et al., 2019; Wilder et al., 2024b). The current study also expands the validity and practical application of the PDC-HS (1.1) when used collaboratively with staff to address performance concerns and identify individualized contextually appropriate interventions in human-service organizations (Echeverria & Wilder, 2024).

The consistent hesitation and/or refusal to include supervisory performance feedback in the improvement plan suggests organizational culture and relational factors impacted participant preferences. Adaptation of the indicated interventions to be delivered as a part of a self-management package (e.g., performance feedback, reinforcement) were used across several participants. This aligns with previous research findings of motivational and feedback-related concerns being common performance barriers in human-services and educational organizations (Carr et al., 2013; Wilder et al., 2019). Although several participants reported limited feedback from supervisors, they also expressed discomfort with supervisory presence and evaluation. This highlights the need for flexible, adapted PDC-HS-based interventions to be used in educational settings, while considering cultural, interpersonal dynamics, and social validity of interventions (Echeverria & Wilder, 2024).

Impact on System-Level Referral to Intervention Processes

The ECSE Referral to Intervention Checklist results showed moderate, statistically significant omnibus effects ($\text{Tau-U} = 0.44$, $p = 0.23$) and average goal progress ($\text{POGO} = 22\%$), but results were not supported by visual analysis and a functional relation was not demonstrated. Participant scores gradually improved over time during the maintenance or booster phase, not immediately after implementation of the intervention plan, suggesting potential delayed effects. Participant scores on the ECSE Referral to Intervention Checklist often remained unchanged for multiple weeks, indicating procedural or organizational bottlenecks contributing to delays and improvement of scores. In addition, some scores varied drastically (e.g., 100% to 30%) based on the sequence of the evaluation process and changes to caseloads mid-assessment, potentially impacting results.

These findings support the well-documented complexity and nuances related to improving organizational processes as opposed to individual staff behaviors. System-wide factors such as staff shortages, limited district protocols/procedures, unclear expectations, time constraints, and administrative workload as well as relational factors likely limited the impact of the intervention. Previous research in OBM and implementation science recommends a multi-tiered approach with individual and procedural and/or organizational redesign (Daniels & Bailey, 2014; Kurtz et al., 2021). The current study attempted to improve individual practices and processes, while acknowledging complexities and the interdependence between individual performance systems and organizational contingencies.

Impact on Individual Performance and Process Improvement

The Improvement Plan Checklist completion results indicated a large, statistically significant omnibus effect ($\text{Tau-U} = 1.0$, $p = 0.0002$) and found most participants achieving or almost achieving goals (average $\text{POGO} = 75.25\%$) on improvement plans. Visual analysis

clearly found a functional relation, with immediate level changes and strong replication across tiers, supporting experimental control. These findings support previous OBM research of using function-based feedback and reinforcement systems to improve staff performance in human-service organizations (Austin & Carr, 2000; Cymbal et al., 2020).

The collaborative development, contextual and cultural fit, and individualization of the improvement plans likely boosted participant motivation and engagement. Research on adult learning and coaching (Miltenberger, 2016) found goal setting, self-management, and performance feedback are effective in improving professional skills. The findings of the current study support the need for ongoing coaching and support, as some gains were reduced during the maintenance phases. Novak et al. (2019) recommended providing ongoing coaching, feedback, and reinforcement after training to maintain performance on indicated interventions resulting from the PDC-HS and its variants. Lack of training and limited leadership skills often result in feedback delays and aversive or limited supervisory contact, and increased use of non-evidence based practices. Closing performance, process, and leadership gaps in organizations are critical to the development of ethical, effective, and sustainable service delivery in human-services organizations (Novak et al., 2019), such as schools. As such, continuations of the current study may explore use of PDC-HS (1.1) with leadership teams and staff simultaneously to develop collaborative improvement plans.

Impact on Referral to Initial IEP Timelines

Despite significant gains in evaluation team members' performance goals, there was not a noticeable change in timelines from referral to the initial IEP meeting. Overall, evaluation timelines exceeded legal timelines of 60-days by 86 days on average, for a total duration of 146 days from referral to intervention. Delays such as these are common across the nation, across

many ECSE evaluation teams (U. S. Department of Education, 2023). In one case, there was a considerable difference in timeline completion compared to colleagues (Grace, average 21 days past 60-day), which may be attributed to her students' consent dates coinciding with the beginning of the research project. Most participants provided timeline data for students who began the evaluation process months before study implementation. Finally, timeline completion rates may have been influenced by the school year calendar, as indicated by 75% of evaluations completed during the last two weeks of school.

Once again, findings support the need to address both procedural and organizational concerns, including leadership needs, personnel/staffing requirements, competing and contextual factors, relational and cultural improvements, and feedback systems to improve staff performance. In the current study, interventions from ABA and OBM effectively improved performance at the individual level, but results support the need for organizational and process changes to target root causes of delays from referral to intervention in the ECSE evaluation and service delivery.

Social Validity

The IPAR measured the acceptability, feasibility, and perceived effectiveness of the PDC-HS (1.1) implementation process, improvement plan development, and coaching process. All participants rated the PDC-HS (1.1) and improvement plan coaching process as effective, easy, efficient, and professionally relevant. Participants found practices to be personally beneficial to improve their practices, found the coaching process to be pleasant, and would have liked to devote more time to the study. These findings support Brand et al. (2022) and Echeverria & Wilder (2024) who found structured performance diagnostic tools such as the PDC-HS (1.1) generate high acceptability ratings, especially when used in conjunction with individualized

goal-setting and coaching. Despite favorable ratings, a few participants expressed uncertainty of use of tool by colleagues and themselves in the future, due to concerns around time constraints and support to implement interventions. This feedback highlights the need for administrative support and ongoing follow-up to evaluate implementation fidelity and alignment between professional development and daily needs of staff. All participants also reported they would recommend the PDC-HS (1.1) process to colleagues, supporting social significant and contextual fit for ECSE evaluation teams.

Implications for Practice

The PDC-HS (1.1) can be used as an effective, easy diagnostic tool to inform a coaching plan to improve staff performance and processes in ECSE programs. School districts could include the PDC-HS (1.1) as part of their continuous improvement process, and it may be absorbed into existing supervision and professional development systems, highlighting goal-based feedback, self-management, peer-mediated interventions, and use of reinforcement systems. The current study also supports use of collaborative practices during assessment, intervention plan development, and throughout the coaching process. Results show improved engagement and positive impact on staff frustration following implementation of the improvement plan and coaching, especially when there was increase participant' voice and collaboration, and individualization of the plan. The limited impact on referral to intervention timelines for access to early intervention services given systems-level barriers, future research may include PDC-HS (1.1)-based interventions with organizational process analyses to identify procedural chokepoints, improve communication systems, and clarify roles and expectations across departments. The current study has implications for training, coaching, supervision, and systems-level data tracking supports in organizations and inclusion within existing supports and

systems (e.g., PBIS, MTSS). The PDC-HS (1.1) is a practical, scalable, predictable tool to improve ECSE referral to intervention processes and improve timely service delivery.

Implications for Systems Change and Leadership Development

The current study opens the discussion for potential use behavior-analytic performance management systems to inform individual and systems improvement, while supporting educational leadership efforts. Administrators can develop a performance-positive organizational culture by including OBM practices such as feedback loops, goal development processes, performance tracking, reinforcement systems, and use collaborative, data-informed leadership practices. Staff who feel safe and experience a positive work culture may engage in continuous improvement without fear or aversive results. Leadership teams may consider including the PDC-HS (1.1) in problem-solving meetings to collaboratively develop performance outcomes to improve timelines from referral to intervention or other school-based processes.

Implications for Research and Policy Change

The results of the current study have implications for research and policy. To address systems-level barriers impacting ECSE evaluation teams, policy supports such as, workload protections, leadership support and accountability, and data structures are necessary for maintaining improvements in service delivery and evaluation processes. This study provides a model for using OBM frameworks in public educational settings by connecting implementation of special education policy with ABA. Additional studies in more school districts could inform professional development models to improve practices and ultimately access to early intervention services as mandated by state special education laws and IDEIA.

Future research could investigate the effectiveness of performance diagnostic, feedback, and improvement systems to advance interdisciplinary collaboration within ECSE evaluation

teams. Data-informed leadership practices (e.g., coaching, performance supports) and the impact on staff retention, evaluation timelines, and family satisfaction with the evaluation process may be examined. In addition, studies can investigate scalable training and coaching models using OBM practices in school processes to improve procedural fidelity. Finally, comparative studies across school districts could inform contextual variables that influence the development and sustainability of individual and systems-level interventions. Additional research is required in this area to develop and test easy, free practices from OBM and ABA that can be used by a variety of professionals in public schools to identify and improve performance concerns, processes, and organizational systems.

As for policy, future research may examine how district- and state-level policies impact the implementation fidelity of OBM-informed interventions in special education evaluation and service delivery. The impact of policies related to workload protections, caseload caps, and leadership practices could be evaluated and guidance documents could be developed based on best practices in OBM and ABA. Researchers can also investigate how data collection and data reporting requirements influence decision-making processes, resource allocation, and compliance with IDEIA regulations.

Contributions to the Field and Science

The current study contributes to field and science by using the latest version of the PDC variants, PDC-HS (1.1) to improve individual staff performance in a public school district, with early intervention evaluation teams. There have only been a handful of studies evaluating the validity of the PDC-HS (1.1) and there have been limited studies to date using any PDC variant in public educational settings, especially with ECSE staff. This study introduces OBM and performance management to ECSE evaluation teams and informs intervention development

between individual staff behavior change, and provides an example of how data-based diagnostic tools can inform performance and process challenges, and support development of individual coaching and systems-level interventions.

