

2020

## Teacher Perceptions About Teaching Students with Executive Function Deficits

Susan Lynn Dunlap  
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# Walden University

College of Education

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Susan Lynn Dunlap

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Walden University

2020

Abstract

Teacher Perceptions About Teaching Students with Executive Function Deficits

by

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BA, LeMoyne College, 1995

MS, Saint Bonaventure University, 1998

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

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## Abstract

The problem that prompted this study was that kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). The purpose of this qualitative study was to investigate the experiences and perceptions of local elementary teachers about students with EFD, about instructional strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students. Diamond's core characteristics of EFD served as the conceptual framework guiding this study. The research questions focused on teachers' experiences and perceptions of strategies used for students with EFD, and of the professional training needs of teachers working with EFD students. A case study design was used to capture the insights of a purposefully selected sample of 12 elementary teachers through semi structured interviews and a focus group interview. Emergent themes were identified through an open coding process, and findings were developed and checked for trustworthiness through triangulation, rich descriptions, and member checking. The findings revealed that teachers perceived that EFD students responded best to active learning and technology-rich lessons delivered within a structured environment. A professional development project was created to provide teachers with instructional and technology strategies and interventions to engage and focus students with EFD. This study has implications for positive social change by offering teachers strategies to improve the performance and engagement of students with EFD.

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## Section 1: The Problem

### **The Local Problem**

At the suburban elementary school where this study was conducted, kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). Diamond and Ling (2016) defined *executive function deficiency* as a disorder characterized by three components: inhibitory control, working memory and cognitive flexibility; students who present these conditions are often considered to be off-task or inattentive. Teachers are concerned about the increased number in students exhibiting problematic ED related behaviors in the suburban element school. Several commonly diagnosed disorders for children are related to cognitive deficits in the frontal lobe, or EFD (Langberg et al., 2017). With the increased number of EFD students in their classroom, teachers were concerned. At the site, teachers in kindergarten through fifth grade voiced their concerns about the increased number of EFD referrals; the growing EFD population prompted a need for more intervention services (5<sup>th</sup> grade teacher, personal communication, December 2016). Data from monthly “Think Tank sessions” indicated that EFD-related concerns had increased steadily over the last 3 years, from one to two average monthly concerns per grade in 2015-2016, to three to four concerns in 2016-2017, to four to five concerns in 2017-2018 (Kindergarten teacher, personal communication, November 2017). Students with

EFD, who exhibit off-task behaviors in the classroom, are problematic for teachers at the elementary level.

Students who present with EFD are often considered to be off task or inattentive. Students at the local site who are likely to demonstrate off-task behavior are those identified as having EFD or EFD related disorders such as attention deficit disorder (ADD), attention deficit hyperactivity disorder (ADHD) or autism spectrum disorder (ASD) (Martinez, Barraza, González, & González, 2016). Students with EFD may be referred by classroom teachers for diagnostic testing. Special area teachers involved in the referrals of EFD students at the local site expressed feeling overloaded with paperwork and wanted assistance (3<sup>rd</sup> grade teacher, personal communication, November 2017).

The problem for teachers of students with EFD extended beyond the local elementary school. The director of special education for the local school district sent a letter to district personnel acknowledging an increase in student diagnostic referrals by teachers for EFD behaviors district wide. As a result, the school district hired an additional school psychologist to assist with the increase in student referrals (school psychologist, personal communication, December 2016). Across the country, the problem of meeting the needs of students with EFD has been growing in scope (Fairman, Peckham, & Sclar, 2017). A 2017 medical survey reflected a steady increase in diagnoses of EFD in youth age 5-17 years in the last ten years (U.S. Department of Education Statistics, 2018).

There is a gap in practice in the local elementary school between teachers' instructional practices and the instructional strategies that could benefit students with EFD. Teachers have acknowledged to administrators that formal training and professional development (PD) have not been offered to provide interventions to address the learning needs of students with EFD (Principal, personal communication, November 2017). Training for teachers has only included reading and literacy initiatives from the state in the last 3 years. While the local elementary school's literacy scores on state mandated tests remain the highest in the district, teachers have communicated a professional need for knowledge of EFD strategies in the classroom. One teacher stated that many colleagues have spoken about their desires to improve off-task behaviors in students with EFD and noted that the teachers needed help to improve instructional practices to manage behaviors associated with EFD (3<sup>rd</sup> grade teacher, personal communication, May 2017). There was a need to examine the perceptions and experiences of local teachers about working with students with EFD.