Finally, the indication of the Performance Consequences, Effort, and Competition domain by all participants as their primary area of development further supports the need for performance feedback and effective reinforcement contingencies to sustain practices in schools. Increased caseloads and task effort related to evaluations (Bettini & Gilmour, 2024; Kasprzak et al., 2020) could be improved at least on an individual level by using tools such as the PDC-HS (1.1). The findings of the study support the principles of cultural and contextual responsiveness in ABA, as demonstrated by interventions and motivational systems allowing self-assessment staff autonomy, preferences, equity, and practicality in public school settings (Beaulieu & Jimenez-Gomez, 2022; Beaulieu et al., 2024; Jimenez-Gomez & Beaulieu, 2022; Miller et al., 2019).

Limitations

There are several limitations of the current study that should be acknowledged. The sample size was small ($N = 4$), the participants were all female, and mostly speech language pathologists limiting generalizability beyond ECSE evaluation teams at this time. The engagement and performance of ECSE evaluation team members may have been impacted by timing effects as the study occurred during a high volume, high workload period (last 3-4 months of school year). Self-report bias cannot be ignored, as reliance on self-report data influences responding due to potential bias. The IOA data for the ECSE Referral to Intervention and Improvement Plan Checklists collected was reliant on self-report and future studies should consider using an administrator or colleague for real-time data collection. The duration of the

intervention and coaching period may have been too short, as demonstrated by reduction in gains during maintenance phases. A longer intervention period and ongoing implementation of the PDC-HS (1.1) process may be necessary to influence sustainable practices. There was also variability in implementation of improvement plans based on participant report during coaching sessions and on social validity surveys. Participants reported inconsistencies in implementation of steps of the improvement plans due to personal and professional barriers unrelated to the study. Participants were not provided graphical feedback and reminders to implement intervention strategies were not used by the research team as suggested by Guercio & Hunyadi (2022). Also, the measurement tools used (e.g., ECSE Referral to Intervention Checklist) and data collection for timelines from referral to intervention could be improved for more precise measurement, and the PDC-HS (1.1) and intervention process could be refined by implementing the checklist more than once. Finally, data was not collected systematically on contextual factors (e.g., staff turnover, volume of referrals, cancellations, procedural/internal delays) that may have affected completion of the ECSE referral to intervention process or the implementation of the improvement plan.

Recommendations for Future Research

Future research using the PDC-HS (1.1) in educational settings can include a larger sample size across multiple school districts and can be expanded to new settings (e.g., general education classrooms, homes) and teams (e.g., service delivery teams, caregivers). Individual interventions should be combined with organizational/systems-level interventions to improve staff performance, processes, and leadership development. Future research can also evaluate maintenance and generalization of PDC-HS (1.1) use and improvement plan development by implementing longitudinal follow-up data collection. Organizations may consider using digital

feedback dashboards to improve staff engagement using data visualization and analyze cultural and relational barriers impacting supervisory feedback and effectiveness. Future research can systematically collect data and analyze impact of contextual factors on completion of the referral to intervention process and research may include PDC-HS (1.1)-based interventions with organizational process analyses to identify procedural chokepoints, improve communication systems, and clarify roles and expectations across departments. Finally, future research can extend the current work by including it within other educational frameworks such as PBIS, MTSS, and school-based mental health systems and by conducting cost-benefit analyses on implementation.

Conclusion

The purpose of this study was to evaluate the impact of the PDC-HS (1.1) and resulting interventions on (a) the ECSE Referral to Intervention Checklist, (b) improvement plans for evaluation team members, and (c) timeline from referral to the initial IEP meeting. Results showed clear replicated functional relations between implementation of the PDC-HS (1.1) and indicated interventions and improvement in evaluation team members' performance on individualized goal/interventions, but not in completing the steps of the ECSE Referral to Intervention Checklist, and the intervention did not impact evaluation timelines.

The current study provides support for the PDC-HS (1.1) as an easy, effective tool for improving individual staff performance in ECSE evaluation teams. There were improvements in individual goals and performance, but processes and referral to intervention timelines remained largely unaffected, highlighting the need for both individual-level and organizational-level analysis and intervention. This study combined interventions from ABA and OBM and provides an example for a culturally and contextually responsive, performance-based improvement and

coaching plan to enhance staff performance on individualized goals related to timely access to early intervention services.

The current research contributes to special education, ABA, and OBM by designing contextually valid interventions to evaluate the efficiency of ECSE assessment processes and improve individual practices of evaluators within public school districts. The processes described has potential for performance management strategies to be applied in under-studied contexts with under-researched communities, while addressing socially significant concerns. Finally, it may be replicated in similar educational and community-based settings to improve performance management systems, processes, and practices.

Appendices

Appendix A: Example Recruitment Email

Subject: Invitation to Participate in Research Study on Improving Early Childhood Special Education Services

Dear [Name],

I hope this email finds you well. My name is Menaka De Alwis, and I am a doctoral candidate in the special education program at the University of Oregon. I am writing to invite your school district's early childhood special education (ECSE) evaluation team to participate in a research study aimed at improving the referral and evaluation processes for ECSE services.

The purpose of this study is to evaluate and improve the processes and performance of ECSE evaluation teams using the Performance Diagnostic Checklist-Human Services 1.1 (PDC-HS 1.1) and corresponding improvement plans. Our goal is to reduce the timeline from referral to the initial IEP meeting, thereby improving timely access to necessary services for children and families. To be eligible for participation, your ECSE evaluation team must meet the following criteria:

1. The team has more than an average 1-month delay in initiating the referral process.
2. Individual team members are willing to provide informed consent to participate in the study.
3. The school district has provided internal review board approval or equivalent to the research team.

Potential participants will receive a link to a Qualtrics survey containing the informed consent document for review. The survey also includes an optional demographics section. The consent process can be completed online or in-person, based on participant preference. All communication will emphasize voluntary participation and participants' rights to ask questions and revoke consent at any time.

Participant privacy will be protected by de-identifying data and restricting access to personal information to select research team members. All data will be stored securely, and no student data will be accessed during the study. Participants will be compensated at their estimated hours rates times for the number of hours dedicated to the study. We anticipate there will be up to 14 hours of study activities over the course of twelve-fourteen weeks.

Participation in this study provides an opportunity for your evaluation team to engage in a systematic process to identify and address performance concerns, potentially leading to improved processes and outcomes. This research has the potential to enhance relationships between families and the school district, improve future outcomes for students, and improve school district referral and evaluation practices. If your district is interested in participating, or if you have any questions, please respond to this email or contact me directly at mdealwis@uoregon.edu. We look forward to the possibility of collaborating with your team to support meaningful improvements in ECSE services. Thank you for your time and consideration.

Best,

Menaka De Alwis, MA, BCBA
Doctoral Candidate, University of Oregon
mdealwis@uoregon.edu

Appendix B: Recruitment Flyer



The flyer features a light blue background with a large white circle in the center. At the top right, an illustration shows a person in a blue shirt and dark pants using a magnifying glass to examine a document. Below this, a group of four diverse people (two adults and two children) are sitting around a table, engaged in a discussion. The text is organized into several colored boxes: a large blue box at the top for the title, an orange box for 'About You:', a blue box for 'What to Expect:', a blue box for 'About the Study:', an orange box for 'If Interested or You Have Questions:', and a small orange cloud-like box at the bottom for funding information. Icons of a magnifying glass and a checklist are placed near the bottom right.

EARLY CHILDHOOD SPECIAL EDUCATORS NEEDED FOR RESEARCH STUDY

Please consider helping a doctoral candidate and fellow educator complete their dissertation

About You:

- Early childhood special educator?
- Work on early childhood intake team?
- Want to participate in research?
- Want to make some extra money?

What to Expect:

- One hour per week for up to 12 weeks, no more than 14 hours
- Participants will help create their plan
- Participants will complete two surveys during study
- Participants will complete a weekly checklist about their work
- Participants will be paid \$65/hour, up to \$1010 total

About the Study:

- Evaluate tool to reduce special education timelines
- Weekly professional development & coaching provided for free
- Potential easy & efficient practice to improve access to early childhood special education services
- Can improve family-school relationships

If Interested or You Have Questions:

- Eligibility & Consent Survey
- Questions?
 - Contact: Menaka De Alwis
mdealwis@uoregon.edu

This study is supported by the University of Oregon and funded through United States Department of Education, Office of Special Education Programs Leadership Grant (#H325D190064), Project CO-LEAD: Collaboration Across Universities to prepare Leaders in Evidence Based Practices, Autism Spectrum Disorder, and Diversity, P.J. Machalicek. Approved by the UO Committee for the Protection of Human Subjects/Institutional Review Board #STUDY00001156

Appendix C: Survey for Consent

Consent for Research Participation

Title: Improving Access to Early Childhood Special Education: Evaluating the Impact of Implementing the Performance Diagnostic Checklist-Human Services 1.1

Researcher(s): Menaka De Alwis, M.A., BCBA, University of Oregon

Researcher Contact Info: 510-685-2008, mdealwis@uoregon.edu

You are being asked to participate in a research study. The box below highlights key information about this research for you to consider when deciding whether or not to participate. Carefully consider this information and the more detailed information provided below in the box. Please ask questions about any of the information you do not understand before you decide whether to participate.