### **Rationale**

At the local elementary school, teachers were struggling with the off-task behaviors of students with EFD because interventions they used were not working. K-5 teachers asked administrators for resources and instructional strategies to increase student attention on learning tasks (Kindergarten teacher, personal communication, June 2017). Teachers needed specific interventions that would be effective in addressing EFD behaviors, as their current behavior management strategies were not improving

off-task behaviors. During a local professional learning community (PLC) meeting, a first-grade teacher raised concerns about students who were not able to focus without constant redirection by the teacher. The teacher expressed that she had tried several behavior consequences, and she claimed that the consequences had not worked in addressing focus issues. The teacher noted that it was difficult to teach and manage all students with EFD-related behaviors because redirecting them could take up a large amount of instructional time (1<sup>st</sup> grade teacher, personal communication, September 2017). Special area art and music teachers noticed an increase in the number of students who were challenged by problems related to maintaining focus and following directions. Two special-area teachers and a fourth-grade teacher remarked about the increase of socially distracting behaviors and the interventions needed to manage these difficult behaviors (4<sup>th</sup> grade teacher, personal communication, December 2017).

At the project site, intervention team meetings often ran overtime as participants discussed students with EFD and with EFD-related disorders (5<sup>th</sup> grade teacher, personal communication, May 2016). Administrators received multiple requests from teachers to help provide resources to manage EFD behaviors because students were scoring poorly on tests, not finishing work, and dominating teacher attention. The current interventions, such as extended time on tests and verbal reminders, did not materially improve student performance. In 2017, the school intervention team logged a substantial increase in EFD-related cases over a 4 year period (5<sup>th</sup> grade teacher, personal communication, May 2017).

Other teachers at the school were also affected by EFD. A special education teacher expressed frustration with her 2017 EFD caseload (4<sup>th</sup> grade teacher, personal communication, October 2017). The teacher stated that the increase in EFD-related caseloads in 2017 compared to 2016 was frustrating. She noted that she did not have enough time in the week to meet with all students in her caseload (4<sup>th</sup> grade teacher, personal communication, October 2017). She further noted that the number of referrals to test students for EFD behaviors was problematic because referrals created excessive scheduling issues and required teachers' attendance at before-school and after-school meetings (4<sup>th</sup> grade teacher, personal communication, October 2017). Math and reading subject area specialists at two local schools shared that students receiving math and reading support were often challenged by attention issues (Special-area teachers, personal communication, October 2017) According to Capodieci and Martinussen (2017), math and reading are common struggles among students with EFD.

At a fourth-grade meeting, teachers shared that off-task behaviors such as fidgeting, daydreaming, and not completing work were impeding teaching and student learning (4<sup>th</sup> grade teacher, personal communication, September 2017). The teachers believed that the distracting behaviors prevented students from participating in class and interacting with peers appropriately (4<sup>th</sup> grade teacher, personal communication, September 2017). Levine (1998) claimed that until students fully develop executive functions, they are limited in their capacity to set and adhere to realistic and manageable goals; therefore, they become more dependent on teachers for help. A study by



Langberg et al. (2016) found that EFD students turned in 12% less work than their non-affected peers (Langberg et al., 2016). Teachers at the local elementary school shared their concerns that students who do lose focus and return incomplete work often miss out on classroom lessons.

There appears to be increasing interest in EFD in the United States. A study of the national Head Start Program focused on children's EFD skills and their effect on learning. The purpose of the Head Start study was to understand how EFD skills and learning may be related (Shah, Ahmed, Shenoy, & Srikant, 2017). Shah et al. (2017) found that cognitive and executive functions weakened as students aged; thus, they suggested that early identification of EFD was important in children as young as preschool. Their findings led to revisions in the Head Start curriculum, which now strongly focuses on strengthening the skills of students with EFD before elementary school (Shah et al., 2017). Schools need to improve their approaches to serving students with EFD because the number of students with EFD is increasing.

There is evidence that the number of students with EFD in the United States has increased over the last 3 years. A U.S. school survey illustrated 3 consecutive years of growth in diagnoses of EFD (National Center for Education Statistics [NCES], 2016). The survey reported 538,000 students with EFD in 2015, compared to 498,000 in 2014 and 455,000 in 2013 (NCES, 2016).

EFD is associated with other problems that affect learning. A study by Gooch, Thompson, Nash, Snowling, and Hulme (2016) found that EFD is most often related to

ADHD and autism spectrum disorders. This link could be concerning for teachers, given that diagnoses of autism spectrum disorders in the United States have increased over time. In 2000, one of every 150 children born was diagnosed with an autism spectrum disorder, which includes EFD (Centers for Disease Control [CDC], 2016). The rate of EFD and autism diagnoses has continued to rise since that time, increasing to 1 in 110 in 2006, and then to 1 in 68 in 2012 (CDC, 2016).

EFD has also been significantly linked to learning disabilities. Guajardo and Cartwright (2016) cautioned teachers that student behaviors affecting learning in a regular classroom have been linked to EFD as well as other learning disabilities. A study by Ashwood et al. (2015) reported a significant number of students with EFD to have specific learning disabilities as well. A survey of U.S. schools reported in 2014-2015 that the number of students with EFD and learning disabilities was increasing when compared to other similar disorders (U.S. Department of Education Statistics, 2016). In addition, an analysis of findings on EFD and disabilities by Shaul and Schwartz (2014) indicated that speech and language disorders, autism, ADD, ADHD, and specific learning disabilities were significantly related to EFD. Comments made during a PLC meeting highlighted the difficulty of determining appropriate measures for students exhibiting EFD behaviors, as participants questioned if behavior was the students' choice, involuntary, or indicative of a possible disability (mathematics specialists, personal communication, September 2017).