Key Information for You to Consider	
• Voluntary Consent. You are being asked to volunteer for a research study. It is up to you whether you choose to participate or not. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate or discontinue participation at any point. • Purpose. The purpose of this research is to improve student access to early childhood special education services, improve intake team members' performance, and to conduct practice-based research on applications of performance management within school district contexts. • Duration. It is expected that your voluntary participation will last for no more than 12 weeks. Study activities are expected to take about 1 hour each week (with a two week break between two phases). Additionally, at the beginning of the intervention period, it may take up to 2-3 hours to complete the PDC-HS 1.1 and create an improvement plan in collaboration with the researcher. You will also be asked to complete a 30-minute survey at the beginning and end of the study. Altogether, we anticipate the study participation will take no more than 14 hours over the course of 12 weeks total as follows:	
Baseline	
○ ECSE checklist completion	up to 3 hours (30 minutes/week, 6 weeks)
○ Social validity survey	up to 30 minutes
Intervention	
○ PDC-HS 1.1 administration	up to 3 hours
○ Weekly professional development and coaching	up to 4 hours
○ ECSE checklist completion	up to 2 hours (30 minutes/week, 4 weeks)
Maintenance	
○ ECSE checklist completion	up to 1 hour (30 minutes/week, 2 weeks)

○ Social validity survey	up to 30 minutes
Total time	up to 14 hours
Procedures and Activities. This study will have an intervention group and a delayed intervention group. You will randomly be assigned to one of these groups after providing consent to participate. There will be three phases of the study, baseline, intervention, and maintenance. There will be a two week break between the end of the intervention and beginning of the maintenance phase. You will be asked to complete your typical work duties during all phases of the study regardless of the group you are assigned to. If you are assigned to the delayed intervention group, you will not begin participation in the study until the intervention group completes the study. You will then follow the same procedures as the intervention group and you will be compensated the same as the intervention group. If you are assigned to the intervention group, you will be asked to participate in the administration of a checklist with the researcher to identify potential challenges related to the referral to initial eligibility meeting process, prior to beginning the intervention phase. You will be asked to participate in individualized professional development and coaching, based on the results of the checklist, during the intervention phase for a total of four weeks. You will also be asked to complete social validity surveys twice, once at the beginning and once at the end of the study, and you will be expected to complete early childhood special education referral to intervention checklists weekly during all phases of the study. There will be a break of two weeks following the intervention phase until the beginning of the maintenance phase, which will last two weeks. It is expected that the total duration of the study will not exceed 12 weeks. Video and/or audio recording. In-person meetings and video calls may be recorded during the study. Identifiable private information. Participant identifiable information may be collected as part of the research, with identifiers removed, and will not be used or distributed for future research studies. Risks. Some of the foreseeable risks of participation include the potential for some discomfort during your activity with Performance Diagnostic Checklist – Human Services 1.1. There is potential for emotional responses to the results and the collaborative creation of the improvement plan and the professional development and coaching process. The expectations of the participants are no different than typical job duties related to their position, therefore the potential risks are like those that may be experienced as part of typical duties within the ECSE intake team. There is potential risk for a breach of confidentiality during participation in the study, although this risk is minimal given safeguards in place to protect privacy and confidentiality of participants. Benefits. The PDC-HS 1.1 will likely identify specific areas of need for different participants and can help inform an individualized, structured improvement plan based on the indicated interventions. The participants will benefit from participating in the PDC-HS 1.1 process from assessment through maintenance as it will allow them to learn a systematic process to improve current and future performance concerns. If the improvement plan results in changes to processes within the intake team which in turn	

reduces timelines from referral to intervention for children and families, it has potential to improve timely access to ECSE. The reduction in timelines can support building and maintaining a trusting relationship between families and the school district ECSE team. The research has potential to help school districts build capacity to learn methods to improve performance concerns in the future and can improve access to support and services for children eligible for special education services.

- **Alternatives.** Participation is voluntary and the only alternative is to not participate.

Who is conducting this research?

Menaka De Alwis, MA, BCBA is a doctoral candidate in the special education program at the University of Oregon. Menaka has been a board certified behavior analyst (BCBA) since 2011 and has worked with children and adults with and without disabilities, caregivers, and educators for over 25 years. Menaka has worked as a paraeducator, special education teacher, early childhood educator, and BCBA within school systems. She has also worked as a BCBA, supervisor, and clinical director for non-public agencies providing behavior intervention services and has been a consultant for PK-12 educational settings and group homes serving adults with disabilities. Her current research interests include increasing equitable access to culturally responsive evidence-based interventions for autistic children, improving educator and caregiver training and coaching practices, while using systems-level changes to improve outcomes for autistic people, especially those from underrepresented and underserved communities.

The researcher(s) Menaka De Alwis, MA, BCBA with faculty advisement from Wendy Machalicek, Ph.D., BCBA-D from the University of Oregon are asking for your consent to this research.

Why is this research being done?

The purpose of this research is to improve student access to early childhood special education services, improve intake team members' performance, and to conduct practice-based research on applications of performance management within school district contexts.

How long will I be in this research?

It is expected that your voluntary participation will last for no more than 12 weeks from providing initial consent to completion of the final survey following the maintenance phase. The study is expected to begin at the beginning of the 2025 calendar year and data collection is expected to be completed for the intervention group by May 2025.

What happens if I agree to participate in this research?

If you agree to participate in this research, your participation will include the administration of the PDC-HS 1.1, participation in weekly professional development and coaching for four weeks, completion of checklists relevant to typical work activities during all phases of the study, and filling out two surveys about your participation experiences. Participants will be asked to collect data on a checklist, weekly, for a total of 12 weeks (total expected participation in the study). In addition, social validity survey data will be collected during week 1 and week 12 of the study.

What happens to the information collected for this research?

Information collected for this research will be used by University of Oregon researchers to fulfil requirements for completion of a doctoral degree for the principal investigator and will be shared with district leadership. The findings may be generalized to similar school contexts or programs.

How will my privacy and data confidentiality be protected?

Participant privacy will be protected by limiting access to personal information and data and de-identifying data by using letters and numbers instead of names or initials. Only select research team members will have access to participant information and data. Participants will not be required to answer demographics questions and can only share what they are comfortable sharing. No student data will be accessed during the study. No students will be present during meetings with intake/evaluation team members.

All communication with participants regarding the consent and study process will be done over secure email. All meetings in-person will occur in a private room or within a secure web-based video calling platform (e.g., Zoom). In-person meetings and video calls may be recorded with prior consent from participants. Recorded sessions will be stored on a secure data storage system (DropBox) with access limited to the PI and two additional members of the research team. All other data collected will also be stored on the same secure data storage system and Excel and Word files will be recoded to names with letters and numbers. Data will be de-identified by the researcher prior to making the folder accessible to the rest of the study team. Only the research team will have access to the key for the de-identified data. All research team members will have relevant CITI training and the principal investigator will provide the team with a review of the training and important components (e.g., confidentiality, privacy, ethics).

We will take measures to protect the security of all your personal information. Despite these precautions to protect the confidentiality of your information, we can never fully guarantee confidentiality of all study information.

What if I want to stop participating in this research?

Taking part in this research study is your decision. Your participation in this study is voluntary. You do not have to take part in this study, but if you do, you can stop at any time. You have the right to choose not to participate in any study activity or completely withdraw from continued participation at any point in this study without penalty or loss of benefits to which you are otherwise entitled. Your decision whether to participate will not affect your relationship with the researchers or the University of Oregon.

Will I be paid for participating in this research?

Participants in both intervention and delayed intervention groups will be provided compensation as follows: average hourly pay for related services professionals in California public schools x number of hours for participation. The California average hourly rate for related services professionals is \$65 per hour (based on \$101,400 per year, 195 days of work, and an average 8 hour workday) and the anticipated hours for study engagement are a maximum of 14 hours. Participants will be paid an hourly rate of \$65 per hour for this study. Based on this estimate of the average hourly rate for related services professionals of \$65 per hour, it is expected you can receive up to \$910 for study participation with an additional payment of \$100 upon completion of the study. Payment will be made by gift card at the end of the study. If you withdraw from the

study prior to study completion, you will be pro-rated the number of hours you have completed using the same compensation formula. You will be asked to track the hours you spend on this study for payment.

Please be aware, compensation for participation in research may be considered taxable income. The University requires tracking for compensation that is paid to you; this may include your name and contact information. Because you will receive \$600 or more in a calendar year, you will be asked to provide additional (e.g. Social Security Number) information for tax reporting purposes. This information is stored confidentially and separate from research data.

Who can answer my questions about this research?

If you have questions, concerns, or have experienced a research related injury, contact the research team at:

Menaka De Alwis, BCBA
510-685-2008
Mdealwis@uoregon.edu

An Institutional Review Board (“IRB”) is overseeing this research. An IRB is a group of people who perform independent review of research studies to ensure the rights and welfare of participants are protected. UO Research Compliance Services is the office that supports the IRB. If you have questions about your rights or wish to speak with someone other than the research team, you may contact:

Research Compliance Services
5237 University of Oregon
Eugene, OR 97403-5237
(541) 346-2510
ResearchCompliance@uoregon.edu

STATEMENT OF CONSENT

I have had the opportunity to read and consider the information in this form. I have asked any questions necessary to decide about my participation. I understand that I can ask additional questions throughout my participation.

I understand that by completing the survey that follows I am agreeing to participate in the research. I understand that I am not waiving any legal rights. I understand that if my ability to consent or assent for myself changes, either I or my legal representative may be asked to re-consent prior to my continued participation in this study.

As described above, you may be audio/video recorded while performing the activities described above. Recordings will be used for data analysis only.

- Initial the space below if you consent to the use of audio/video recording as described.

____ I agree to the use of audio/video recording

_____ Name of Participant	_____ Signature of Participant	_____ Date
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Researcher Signature (to be completed at time of informed consent)

I have explained the research to the participant and answered all their questions. I believe that they understand the information described in this consent form and freely consents to participate.