Classroom management difficulty can be compounded by insufficient knowledge of the correct interventions for students with EFD. In order to determine appropriate interventions, a teacher must understand the cause of the behavior. This issue was brought before the Baltimore City School District when teachers sought classroom management solutions specifically for time-off-task issues associated with students with EFD (Poduska & Kurki, 2014). The push for intervention support for teachers in Baltimore provides a broader context from which to examine teachers' needs managing EFD students. Poduska and Kurki (2014) related teachers' lack of classroom management skills in the United States to a lack of requirements for teacher training under the National Council for Accreditation of Teacher Preparation (NCATE). Specific behavior management approaches are often problematic for teachers of students with EFD (Poduska & Kurki, 2014).

Regional or environmental factors may also play a role in EFD behaviors in schools. Palmer (2015) surveyed teacher perceptions of major school issues in a New York school district. Teacher responses indicated that 64% of participants thought that high poverty levels in the district were the cause of many cognition-related problems and the increase in EFD in the district (Palmer, 2015). Black et al. (2017) shared the same concerns, contending that poverty affects the chances of young children to succeed, such that many do not reach their developmental potential. Sharing perceptions and experiences may allow teachers to gain knowledge of factors affecting EFD in students that teachers can then leverage in the classroom at the local elementary site.

Local elementary teachers need interventions that specifically improve learning for students with EFD. Long et al. (2016) sought to determine why teachers felt that intervention training was not helping to improve learning. Teachers in the Long et al. study indicated they lacked specific knowledge about the needs of their students; these sentiments were similar to concerns of the local elementary teachers. When teachers share experiences and perceptions with colleagues in a PLC format, they can gain the helpful knowledge about instructional and behavioral strategies (DuFour & Fullan, 2013). When teachers are not successful in helping students with EFD behaviors, students can suffer academically. Martin, Burns, and Collie (2017) analyzed various findings on EFD interventions but posited that there is not enough data on how to maintain on-going performance improvements of students with EFD. More studies on EFD are needed to determine best practices for teachers to improve student learning and behavior management. The purpose of this qualitative study was to investigate the experiences and perceptions of local elementary teachers about teaching students with EFD, about instructional strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students.

### **Definition of Terms**

*Academic engagement:* Academic engagement is a strong predictor of academic performance. One way in which academic engagement is measured is through the observation of attention, or on-task behavior (Gettinger & Ball, 2008).

*Attention deficit disorder (ADD):* Attention deficit disorder is a disorder characterized by a lack of attentional control including impulsivity (Carr, Henderson, & Nigg, 2010).

*Attention deficit hyperactivity disorder (ADHD):* Attention deficit hyperactivity disorder is a neurodevelopmental disorder characterized by three main features: attention deficit, hyperactivity, and impulsivity (Abazari, Mahdavi, & Darvishi, 2017).

*Attention:* Attention can be defined by multiple phrasings discerning between types of attention, such as *attentional orienting* and *divided, sustained, and selective attention* (Coull, 1998). All of these expressions, however, have a common component, in that whether one refers to “inhibitory control of attention, executive attention, concentration or focused attention,” all serve to describe a behavior that equates to ignoring some stimuli while attending to others (Posner & DiGirolamo, 1998).

*Executive function (EF):* Executive functions of inhibitory control, working memory, and cognitive flexibility enable humans to think before acting, resist temptations or impulsive reactions, stay focused, reason, problem solve, adjust to changing demands or priorities, and see things from new and different perspectives. (Diamond & Ling, 2016). EF is an umbrella term for functions such as planning, working memory, inhibition, mental flexibility, and the initiation and monitoring of action (Chan, Shum, Touloupoulou, & Chen, 2008).

*Learning disability:* A learning disability is defined as a significant discrepancy between measures of achievement and ability occurring in children whose learning difficulties are not due to mental retardation (Newton, Sperling, & Martin, 2017).

*On-task behavior:* On-task behaviors were defined as occurring whenever a student was appropriately engaged during instructional time. On-task behaviors included orienting toward the source of instruction, following directions, and exhibiting behaviors conducive to completing the task at hand (Otero & Haut, 2016).

*Self-regulation:* Self-regulation is the active, constructive process whereby learners set goals for learning and attempt to monitor their progress toward these goals (Lichtinger & Kaplan, 2015).

### **Significance of the Study**

The results of this qualitative study could be of significance to the participating teachers and school community. By investigating teachers' perceptions and experiences, this study may help in determining the professional development needs of the teachers. It may also add to teachers' knowledge of the instructional needs of EFD students within a classroom of general education students. Student achievement could improve as a result of increased teacher knowledge. Additionally, this study adds to the body of research on the professional development and training of elementary school teachers working with diversified populations of students with EFD. This study may promote social change through the development of teachers' skills in guiding students with EFD.

Executive functions develop rapidly in the preschool years. Therefore, interventions for students with EFD are most beneficial from ages 6 through 8 years, when processing is becoming more efficient (Poutanen et al., 2016). Conversely, Willoughby, Magnus, Vernon-Feagans, and Blair (2016) maintained that differences in executive functioning abilities are set by age 3, despite contrary evidence that EFD can be improved at any age (Dias & Seabra, 2017).

Teachers seeking interventions to help students with EFD could benefit from sharing experiences and perceptions. Lindsey and Jungwirth (2009) posited that today's complex school problems require educators to work together to accomplish goals. Helping students with EFD is a complex challenge that may be addressed most effectively by educators sharing knowledge and perceptions at the local site.

Findings from the study may help teachers improve learning for many students. An improved learning environment may yield positive social change for students with EFD. Teachers may have opportunities to achieve positive social change for students with EFD through improved academics and a learning environment that is constructed through knowledge of EFD.

### **Research Questions**

The research questions for this study were designed to investigate the experiences and perceptions of local elementary teachers about teaching students with EFD, about instructional strategies used to help focus students with EFD, and about

teachers' professional needs to work effectively with EFD students. The following research questions guided this study:

- RQ1: What are the experiences and perceptions of teachers about teaching students with executive function deficiencies?
- RQ2: What are the experiences and perceptions of elementary teachers regarding instructional strategies used to help focus students with executive function deficiencies?
- RQ3: What are the perceptions of teachers about professional development opportunities that could enhance their instructional delivery to support the core EFD characteristics of students with executive function deficiencies?

## **Review of the Literature**

### **Conceptual Framework**

A conceptual framework explains the construct of a study and the relationship among the key elements (Miles & Huberman, 1994). The concepts that grounded this study were the characteristics of EFD and the off-task and inattentive behaviors associated with the instruction of students with EFD characteristics. The conceptual framework for this study was based on the core characteristics of EFD as defined by Diamond (2013), and this framework was used to understand perceptions and experiences of teachers who worked with students with EFD.



The core characteristics of EFD are (a) lack of inhibition or impulsivity, (b) inability to retain information, and (c) lack of cognitive flexibility (Diamond, 2013). The first core concept of EFD is a lack of inhibition, which affects a student's ability to control undesirable or off-task classroom behaviors that interfere with learning or otherwise disrupt the classroom (Blair, Ursache, Greenberg, & Vernon-Feagans, 2015). When students lack self-control, it is incumbent upon teachers to redirect students' focus toward learning, in that undesirable behaviors can create disruptions affecting the entire class.

The second core characteristic of EFD, an inability to retain information, prevents the storage and retrieval of new learning and the manipulation of new information; according to Ecker, Lewandowsky, and Oberauer (2014), these working-memory processes are necessary for learning. A local math specialist observed that the retention of multiplication facts was very difficult for students with EFD, noting that knowing basic math facts is important to mastering more advanced concepts (mathematics teacher, personal communication, December 2017). Shipstead, Lindsey, Marshall, and Engle (2014) recognized that attentional control, a lack of which is integral to the first core characteristic of EFD, is inherently necessary to improving memory and retention of knowledge, thereby addressing the second core characteristic of EFD.

The third core characteristic of EFD, lack of cognitive flexibility, interferes with the ability to problem solve, generate ideas, and see differing perspectives to expand

learning and critical thinking (Meltzer, 2018). Students' difficulty with cognitive flexibility may be most apparent to teachers during group tasks or math problem solving, when students work together and/or generate ideas to problem solve and complete assignments (Meltzer, 2018).

The three core characteristics of EFD function as constructs that teachers can use in order to recognize problematic behaviors related to EFD that affect teaching and learning. An understanding of these characteristics can also help in identifying strategies that support how students with EFD learn best.

The phenomenon that prompted this study was kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). . Meltzer (2018) described EF as involving cognitive skills that help students manage their daily routines and be successful in the classroom. Students' cognitive skills are key elements of the core characteristics of EFD and are necessary for success in the classroom. Students with EFD may need help with the cognitive demands of self-control, memory retention, and adapting to routines.

The study was framed by the core characteristics of EFD. The core characteristics that provided a framework for this study were (a) lack of inhibition or impulsivity, (b) inability to retain information, and (c) lack of cognitive flexibility (Diamond, 2013). These elements define characteristic behavior problems associated with EFD students in the classroom (Dias & Seabra, 2017). Students with EFD struggle

to control focus, complete tasks, and follow directions, and they present a lack of control of the cognitive functions captured in the core characteristics. Locally, teachers may benefit from understanding EFD behaviors.