_____ Name of Research Team Member	_____ Signature of Research Team Member	_____ Date
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Appendix D: Performance Diagnostic Checklist-Human Services (1.1)

PDC-HS (1.1) Performance Diagnostic Checklist - Human Services (1.1)	
Employee Name:	Date:
Supervisor Name:	
Assessor Name:	
Describe Performance Concern:	
INSTRUCTIONS	
- Conduct as an interview with the employee's direct supervisor. Do not simply hand it to the supervisor and ask them to complete by themselves, unless they are well trained in completing the PDC-HS. - Answer the questions below about the employee's specific performance concern (not the employee in general). The problem should be operationally defined as either a behavioral excess or deficit. - Complete for only one performance concern at a time. Conduct a new PDC-HS for a different performance concern if needed. - Answer the questions in the order in which they appear. - Items with an asterisk (*) should be answered only after the information is verified through direct observation or interview with the employee. Tips for conducting direct observations: - Attempt to conduct observations during typical conditions (e.g., the employee is not sick or unduly affected by factors like low staffing or unfamiliar clients or tasks) - Conduct observations during times when the employee is typically expected to be performing the task - Be aware of employee reactivity; employees may behave differently when they know they are being observed - Conduct only as many observations as necessary to obtain reliable information - If the direct supervisor is unsure about what is being asked in a question, provide clarification or examples. - Answering NO vs. N/A. - Answer NO when the information required by the question is not an obvious/immediate "Yes" - Answer N/A when the information required by the question does not apply or is irrelevant to the performance concern being assessed	
Jimenez, S., Wilder, D. A., Brand, D., Carr, J. E., Sellers, T. P., & Mason, M. A. (2023). The Performance Diagnostic Checklist-Human Services (1.1): An initial assessment of validity and reliability. <i>Journal of Applied Behavior Analysis</i>, 56(4), 884-897. https://doi.org/10.1002/jaba.1917	

TRAINING		
1	Yes ☐ No ☐	Has the employee received formal training on this task? If YES, when did the employee receive the training?
If the supervisor answered NO to Question 1, proceed to Question 2. If the supervisor answered YES to Question 1, check all applicable training methods below:		
		1a. Instructions Yes ☐ No ☐ <i>The employee received step-by-step instructions on how to perform the task.</i> ☐ Vocal instructions ☐ Written instructions ☐ Both vocal and written instructions
		1b. Demonstration/Modeling Yes ☐ No ☐ <i>The employee was shown how to perform the task.</i> ☐ Live modeling ☐ Video modeling ☐ Both live and video modeling
		1c. Rehearsal/Practice Yes ☐ No ☐ <i>The employee had opportunities to practice the task correctly during training.</i> ☐ Practiced with trainer ☐ Practiced alone ☐ Practiced with coworkers
		1d. Feedback Yes ☐ No ☐ <i>The employee received feedback about performance during training.</i> ☐ Vocal feedback ☐ Positive feedback for steps performed correctly ☐ Corrective feedback for steps performed incorrectly ☐ Written feedback ☐ Positive feedback for steps performed correctly ☐ Corrective feedback for steps performed incorrectly
2	Yes ☐ No ☐	Is there evidence that the employee currently responsible for <i>training staff</i> can accurately perform the task being trained?
3*	Yes ☐ No ☐	Can the employee accurately describe the target task and when it should be performed?
4	Yes ☐ No ☐	Is there evidence that the employee has accurately completed the task in the past?
5*	Yes ☐ No ☐ N/A ☐	If the task needs to be completed quickly, can the employee perform it at the appropriate speed? (i.e., if you asked the employee to perform the task, can they do so quickly and finish it before a certain amount of time has elapsed? For example, if a therapist had five minutes to pick up all the toys on the floor before the start of the next session, could they do so within the allotted time?)

TASK CLARIFICATION & PROMPTING		
1	Yes ☐ No ☐	Has the employee been informed that they are 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., checklist, data sheet, step-by-step instructions, pictures, prompts) for completing the task visibly located (if appropriate) or easily accessible in the task area? (e.g., visibly posted, located with the instructional or data collection materials).
4	Yes ☐ No ☐	Is the employee ever verbally, textually, or electronically reminded to complete the task? (e.g., reminder emails, text messages, phone alerts, group messaging apps, calendar invites, verbal reminders/prompts) If YES, how frequently is the employee reminded to complete the task? ☐ Hourly ☐ Daily ☐ Weekly ☐ Monthly ☐ Other
5	Yes ☐ No ☐	Is the task being performed in an environment well-suited for task completion? (i.e., has the employee told you that they cannot perform the task because there some aspect of the work environment prohibiting them from doing so. For example, if the task requires a quiet environment has the employee ever mentioned that there is too much noise, or if the task requires there to be a lot of physical space, has the employee ever stated that their work area is too crowded?)

RESOURCES, MATERIALS, & PROCESSES						
1	Yes ☐ No ☐	Are there sufficient numbers of trained staff available in the organization to complete the task?				
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 (i.e., N/A) proceed to Question 6 List materials below and indicate their availability: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Item 1</td> <td style="width: 50%;">Item 2</td> </tr> <tr> <td>Item 3</td> <td>Item 4</td> </tr> </table>	Item 1	Item 2	Item 3	Item 4
Item 1	Item 2					
Item 3	Item 4					
3	Yes ☐ No ☐ N/A ☐	Are the materials required for task completion available during the times of the day when they are most needed? If not, list the times when materials are unavailable: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Item 1</td> <td style="width: 50%;">Item 2</td> </tr> <tr> <td>Item 3</td> <td>Item 4</td> </tr> </table>	Item 1	Item 2	Item 3	Item 4
Item 1	Item 2					
Item 3	Item 4					
4*	Yes ☐ No ☐ N/A ☐	Are the materials necessary to complete the task well designed for their intended purpose? <i>(i.e., has the employee ever told you that the materials provided to complete the task are not appropriate or useful? For example, employees may be using materials that are old and worn down and no longer suitable for efficient completion of the task, or the data sheet may be overly complicated and takes too long to complete)</i>				
5*	Yes ☐ No ☐ N/A ☐	Are the materials necessary to complete the task well organized for their intended purpose? <i>(i.e., has the employee ever told you that they cannot easily and readily find and/or locate the materials needed to complete the task, or that the materials needed to complete the task are not organized in a way that assist task completion?)</i>				
6	Yes ☐ No ☐	Can the task be completed without first completing other tasks? If NO , indicate below the tasks that must be completed first: <i>(i.e., has the employee ever told you that they cannot complete this task because they have to first complete other tasks? For example, the employee cannot graph the data regarding client behavior prior to calculating the daily percentages).</i> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Task 1</td> <td style="width: 50%;">Task 2</td> </tr> <tr> <td>Task 3</td> <td>Task 4</td> </tr> </table>	Task 1	Task 2	Task 3	Task 4
Task 1	Task 2					
Task 3	Task 4					

7	Yes ☐ No ☐	If you answered NO for Question 6, are other employees responsible for completing any of the earlier tasks in the process? If so, indicate the employee(s) below: (i.e., the employee cannot complete this task without another employee completing a prior task. For example, the employee is unable to file paperwork on time because another employee has to complete proofreading and editing) Task 1 Task 2 Task 3 Task 4
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PERFORMANCE CONSEQUENCES, EFFORT, & COMPETITION	
1	Yes ☐ No ☐ Is the employee ever directly monitored by a supervisor when the target task is to be performed? If YES, indicate the frequency of monitoring: Hourly ☐ Daily ☐ Weekly ☐ Monthly ☐ Other: _____
2	Yes ☐ No ☐ Does the employee ever receive feedback about their performance? If YES, indicate below: By whom? _____ How often? _____ How long after the 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? (i.e., once the employee has completed the task as required, do they see the final product or are they provided with any reports about the effects of their work (e.g., happier clients, increased skills, reduction of client problem behavior)) If YES, how? _____
4	Yes ☐ No ☐ Is the task simple or does it involve relatively low response effort?

5	Yes ☐ No ☐	From your perspective as the supervisor, does the task generally take precedence over other potentially competing tasks? (i.e., has the employee ever told you that they could not complete the task because completing another task was a higher priority for them, or does the employee tend to choose to complete certain tasks over others when given a choice?) If NO, indicate these competing tasks below: Task 1 Task 2 Task 3 Task 4
---	--	---

SCORING SUMMARY			
For each section, count the number of items scored as "NO" and divide by the total number of items within that section. Although each item scored as "NO" is an opportunity for intervention, the area with the highest percentage scores below should be prioritized.			
TRAINING*	TASK CLARIFICATION & PROMPTING	RESOURCES, MATERIALS, & PROCESSES	PERFORMANCE CONSEQUENCES, EFFORT, & COMPETITION
<u>1</u> / 5 = ____ %	<u>1</u> / 5 = ____ %	<u>5</u> / 7 = ____ %	<u>2</u> / 5 = ____ %

*Do not include items 1a-d when scoring the Training section.

INTERVENTION PLANNING			
Each item scored as NO on the PDC-HS (Revised) 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.			
Domain	Item #	Sample Intervention(s)	Literature Citations
Training	1, 2, 3, 4, 5	Behavioral skills training (i.e., instructions, modeling, rehearsal, feedback)	Barnes, Dunning, & Rehfeldt (2011); Parsons, Rollyson, & Reid (2012);
	1a	Improved personnel selection	Gatewood, Field, & Barrick (2016)
		Enhanced written instructions	Graff & Karsten (2012)
	1b	In-vivo/video modeling	Catania, Almeida, Liu-Constant, & DiGennaro Reed (2009); Viadescu, Carroll, Paden, & Kodak (2012)
	1c, 1d	Rehearsal with feedback	Palmen, Didden, & Korzilius (2010); Hogan, Knez, & Kahng (2015)
Task Clarification & Prompting	1, 2	Task clarification & Checklists	Gravina, VanWagner, & Austin (2008); Reetz, Whiting, & Dixon (2016)
	3, 4	Prompts	May, Austin, & Dymond (2011); Loughrey, Marshall, Bellizzi, & Wilder (2013); Downing, Capriola, & Geller (2018)
	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); Abellon & Wilder (2014)
	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); Mowery, Millenberger, & Well (2010)
	2	Performance feedback	Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)
	3	Regularly highlight task outcomes	Methot, Williams, Cummings, & Bradshaw (1996)
	4	Reduce task effort	Abellon & Wilder (2014); Casella et al. (2010)
	5	Reduce aversive task properties	Green et al. (2008); Reed, DiGennaro Reed, Campisano, Lacourse, & Azuly (2012)

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[illegible]

Early Intervention Referral to Intervention Checklist

Instructions: Complete checklist for each new referral at minimum weekly. Mark N/A for anything that cannot be scored, is not applicable or relevant. List anticipated completion date and adjust date by crossing out old date and typing/writing in updated date each week. Check all roles that are applicable for each item. Use the same checklist each week for the same referral unless the timeline ends, and then begin a new referral to inform the checklist.