The framework for this study may help further understanding for teachers at the local site. The conceptual framework may serve as a tool for research and reflection to better understand the local problem and support the development of teachers' capacities to work with students who have EFD. The framework, based on the core characteristics of EFD, supported the project study because it emphasized growing teachers' knowledge and understanding of students.

Students with EFD exhibit common behaviors affecting how they learn in a classroom. The challenge for teachers is finding means to address problematic student behaviors as defined in the core characteristics of EFD. Challenges to learning for students with EFD include struggles with being on task, completing all required work, and listening to and following directions (Diamond & Ling, 2016). Newton et al. (2017) found that students with EFD exhibited learning problems that had a detrimental effect on their rate of academic development. The cognitive skills captured by the core characteristics are lacking for students with EFD and prevent effective learning and instruction from taking place. Students who can focus on the details of a lesson, who can retain information, and who can reduce distractions have the necessary prerequisites to adapt to the demands of a learning environment (Dias & Seabra, 2017). The key elements of EFD describe the fundamental cognitive behaviors that are problematic for

teachers in the local school district. Teachers have expressed a need for knowledge that will support a learning environment promoting achievement for students with EFD and that can help teachers to manage problematic behaviors. The core characteristics provide a framework to examine and research teaching strategies to address the problem of off-task and inattentive behavior and to respond to the research questions about what teachers do and what resources they need to improve their approaches to working with students with EFD.

In conducting a qualitative study that investigated experiences and perceptions of teachers of students with EFD, I sought to clarify the local problem and explore classroom practices that might improve the off-task and inattentive behaviors of students with EFD to increase their learning opportunities (Berninger, Abbott, Cook, & Nagy, 2017; Blair & McKinnon, 2016; Graham, 2017; Ribner, Willoughby, & Blair, 2017). The study's outcomes could inform teaching practices at the local site that in turn, improve the learning environment for EFD students. Ribner et al. (2017) explained that the optimal time for initiating teacher interventions for students with EFD is from preschool through elementary school. Thus, there was a need for a qualitative study on the experiences and perceptions of teachers to improve teaching and learning at the elementary school level. Through this qualitative study, I sought to produce knowledge of interventions to assist students with EFD in developing and strengthening cognitive functions during the critical elementary grades.

### **Review of the Broader Problem**

This literature review contains a critical summary and analysis of the available literature on EFD related to teaching and student learning. The literature revealed that improving problematic EFD behaviors in students is incumbent upon teacher s' knowledge of EFD strategies that improve instruction and increase student learning. The literature contained in this review was found by using the Walden library search engine and Google Scholar. The following terms were used to identify appropriate literature for the study: *executive functions*, *executive function deficits*, *teaching interventions*, *learning disabilities*, *behavioral interventions*, and *ADHD*. Several points were found that helped explain the importance of teaching and EFD. The key elements were addressed in the literature review and formed the topics identified by the following subheadings: (a) Interventions for EFD, (b) EFD and Related Issues for Learning, and (c) Teacher Training Needed to Work With Students Who Have Executive Function Deficiencies. The review was driven by the key elements found in the literature search regarding the local problem in which teachers sought knowledge of interventions to help manage behaviors and improve achievement for students with EFD.

#### **Interventions for Executive Function Deficiencies**

Interventions may provide teachers help with classroom management of student behaviors related to EFD. Developmental disorders such as ADHD and autism spectrum disorder (ASD) are often linked to students with EFD (Jones et al., 2018; Neely, Green, Sciberras, Hazell, & Anderson, 2016). Klein and Kraus de Camargo (2018) found that

behavior and learning issues resulting from a developmental disorder required an individualized approach. Klein, and Kraus de Camargo (2018) stated that consistency, coupled with an individualized profile, will support growth and improvement. Several studies of students with EFD have supported the idea that consistency across environments leads to improvement (Martoni, Trevisan, Dias, & Seabra, 2016; Moore, Whittaker, & Ford, 2016). An investigation of teachers' use of daily report cards for students with EFD was an example of parents and teachers working together to support learning and behavior in the classroom (Martoni et al., 2016), resulting in improved attention and hyperactivity levels at home and school. Similarly, parental involvement in behavioral interventions at school was a helpful strategy for teachers trying to improve focus on instruction. (Moore et al., 2016). A study by Martoni et al. (2016) supported the benefits for EFD students in the classroom, when teachers encouraged parents' involvement with behavior at home. Moreover, parental involvement, according to Wallisch, Little, Dean, and Dunn (2018), should not only include behavior monitoring, but also help identify students' strengths in executive functioning as means to improve assessments for students.

As parental involvement helps with monitoring behaviors, other interventions may contribute to improvement in EFD-related behaviors. Namely, various interventions focused on the importance of the EF developmental stages of learning (Garbacz, Zerr, Dishion, Seeley, & Stormshak, 2018). There is evidence that a student's age may be a factor in the success of classroom interventions, although studies in this

area have lacked consensus on the optimal age for interventions to work best (Black et al., 2017; Checa, Castellanos, Abundis-Gutiérrez, & Rosario Rueda, 2014; Martoni et al., 2016; Willoughby et al., 2016). Further, although many studies have indicated that identifying EFD in young students improves their chances for academic success (Black et al., 2017; Checa et al., 2014; Martoni et al., 2016; Willoughby et al., 2016).

Vandenbroucke, Spilt, Verschueren, Piccinin, and Baeyens (2018) had a more definitive view in that periods of rapid development in the brain in Grades K-5 provide a window for interventions to work best.

The presence of EFD in preschool children can be a strong predictor of academic success (Duran, Byers, Cameron, & Grissmer, 2018; Willoughby et al., 2016). Rhee et al. (2018), in a study of toddlers, used self-control measures to predict EF variances in high school, thus supporting the ability to identify EFD at a young age. For teachers, early identification may mean preventing EFD from having implications for classroom learning later. Early identification and intervention may be the most beneficial way for teachers to capitalize on the rapid increase in EF abilities in children during the early years of schooling (Willoughby et al., 2016). One study showed that higher cognitive abilities and gross motor abilities in 2-year-old children predicted better working memory and inhibitory controls later in school; this finding may justify early identification (Wu, Liang, Lu, & Wang, 2017).

However, there is disagreement in the literature when it comes to the imminent need for interventions as young as preschool age. Neely et al. (2016) explained that

executive skills emerge gradually, as a natural progression of frontal lobe development. Thus, an argument can be made that student age and cognitive development are both factors for considering interventions. Similarly, Samuels, Tournaki, Blackman, and Zilinski (2016) found executive functions to be observable and measurable from an early age, increasing as students matured. However, Friedman et al. (2016) posited that the brain's neural changes during adolescence were arguably more symbiotic with performance and that EFD can be more efficient during the adolescent years. Age aside, Kim et al. (2016) revealed that no matter what, the structured environment of schools requires attentional and behavioral readiness equal to the need for academic readiness for children in kindergarten programs.

Although studies have shown that early identification of EFD is possible, indications of when interventions work best have been less concrete (Samuels et al., 2016; Sasser, Bierman, Heinrichs, & Nix, 2017; Willoughby et al., 2016). According to Samuels et al. (2016), EFD is not a “consistently defined” construct, and may present differently depending on age. Samuels et al. (2016) suggested identifying appropriate interventions is most important to helping students, rather than how early the intervention is initiated. Despite the conflicting evidence on interventions, early interventions for students with EFD have been successful (Samuels et al., 2016).

Even still, Homer, Plass, Raffaele, Ober, and Ali (2018) argued that there is time to improve executive functions later in school. In a study of high school students, Homer et al. tested the specific executive function domain of shifting attention and



concluded that EFD may be improved with the right intervention at any age. In contrast to the assertions of Willoughby et al. (2016) and Martoni et al. (2016), Homer et al. (2018) suggested that age may not adversely affect the success of an intervention to improve executive functions, in accord with Checa et al. (2014) and Samuels et al. (2016) who questioned the actual benefits of early interventions for EFD. Despite evidence like Homer et al. (2018), the argument for early interventions can be strengthened by evidence of decreased motivations and higher drop-out rates, both of which are linked to frustration with school in students with EFD (Willoughby et al., 2016). Finally, Wu et al. (2017) had a developmental view of EFD and learning, reasoning that learning for students with EFD is a multistage process that evolves as children develop complex cognitive functions skills. Thus, accordingly, interventions for EFD must be addressed in stages as well (Wu et al., 2017).

Executive functions take have a significant role in student achievement and are part of everyday learning processes in the classroom (Baggetta & Alexander, 2016). Because executive functions are responsible for self-control, decision making, and daily problem-solving in the classroom, the absence of control over these functions may be isolating for students with EFD (Martoni et al., 2016).

Students with EFD have limitations that hinder them from being successful in routine problem-solving activities. Problem-solving tasks can make students with EFD feel overwhelmed, lose interest in work quickly, and avoid participating in group tasks and learning opportunities (Martoni et al., 2016). Martoni et al. (2016), like Willoughby

et al. (2016), suggested that interventions be put in place for such students before the loss of motivation occurs. When EFD students lose confidence in themselves they may resign from learning, but teachers may reduce this problem by using proactive measures (Ribner et al., 2017), who found that specific teacher interactions increased motivation and willingness to participate in students with EFD. The suggestions offered by Martoni et al. (2016) and Willoughby et al. (2016) indicated an overarching belief in the value of early implementation to bolster motivation and progress over the long term.