	By:	
--	-----	--

Other:	Anticipated Completion Date	Personnel Responsible
☐	By:	
☐	By:	
☐	By:	
☐	By:	
Only for Researcher	Total	
Only for Researcher	Total for All Sections	

Timelines:
Current Checklist Referral: Assessment Plan Begin Date: _____ Assessment Plan End Date: _____

Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____
Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____
Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____
Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____
Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____
Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____
Other referrals: Assessment Plan Begin Date: Assessment Plan End Date: _____

Notes/Comments:

Questions:

Appendix F: Example Improvement Plan Checklist

ECSE Evaluation Team Member 3 – Evaluation Team Case Manager Role Checklist			
Performance Concern: Difficulty adhering to a consistent process and efficiently completing responsibilities of case manager during initial coordination and assessment process.			
Performance Goal: By the end of the next two consecutive cases, I will improve my practices as case manager by following the case manager role checklist and completing related tasks within pre-determined timeline in 90% of opportunities.			
Intake and Referral Planning	Done	N/A	
1. Identify potential reinforcers and limit access outside of checklist tasks.	☐	☐	
2. Review upcoming weekly calendar and find time for case manager tasks.	☐	☐	
3. Reinforce self for finding time for case manager tasks.	☐	☐	
4. Block out case manager tasks block 1 on calendar.	☐	☐	
5. Mark case manager tasks block 1 as busy on calendar in advance.	☐	☐	
6. Reinforce self for blocking case manager tasks block 1.	☐	☐	
7. Block out case manager tasks block 2 on calendar.	☐	☐	
8. Mark case manager tasks block as busy on calendar in advance.	☐	☐	
9. Reinforce self for blocking out case manager tasks block 2.	☐	☐	
10. Block out case manager tasks block 3 on calendar.	☐	☐	
11. Mark case manager tasks block as busy on calendar in advance.	☐	☐	
12. Reinforce self for blocking out case manager tasks block 3.	☐	☐	
13. Block out additional buffer time on schedule.	☐	☐	
Intake and Referral Tasks	Done	N/A	
14. Generate and send assessment plan or schedule meeting.	☐	☐	
15. Reinforce self for generating and sending assessment plan or scheduling meeting.	☐	☐	
16. Create automatic 30-day notification for follow up.	☐	☐	
17. Reinforce self for creating notifications for follow up.	☐	☐	
18. Include procedural safeguards with assessment plan.	☐	☐	
19. Reinforce self for including procedural safeguards with assessment plan.	☐	☐	
20. Contact parents/caregivers about evaluation process.	☐	☐	
21. Reinforce self for contacting parents about evaluation process.	☐	☐	
22. Meet with parents/caregivers about evaluation process if requested.	☐	☐	
23. Reinforce self for meeting with parents/caregivers re: evaluation process.	☐	☐	
24. Follow up and obtain written consent from parents/caregivers if not received.	☐	☐	
25. Reinforce self for following up regarding consent.	☐	☐	
26. Upload signed assessment plan to SEIS.	☐	☐	
27. Reinforce self for uploading assessment plan to SEIS.	☐	☐	
28. Follow up with evaluation team members about timeline and plan for evaluation.	☐	☐	
29. Reinforce self for following up with evaluation team members.	☐	☐	
30. Follow up with other IEP team members about timeline and critical dates.	☐	☐	
31. Reinforce self for following up with other team members.	☐	☐	
32. "Cash out" and enjoy your reinforcers.	☐	☐	
Assessment and Eligibility Tasks	Done	N/A	
33. Schedule evaluation dates with parents/caregivers.	☐	☐	
34. Reinforce self for scheduling evaluation dates with parents/caregivers.	☐	☐	
35. Schedule initial IEP meeting dates with parents/caregivers.	☐	☐	
36. Schedule initial IEP meeting dates with all providers, IEP team members.	☐	☐	
*For Researcher Only Total: _____			

37. Reinforce self for scheduling initial IEP meeting.	☐	☐
38. Reserve evaluation and meeting spaces.	☐	☐
39. Reinforce self for reserving evaluation and meeting spaces.	☐	☐
40. Schedule and block off weekly time on schedule for report writing.	☐	☐
41. Reinforce self for blocking off weekly report writing time.	☐	☐
42. Use weekly report writing time for intended purpose.	☐	☐
43. Reinforce self for using report writing time for intended purpose.	☐	☐
44. Conduct records review.	☐	☐
45. Reinforce self for completing records review.	☐	☐
46. Conduct interviews.	☐	☐
47. Reinforce self for completing at least one interview.	☐	☐
48. Conduct observations.	☐	☐
49. Reinforce self for completing at least one observation.	☐	☐
50. Conduct formal and informal evaluations.	☐	☐
51. Reinforce self for completing at least one evaluation (or attempt).	☐	☐
52. "Cash out" and enjoy your reinforcers.	☐	☐
53. Analyze data for from various sources and synthesize.	☐	☐
54. Reinforce self for analyzing data and synthesizing findings.	☐	☐
55. Collaborate with team members about evaluation findings.	☐	☐
56. Reinforce self for collaborating with team members about evaluation findings.	☐	☐
57. Communicate with team members when you have completed report.	☐	☐
58. Reinforce self for communicating with team members.	☐	☐
59. Complete final edits and checks of report.	☐	☐
60. Reinforce self for completing final edits and checks of report.	☐	☐
61. Send draft copy of report to parents in advance of IEP meeting.	☐	☐
62. "Cash out" and enjoy your reinforcers.	☐	☐
IEP Development and Next Steps	Done	N/A
63. Draft sections of IEP document on SEIS relevant to your role.	☐	☐
64. Reinforce self for drafting 80% of required sections in advance of meeting.	☐	☐
65. Confirm IEP meeting date and attendance one week prior to meeting date.	☐	☐
66. Reinforce self for confirming IEP meeting date.	☐	☐
67. Schedule automatic reminder email one-two days prior to IEP meeting date.	☐	☐
68. Reinforce self for scheduling automatic reminder email.	☐	☐
69. Attend IEP meeting and discuss evaluation results and related tasks per role.	☐	☐
70. Discuss and finalize IEP document with parents/caregivers and IEP team.	☐	☐
71. Reinforce self for attending IEP meeting, sharing results effectively.	☐	☐
72. Reinforce self for finalizing IEP document.	☐	☐
73. Schedule follow up meetings if required.	☐	☐
74. Reinforce self for scheduling follow up meetings.	☐	☐
75. "Cash out" and enjoy your reinforcers.	☐	☐
Other:	Done	N/A
76. _____	☐	☐
77. _____	☐	☐
78. _____	☐	☐
79. _____	☐	☐
80. _____	☐	☐
*For Researcher Only Total: _____		

Appendix G Social Validity Survey (Improvement Plan Acceptability Rating - IPAR)

Team Practices Acceptability Rating (TPAR)*

Instructions: Complete each question by placing a check mark on the corresponding box that best indicates your response.

1. How acceptable are the current referral to initial eligibility intake practices at your district?	☐	☐	☐	☐
	Not at all	Neutral		Very acceptable
2. How easy and efficient are the current referral to initial eligibility intake processes at your district?	☐	☐	☐	☐
	Not at all	Neutral		Very easy and efficient
3. Would you be able to complete your job duties more effectively if the intake and evaluation processes at your district were improved?	☐	☐	☐	☐
	Not at all	Neutral		Very much
4. How willing are you to complete the steps for the intake and evaluation process at your district?	☐	☐	☐	☐
	Not at all	Neutral		Very willing
5. How well are you able to complete your job duties given the current intake processes and practices?	☐	☐	☐	☐
	Not at all	Neutral		Very well
6. How willing are you to participate in an updated intake and evaluation process?	☐	☐	☐	☐
	Not at all	Neutral		Very willing
7. How willing are you/were you to complete the Performance Diagnostic Checklist-Human Services (1.1) (PDC-HS (1.1)) process?	☐	☐	☐	☐
	Not at all	Neutral		Very willing
8. How acceptable is/was the PDC-HS (1.1) implementation process?	☐	☐	☐	☐
	Not at all	Neutral		Very acceptable
9. How willing are you/were you to participate in the creation of the PDC-HS (1.1) improvement plan process?	☐	☐	☐	☐
	Not at all	Neutral		Very willing

*Based on Reimers, T. M., Wacker, D. P., Cooper, L. J., & DelRaid, A. (1992). Acceptability of behavioral treatments for children: Analog and naturalistic evaluations by parents. School Psychology Review, 21(4), 628-643. MD v.2.12.2024 (PDC-HS 1.1)