There is divergence in thought among researchers on how and what interventions help students with EFD. Studies by Sibley et al. (2017) and Molina et al. (2018) appear to support the importance of early initiatives, as these researchers found that struggles in daily activities were evident in adulthood for individuals with EFD. Lack of consensus among researchers, however, may make finding appropriate measures or knowledge to help students a difficult task for teachers. A study by Schwaighofer, Bühner, and Fischer (2017) suggested that cognitive training, or targeting a cognitive response in students, is no longer the ideal strategy for improving EFD in the classroom; rather, improving executive functions may require the use of complex cognitive tasks. Begolli et al.'s (2018) study of math and executive function capacities also supported the idea that cognitively demanding assignments should be given to struggling students for the benefit of achievement. Berninger et al. (2017), in a study of third-grade students with EFD, found that students improved their reading comprehension ability with targeted working memory exercises. Wu et al. (2017)

cautioned that EFD can present differently depending upon the context of the processes in the classroom.

Environmental circumstances may limit or thwart teachers' ability to improve EFD students' learning. Classroom dynamics or environmental stressors may impede the use of interventions for EFD. Lemberger, Carbonneau, Selig, and Bowers (2018) investigated everyday challenges to having a well-functioning classroom for learning that magnifies the learning constraints for students with EFD. Existing everyday problems related to social-emotional issues and poverty have been linked to an increased risk for EFD (Black et al., 2017; Fuhs, Nesbitt, & Jackson, 2018; Sasser, Bierman, Heinrichs, & Nix, 2017). Lemberger et al. (2018) found that Social Emotional Learning (SEL) interventions or cognitive training interventions, produce both emotional and academic benefits for students. The social-emotional behavior aspect of EFD warrants teacher attention considering studies by Blair, McKinnon, and Daneri (2018) and Vandenbroucke et al. (2018) have shown teacher interactions to be a positive influence on reversing emotional setbacks in the classroom associated with EFD. Vandenbroucke et al. (2018) cited teacher characteristics such as sensitivity and warmth were highly effective at improving emotional upset in students with EFD. Further, Merrill, Smith, Cumming, and Daunic (2017) stressed that teachers need to pay attention to weak social-emotional behaviors of students to deter the likelihood of academic underachievement.

### **Executive Function Deficiencies and Related Issues for Learning**

Because executive functions are a set of mental skills that help in accomplishing tasks, the absence of said skills produces several learning issues for the classroom and teacher. For one, Willoughby et al. (2016) found executive functions an important part of the problem-solving skills and goal-directed behavior needed for school success, and responsible for accomplishing the cognitive tasks needed for classroom learning (Blair & McKinnon, 2016). ASD and ADHD are two commonly linked developmental disorders related to the weaknesses in executive functions (Dovis, Van der Oord, Wiers, & Prins, 2015). Both disorders present behaviors in a classroom that may isolate a child from peers and make learning a challenge. The problem for teachers becomes discerning how a student's deficit is affecting learning and thus, what strategy would be most helpful.

More specifically, cognitive tasks are executed through separate commands that work together in the three main functions of the prefrontal cortex: 1) working memory, 2) response to stimuli and 3) inhibiting irrelevant information (Blair & McKinnon, 2016). Because the execution of any task can come from one or all parts. EFD are complex in nature, thus teachers may be challenged to understand how students with EFD learn best. Shallice and Cipolotti (2018) summarized the complexity of the three functions working in tandem as other cognitive processes distinguish interference when correct and incorrect responses occur simultaneously. Or, alternatively, when an EFD is present, the network cannot decipher multiple commands, and learning is impaired.

Shallice and Cipolotti (2018) asserted that the source of the executive deficit is difficult to determine due to the subprocesses that ensure a command or task. Rather student skills would be more accurately evaluated over several tests that reveal a common subset of weak skills.

Finding out how to help students with EFD learn best may prove difficult for teachers. Wallisch et al. (2018) suggested the difficulty in determining the basis of student's executive abilities is in part because EFs include such a broad set of skills for everyday tasks. Newton et al. (2017) found a lack of teacher knowledge of EFD to be a great hindrance in the classroom and can negatively affect academic development. Teacher perceptions, according to Spiess, Meier, and Roebbers (2015) revealed teachers struggled to decipher differences in the executive functions of students to properly tailor instruction or remediation. One study posited even students with ADHD have variances in EFD, making it difficult to profile a student by one label or weakness, and further suggested a change in diagnoses to include those differences (Roberts, Martel, & Nigg, 2017). For teachers at least, measuring a students' EFD may be unattainable without help.

Klein and Kraus de Camargo (2018) argued the reason teachers are struggling to help student behaviors related to EFD is the absence of a classification system for student functioning. In other words, teachers need an individual behavior checklist for each student, to determine how to proceed with interventions in school (Klein & Kraus de Camargo, 2018). Students with learning disabilities and EFD present similar

behaviors and similar learning struggles, as evidenced by a rising interest in sluggish cognitive tempo, a disorder characterized by weak attentional control and daydreaming similar to characteristics of ADHD in students (Becker, 2017). This behavior is different from EFD behaviors in EFD is evidenced by greater disruptive behaviors. Interest in sluggish cognitive tempo is focused on distinguishing symptoms in students from attention disorders as the two conditions overlap in school settings. Regardless, sluggish cognitive tempo and ADHD are associated with EFD and learning struggles, further complicating teaching and learning (Burns, Becker, Servera, Bernad, & García-Banda, 2017). Likewise, it may be difficult for a teacher to differentiate instruction without knowing the root cause of the behavior or learning struggle.