Team Practices Acceptability Rating (TPAR)*

10. How willing are you/were you to implement the improvement plan with support, professional development, and coaching from the research team?	☐	☐	☐	☐
	Not at all	Neutral		Very willing
11. How confident were you or are you that the PDC-HS and resulting improvement plan will be effective?	☐	☐	☐	☐
	Not at all	Neutral		Very confident
12. How much additional time is required each day for you to implement practices from the improvement plan?	☐	☐	☐	☐
	Little time	Neutral		A lot of time required
13. How much discomfort are you likely to experience or did you experience during the PDC-HS (1.1) and improvement plan process?	☐	☐	☐	☐
	None	Neutral		Much discomfort
14. Are there undesirable side effects likely to result or that resulted from the PDC-HS and improvement plan process?	☐	☐	☐	☐
	None	Neutral		Many side effects
15. How disruptive is it or was it to implement the PDC-HS (1.1) and improvement plan process?	☐	☐	☐	☐
	Not at all	Neutral		Very disruptive
16. Do you think there will be, are, or were disadvantages to using the PDC-HS (1.1) and resulting improvement plan?	☐	☐	☐	☐
	None	Neutral		Many disadvantages
17. How costly is it or was it to carry out the PDC-HS (1.1) and improvement plan process?	☐	☐	☐	☐
	Not at all	Neutral		Very costly
18. How much do you or did you like the PDC-HS (1.1) implementation process?	☐	☐	☐	☐
	Not at all	Neutral		Very much
19. How much do you or did you like the resulting improvement plan process?	☐	☐	☐	☐

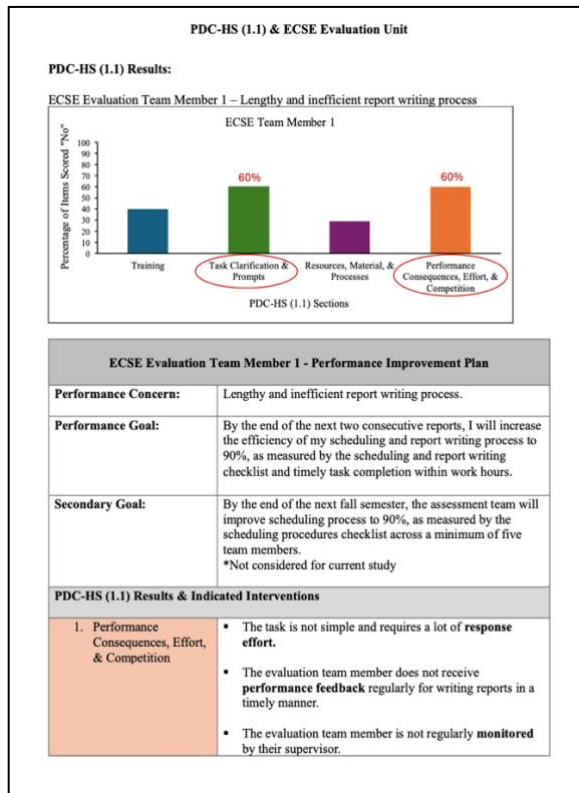
*Based on Reimers, T. M., Wacker, D. P., Cooper, L. J., & DelRaid, A. (1992). Acceptability of behavioral treatments for children: Analog and naturalistic evaluations by parents. School Psychology Review, 21(4), 628-643. MD v.2.12.2024 (PDC-HS 1.1)

Team Practices Acceptability Rating (TPAR)*

	☐	☐	☐	☐
	Not at all	Neutral		Very much
20. How willing are you or were you to change your routines to implement the PDC-HS (1.1) and improvement plan process?	☐	☐	☐	☐
	Not at all	Neutral		Very willing
21. How well will or did the PDC-HS (1.1) and improvement plan fit into the existing routine of the ECSE team and department?	☐	☐	☐	☐
	Not at all	Neutral		Very well
22. How effective is or was the PDC-HS (1.1) and improvement plan for the ECSE intake team?	☐	☐	☐	☐
	Not at all	Neutral		Very effective
23. How willing are or were other ECSE team members to implement the PDC-HS (1.1) and improvement plan?	☐	☐	☐	☐
	Not at all	Neutral		Very willing
24. How affordable is or was the PDC-HS (1.1) and improvement plan process?	☐	☐	☐	☐
	Not at all	Neutral		Very affordable
25. Considering current barriers to timely completion of referral to access to intervention process in ECSE, how reasonable is or was the PDC-HS (1.1) and improvement plan process?	☐	☐	☐	☐
	Not at all	Neutral		Very reasonable
26. How likely is or was this process to make permanent improvements in the ECSE intake team members' behavior?	☐	☐	☐	☐
	Not at all	Neutral		Very likely
27. Would you recommend the PDC-HS and improvement plan process to other ECSE team members and district colleagues?	☐	☐	☐	☐
	Not at all	Neutral		Very much recommend
28. Is there anything else you want to tell us?				

*Based on Reimers, T. M., Wacker, D. P., Cooper, L. J., & DelRaid, A. (1992). Acceptability of behavioral treatments for children: Analog and naturalistic evaluations by parents. School Psychology Review, 21(4), 628-643. MD v.2.12.2024 (PDC-HS 1.1)

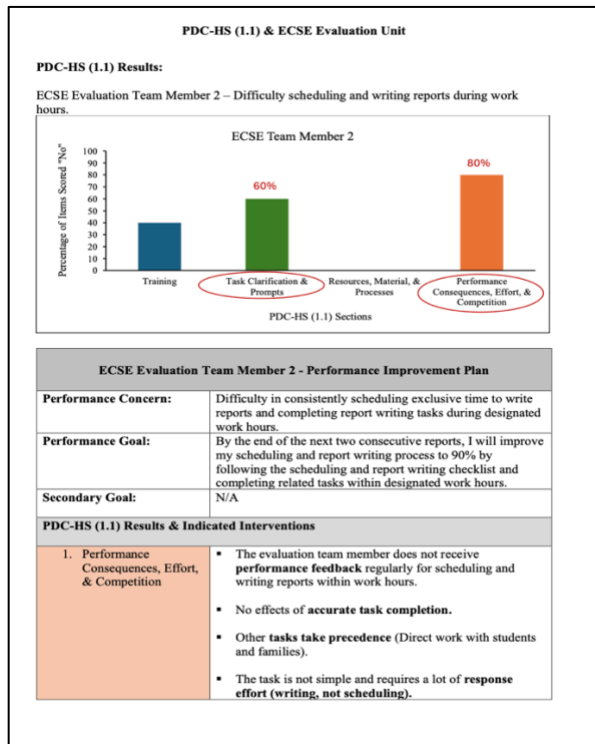
Appendix H Improvement Plan for Mary



PDC-HS (1.1) & ECSE Evaluation Unit	
	<i>*This is not a priority indicated area as micromanagement by supervisor is unwanted and ineffective in long run and will not be targeted in current intervention plan.</i>
Indicated Interventions:	
1. Reduce task effort (Abellon & Wilder (2014); Casella et al. (2010)).	1. Reduce response effort - Reduce response effort of writing evaluation reports by using report templates, behavior-skill analysis-recommendation/intervention match systems, artificial intelligence chatbots, etc. - Reduce response effort by implementing and/or using organizational software (Asana, Teams), real-time collaboration platforms (e.g., sheets, Dropbox online).
2. Performance feedback (Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)).	2. Lack of performance feedback - Address lack of feedback (positive and corrective) by using self-management system. Feedback delivered as part of self-management intervention may be preferred given preference for and reality of limited supervisory feedback. - Develop schedules of reinforcement linked to self-management system for report writing. - Evaluation team member will provide feedback and reinforcement to self, after initial coaching and support from researcher.
3. Increased supervisor presence (not used)	
3. Task Clarification & Prompting - Prompts - Change/alter task location	- A job aid with step-by-step instructions for writing reports in an efficient and timely manner has not yet been used. - The current environment where the evaluation team member is expected to work has many distractions.
Indicated Interventions:	
1. Prompts (Downing, Capriola, & Geller (2018); Loughrey, Marshall, Bellizzi, & Wilder (2013); May, Austin, & Dymond (2011))	1. Prompts - A job aid with step-by-step instructions for writing reports will be developed by the researcher and shared with evaluation team member. - Team member and researcher will collaborate on final version of job aid.

PDC-HS (1.1) & ECSE Evaluation Unit	
2. Change/alter task location - Green, Reid, Passante, & Canipe (2008)	- Researcher will provide professional development, coaching, and support to evaluation team member to implement job aid using behavior skills training. 2. Change/alter task location - If possible, consider securing a quiet office space in your building or at another district location. - Consider arriving early or scheduling report writing time during "slow" and "quiet" times of the day and week.
Notes:	https://www.aiforeducation.io/prompts/language-evaluation-report <i>*Additional resources and supports forthcoming, following finalization of improvement plan.</i>

Appendix I Improvement Plan for Ruth

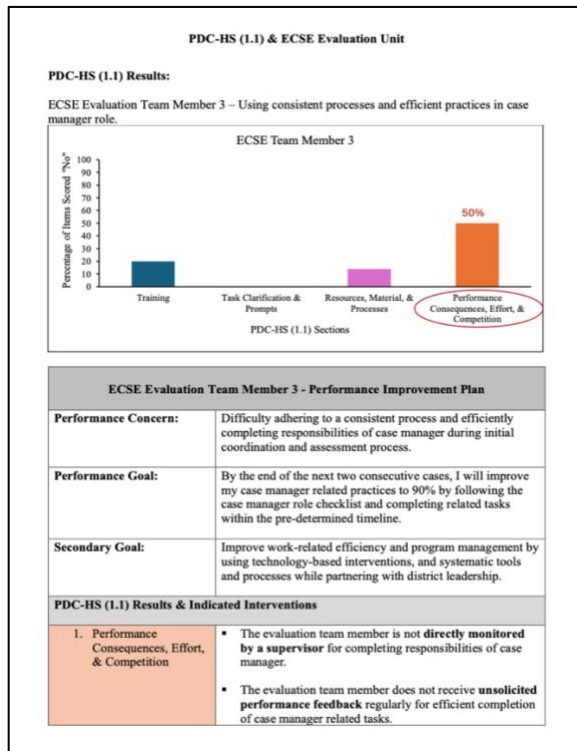


PDC-HS (1.1) & ECSE Evaluation Unit	
	- The evaluation team member is not regularly monitored by their supervisor. <i>*This is not a priority indicated area as micromanagement by supervisor is unwanted and ineffective in long run and will not be targeted in current intervention plan.</i>
Indicated Interventions:	
Performance feedback (Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)). Regularly highlight task outcomes (Methot, Williams, Cummings, & Bradshaw (1996)). Reduce aversive task properties (Green et al. (2008); Reed, DiGennaro, Reed, Campiano, Lacourse, & Azuly (2012)). Reduce task effort (Abellon & Wilder (2014); Casella et al. (2010)). Increased supervisor presence (not used)	Lack of performance feedback - Address lack of feedback (positive and corrective) by using self-management system. Feedback delivered as part of self-management intervention may be preferred given preference for and reality of limited supervisory feedback. - Develop schedules of reinforcement linked to self-management system for scheduling time and writing reports during work hours. - Evaluation team member will provide feedback and reinforcement to self, after initial coaching and support from researcher. - No effects of accurate task completion has been observed so far, as report writing time has not yet been scheduled into the work day. Regularly highlight task outcomes. - Report writing time for up to ___ hours or between ___ and ___ hours will be scheduled when a new case is assigned. The number of hours per case may be determined based on factors such as (but not limited to): average report writing time per report, number of team members involved, complexity and level of need, cultural and linguistic factors. - Scheduling and completing report writing time during work hours will be monitored each week. - Accurately completing scheduling and report writing tasks during the workday will be highlighted and reinforced, tied to the self-management system from #1 above. - Other tasks take precedence (Direct work with students and families). Reduce aversive task properties. - Identify most liked and most disliked tasks and place on a scale or hierarchy. Narrow down to two most liked and two least liked tasks.

PDC-HS (1.1) & ECSE Evaluation Unit	
	- Identify most and least competing tasks that take precedence over scheduling and writing reports during the workday and place on a scale or hierarchy. Narrow down one-two most and one-two least competing tasks. - After identifying most disliked and most competing tasks, use schedules of reinforcement, hi-p/low-p procedures, etc. to increase motivation. - Use motivational and time-management strategies such as Pomodoro technique.
4. Reduce response effort	- Reduce response effort of scheduling report writing time by having designated time one-two times per week blocked off on schedule. - Reduce response effort of writing evaluation reports by using report templates, behavior-skill analysis-recommendation/intervention match systems, artificial intelligence chatbots, voice-to-text software, etc. - Reduce response effort by implementing and/or using organizational software (Asana, Teams), real-time collaboration platforms (e.g., sheets, Dropbox online). https://www.aiforeducation.io/prompts/language-evaluation-report
2. Task Clarification & Prompting	- The evaluation team member has not been informed of expectations to schedule and write reports during the workday. - A job aid with step-by-step instructions for writing reports in an efficient and timely manner has not yet been used.
- Task Clarification and Checklists - Prompts	
Indicated Interventions:	
1. Task Clarification and Checklists (Gravina, VanWagner, & Austin (2008); Reetz, Whiting, & Dixon (2016))	1. Task Clarification and Checklists - The steps of scheduling report writing time and the report writing process, and related expectations will be broken down with evaluation team member. - Tasks and sub-tasks will be clarified and matched to team member duties.
2. Prompts (Downing, Capriola, & Geller	

PDC-HS (1.1) & ECSE Evaluation Unit	
(2018); Loughrey, Marshall, Bellizzi, & Wilder (2013); May, Austin, & Dymond (2011)	Team member and researcher will collaborate on final version of checklists or clarification documents.
2. Prompts	- A job aid with step-by-step instructions for writing reports will be developed by the researcher and shared with evaluation team member. - Team member and researcher will collaborate on final version of job aid. - Researcher will provide professional development, coaching, and support to evaluation team member to implement job aid using behavior skills training.
Notes:	https://www.aiforeducation.io/prompts/language-evaluation-report <i>*Additional resources and supports forthcoming, following finalization of improvement plan.</i>
Other:	Personal goal – complete report within ___ hours/days of assessment, interviews, etc. = Bonus points or higher value reinforcers

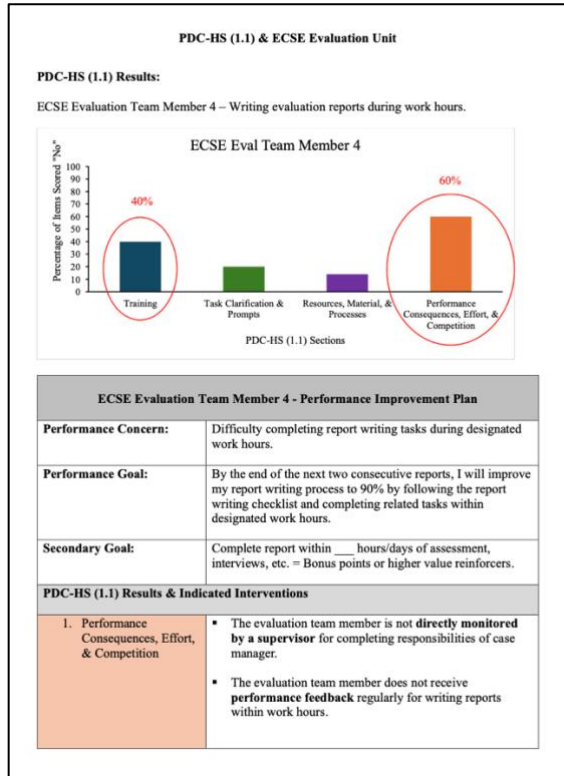
Appendix J Improvement Plan for Grace



PDC-HS (1.1) & ECSE Evaluation Unit	
	- The team member requests feedback from colleagues as part of their own improvement plan and professional development. - The task is not simple and requires a lot of response effort.
Indicated Interventions:	
1. Increased supervisor presence (Bracket, Reid, & Green (2007); Mowery, Miltenberger, & Well (2010)).	1. Increased supervisor presence - Given that it may not be feasible nor desired to have increased supervisor presence, a self-management procedure to address related performance concerns is recommended. - Self-management procedures and best practices will be embedded into improvement plan.
2. Performance feedback (Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)).	2. Delivery of performance feedback - Address lack of feedback (positive and corrective) by using self-management system. Feedback will be delivered as part of self-management intervention and may be preferred given preference for and reality of limited supervisory feedback in public educational settings. - Develop schedules of reinforcement linked to self-management system for completing case manager tasks in an efficient, systematic, and timely manner. - Evaluation team member will provide feedback and reinforcement to self, after initial coaching and support from researcher.
3. Reduce task effort (Abellon & Wilder (2014); Casella et al. (2010)).	3. Reduce response effort* - Reduce response effort of key case manager tasks by scheduling and blocking off designated time one-two times per week on schedule. - Reduce response effort by using artificial intelligence chatbots, voice-to-text software, templates, organizational software, real-time collaboration platforms, etc. to improve efficiency.
*The second part of this indicated intervention will be targeted following initial implementation of self-management procedures, use of schedules of reinforcement for completing task manager tasks, and blocking off time on schedule for task manager duties.	

PDC-HS (1.1) & ECSE Evaluation Unit	
Notes:	
Self-management system	- Use a token board, stickers, checks, or any other generalized reinforcement method when providing reinforcement to self. - Consider providing more immediate and contingent reinforcers for tasks that are more challenging, require increased response effort, require increased motivation and support, etc. - Continuously re-evaluate reinforcers, processes, tasks, and adjust steps of self-management system. - Conduct preference assessments regularly to evaluate potential reinforcers. - Use additional self-monitoring and task management tools that you have found effective within your self-management procedures.

Appendix K Improvement Plan for Patricia



PDC-HS (1.1) & ECSE Evaluation Unit	
	- The task is not simple and requires a lot of response effort (writing). - Other tasks take precedence (Assessments, observations, team evaluations, emails, lunch, files, protocols).
Indicated Interventions:	
1. Increased supervisor presence (Bracket, Reid, & Green (2007); Mowery, Miltenberger, & Well (2010)).	1. Increased supervisor presence - Given that it may not be feasible nor desired to have increased supervisor presence, a self-management procedure to address related performance concerns is recommended. - An alternative to a self-management system is to have a designated peer/colleague to support you with completion of the checklist. - Self-management procedures or peer-support procedures and best practices will be embedded into the improvement plan.
2. Performance feedback (Arco (2008); Green & Dallery (2019); Rice, Austin, & Gravina (2009)).	2. Delivery of performance feedback - Address lack of feedback (positive and corrective) by using self-management or peer-support system. - Feedback will be delivered as part of self-management or peer-support intervention and may be preferred given preference for and reality of limited supervisory feedback in public educational settings. - Develop schedules of reinforcement linked to self-management or peer-support system for completing case manager tasks in an efficient, systematic, and timely manner. - Evaluation team member will provide feedback and reinforcement to self, after initial coaching and support from researcher.
3. Reduce task effort (Abellon & Wilder (2014); Casella et al. (2010)).	3. Reduce response effort* - Reduce response effort of writing related tasks by scheduling and blocking off designated time minimum one-two times per week on schedule. - Reduce response effort by using artificial intelligence chatbots, voice-to-text software, templates, organizational software, real-time collaboration platforms, etc. to improve efficiency. - Reduce response effort by implementing and/or using organizational software (Asana, Teams),

PDC-HS (1.1) & ECSE Evaluation Unit	
	real-time collaboration platforms (e.g., sheets, Dropbox online). https://www.aiforeducation.io/prompts/language-evaluation-report. *The second part of this indicated intervention will be targeted following initial implementation of self-management procedures, use of schedules of reinforcement for completing task manager tasks, and blocking off time on schedule for task manager duties.
2. Training	- The evaluation team member has not received formal training on report writing efficiently (e.g., during the workday) - It is unclear if the supervisor responsible for training others can accurately perform the task themselves.
Indicated Interventions:	1. Behavioral skills training - Receive training on how to maximize work hours and complete report writing tasks within workday. - Training will include instructions, modeling, rehearsal, and feedback. *This indicated intervention will be secondary to the first indicated intervention and only implemented if feasible.
Notes:	
Self-management system	1. Use a token board, checks, or any other generalized reinforcement method when providing reinforcement to self. 2. Consider providing more immediate and contingent reinforcers for writing tasks that are more challenging, require increased response effort, require increased motivation and support, etc. 3. Continuously re-evaluate reinforcers, processes, tasks, and adjust steps of self-management system as needed. 4. Conduct preference assessments regularly to evaluate potential reinforcers. 5. Use additional self-monitoring and task management tools that you have found effective within your self-management procedures.

Appendix L 60-Day Timeline

2024-2025 60-Day Timeline											
AP Rec'd	Due Date	AP Rec'd	Due Date	AP Rec'd	Due Date	AP Rec'd	Due Date	AP Rec'd	Due Date	AP Rec'd	Due Date
8/19/2024	10/17/2024	9/9/2024	11/28/2024	11/11/2024	1/25/2025	1/6/2025	3/6/2025	2/19/2025	4/29/2025	4/11/2025	4th Day 25/25
8/20/2024	10/18/2024	10/1/2024	11/29/2024	11/12/2024	1/26/2025	1/7/2025	3/7/2025	2/20/2025	4/30/2025	4/12/2025	7th Day 25/25
8/21/2024	10/19/2024	10/2/2024	11/30/2024	11/13/2024	1/27/2025	1/10/2025	3/10/2025	2/21/2025	5/1/2025	4/13/2025	8th Day 25/25
8/22/2024	10/20/2024	10/3/2024	12/1/2024	11/14/2024	1/28/2025	1/11/2025	3/11/2025	2/22/2025	5/2/2025	4/14/2025	9th Day 25/25
8/23/2024	10/21/2024	10/4/2024	12/2/2024	11/15/2024	1/29/2025	1/12/2025	3/12/2025	2/23/2025	5/3/2025	4/15/2025	10th Day 25/25
8/24/2024	10/22/2024	10/5/2024	12/3/2024	11/16/2024	1/30/2025	1/13/2025	3/13/2025	2/24/2025	5/4/2025	4/17/2025	11th Day 25/25
8/25/2024	10/23/2024	10/6/2024	12/4/2024	11/17/2024	1/31/2025	1/14/2025	3/14/2025	2/25/2025	5/5/2025	4/18/2025	12th Day 25/25
8/26/2024	10/24/2024	10/7/2024	12/5/2024	11/18/2024	2/1/2025	1/15/2025	3/15/2025	2/26/2025	5/6/2025	4/19/2025	13th Day 25/25
8/27/2024	10/25/2024	10/8/2024	12/6/2024	11/19/2024	2/2/2025	1/16/2025	3/16/2025	2/27/2025	5/7/2025	4/20/2025	14th Day 25/25
8/28/2024	10/26/2024	10/9/2024	12/7/2024	11/20/2024	2/3/2025	1/17/2025	3/17/2025	2/28/2025	5/8/2025	4/21/2025	15th Day 25/25
8/29/2024	10/27/2024	10/10/2024	12/8/2024	11/21/2024	2/4/2025	1/18/2025	3/18/2025	3/1/2025	5/9/2025	4/22/2025	16th Day 25/25
8/30/2024	10/28/2024	10/11/2024	12/9/2024	11/22/2024	2/5/2025	1/19/2025	3/19/2025	3/2/2025	5/10/2025	4/23/2025	17th Day 25/25
8/31/2024	10/29/2024	10/12/2024	12/10/2024	11/23/2024	2/6/2025	1/20/2025	3/20/2025	3/3/2025	5/11/2025	4/24/2025	18th Day 25/25
9/1/2024	10/30/2024	10/13/2024	12/11/2024	11/24/2024	2/7/2025	1/21/2025	3/21/2025	3/4/2025	5/12/2025	4/25/2025	19th Day 25/25
9/2/2024	10/31/2024	10/14/2024	12/12/2024	11/25/2024	2/8/2025	1/22/2025	3/22/2025	3/5/2025	5/13/2025	4/26/2025	20th Day 25/25
9/3/2024	11/1/2024	10/15/2024	12/13/2024	11/26/2024	2/9/2025	1/23/2025	3/23/2025	3/6/2025	5/14/2025	4/27/2025	21st Day 25/25
9/4/2024	11/2/2024	10/16/2024	12/14/2024	11/27/2024	2/10/2025	1/24/2025	3/24/2025	3/7/2025	5/15/2025	4/28/2025	22nd Day 25/25
9/5/2024	11/3/2024	10/17/2024	12/15/2024	11/28/2024	2/11/2025	1/25/2025	3/25/2025	3/8/2025	5/16/2025	4/29/2025	23rd Day 25/25
9/6/2024	11/4/2024	10/18/2024	12/16/2024	11/29/2024	2/12/2025	1/26/2025	3/26/2025	3/9/2025	5/17/2025	4/30/2025	24th Day 25/25
9/7/2024	11/5/2024	10/19/2024	12/17/2024	11/30/2024	2/13/2025	1/27/2025	3/27/2025	3/10/2025	5/18/2025	5/1/2025	25th Day 25/25
9/8/2024	11/6/2024	10/20/2024	12/18/2024	12/1/2024	2/14/2025	1/28/2025	3/28/2025	3/11/2025	5/19/2025	5/2/2025	26th Day 25/25
9/9/2024	11/7/2024	10/21/2024	12/19/2024	12/2/2024	2/15/2025	1/29/2025	3/29/2025	3/12/2025	5/20/2025	5/3/2025	27th Day 25/25
9/10/2024	11/8/2024	10/22/2024	12/20/2024	12/3/2024	2/16/2025	1/30/2025	3/30/2025	3/13/2025	5/21/2025	5/4/2025	28th Day 25/25
9/11/2024	11/9/2024	10/23/2024	12/21/2024	12/4/2024	2/17/2025	1/31/2025	3/31/2025	3/14/2025	5/22/2025	5/5/2025	29th Day 25/25
9/12/2024	11/10/2024	10/24/2024	1/7/2025	12/5/2024	2/18/2025	1/2/2025	4/1/2025	3/15/2025	5/23/2025	5/6-6/4	30th Day 25/25
9/13/2024	11/11/2024	10/25/2024	1/8/2025	12/6/2024	2/19/2025	1/3/2025	4/2/2025	3/16/2025	5/24/2025		
9/14/2024	11/12/2024	10/26/2024	1/9/2025	12/7/2024	2/20/2025	1/3/2025	4/3/2025	3/17/2025	5/25/2025		
9/15/2024	11/13/2024	10/27/2024	1/10/2025	12/8/2024	2/21/2025	1/4/2025	4/4/2025	3/18/2025	5/26/2025		
9/16/2024	11/14/2024	10/28/2024	1/11/2025	12/9/2024	2/22/2025	1/5/2025	4/5/2025	3/19/2025	5/27/2025		
9/17/2024	11/15/2024	10/29/2024	1/12/2025	12/10/2024	2/23/2025	1/6/2025	4/6/2025	3/20/2025	5/28/2025		
9/18/2024	11/16/2024	10/30/2024	1/13/2025	12/11/2024	2/24/2025	1/7/2025	4/7/2025	3/21/2025	5/29/2025		
9/19/2024	11/17/2024	10/31/2024	1/14/2025	12/12/2024	2/25/2025	1/8/2025	4/8/2025	3/22/2025	5/30/2025		
9/20/2024	11/18/2024	11/1/2024	1/15/2025	12/13/2024	2/26/2025	1/9/2025	4/9/2025	3/23/2025	5/31/2025		
9/21/2024	11/19/2024	11/2/2024	1/16/2025	12/14/2024	2/27/2025	1/10/2025	4/10/2025	3/24/2025	6/1/2025		
9/22/2024	11/20/2024	11/3/2024	1/17/2025	12/15/2024	2/28/2025	1/11/2025	4/11/2025	3/25/2025	6/2/2025		
9/23/2024	11/21/2024	11/4/2024	1/18/2025	12/16/2024	2/29/2025	1/12/2025	4/12/2025	3/26/2025	6/3/2025		
9/24/2024	11/22/2024	11/5/2024	1/19/2025	12/17/2024	2/30/2025	1/13/2025	4/13/2025	3/27/2025	6/4/2025		
9/25/2024	11/23/2024	11/6/2024	1/20/2025	12/18/2024	3/1/2025	2/14/2025	4/24/2025	3/28/2025	6/5/2025	1st Day 25/28	
9/26/2024	11/24/2024	11/7/2024	1/21/2025	12/19/2024	3/2/2025	2/15/2025	4/25/2025	3/29/2025	6/6/2025	2nd Day 25/28	
9/27/2024	11/25/2024	11/8/2024	1/22/2025	12/20/2024	3/3/2025	2/16/2025	4/26/2025	3/30/2025	6/7/2025	3rd Day 25/28	
9/28/2024	11/26/2024	11/9/2024	1/23/2025	12/21/2024	3/4/2025	2/17/2025	4/27/2025	3/31/2025	6/8/2025	4th Day 25/28	
9/29/2024	11/27/2024	11/10/2024	1/24/2025	12/22/2024	3/5/2025	2/18/2025	4/28/2025	4/1/2025	6/9/2025	5th Day 25/28	

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