In addition to behavior, teachers may be challenged to understand the complexity of student learning impairments related to EFD. Student performance on classwork may be indicating one or more learning issues either related to EFD or separate from EFD. Either way, the overlapping of performance issues is not easily discernable and complicate teaching and learning. One impairment often associated with EFD is a specific diagnosed learning disability in reading. Teachers should take notice, according to Daucourt, Schatschneider, Connor, Al Otaiba, and Hart, (2018) to the fact that executive functions are associated with both typical and atypical reading performances. Students with EFD who struggle to focus in reading may also be masking a disinclination to focus due to a reading disability as opposed to just an attentional

disorder (Meltzer, 2018). More concerning for teachers, however, may be determining the effect of each on student performance when overlapping impairments are present.

Many studies focused on the prevalence of subject-specific weaknesses in math and reading and students with EFD (Begolli et al., 2018; Dias & Seabra, 2017; Ribner et al., 2017). Decreased reading and math abilities in the elementary grades have been strongly correlated with students who have EFD (Ribner et al., 2017). A study by John Dawson, and Estes (2018) echoed the same conclusion; the subjects of math and reading are both associated with EFD and learning problems in the elementary grades. An investigation of reading and math competencies by Dias and Seabra (2017) acknowledged students who could focus, hold information better, inhibit distractions; or manage EFD, were better able to adapt to the demands of reading and math in a classroom.

Many students with EFD are identified with other learning impairments affecting classroom achievement (Capodieci, & Martinussen, 2017; Duran et al., 2018). Impairments in speech, processing efficiency, math skills and reading fluency present behaviors like a student with ADHD, or EFD, making it difficult for teachers to discern the exact problem and a fitting solution (Berninger et al., 2017). For example, language type impairments are often diagnosed along with EFD and attention issues (Berninger et al., 2017), and interchangeably, many children receiving services for attention or behavior problems also have deficits in language ability (Karasinski, 2015). Berninger et al. (2017) encapsulated the problem as a call for teacher knowledge of EFD to help

students academically, stating that EFD play a role in children's language learning too.

What is clear, according to Jones et al. (2017) is attention and executive functions together help self-regulate language learning, which may explain why breathing and speaking commands regulated by executive functions are also linked to stuttering.

Vugs, Knoors, Cuperus, Hendriks, and Verhoeven (2017) reasoned that treatments for improved cognition used for students with EFD may also help students with language deficit due to mounting evidence connecting language learning to students with EFD.

### **Teacher Training Needed to Work With Students Who Have Executive Function Deficiencies**

Differing views on EFD classroom interventions mean concrete teacher training has not been clearly established. Graham's (2017) and Berninger et al. (2017) produced two similar studies focused on teachers of students with EFD and concurred on two implications: (a) EFD are significantly linked to other learning disabilities, and (b) more studies are needed on EFD and interventions that work. Graham (2017) and Berninger et al. (2017) agreed that teachers are not able to make informed decisions regarding instruction for students with EFD without sufficient knowledge. Bradshaw, Pas, Debnam, Bottiani, & Rosenberg (2018) explained that behavioral training programs for teachers have not been assessed to determine if any significant intervention for classroom behavior has lasted over time. The suggested solution, according to a study by Bradshaw et al. (2018), is a program that coaches teachers and that involves the entire school in training and support throughout the school year.



Teachers should be aware of the long-term academic problems facing students with EFD. Three observational studies of young children with EFD showed increased struggles in academic learning as they aged, as well as a propensity for addiction and trouble with the law (Kuhn, Willoughby, Blair, & McKinnon, 2017; Sibley et al., 2017; Willoughby et al., 2016). A fourth study found preschoolers with executive weaknesses as having anxiety and depressive disorders in adolescence (Nelson et al., 2018). There may be a solution, according to Willoughby et al. (2016) using preventative measures such as implementing early interventions in preschool years. Similarly, Blair and McKinnon (2016) determined a student-teacher relationship in early grades was a prominent factor in the academic success of the child later. However, Kuhn et al. (2017) countered that interaction at ages three to five was most impactful for change in students with EFD. For ADHD and other EF related disorders, a difference exists between optimal behavior and learning interventions. Typically, adolescent students with ADHD displayed high risk behavior as adolescents (Sibley et al., 2017). Yet, another longitudinal study of ADHD behavior showed evidence of declining ADHD symptoms with age (Molina et al., 2018). Friedman et al. (2016) focused on EF in adulthood as a period of maturation and questioned whether the developing brain and environmental influences in adulthood may have more of an impact on how EF performance. Overall, despite contrasting evidence on optimal periods of EF development in the brain, environmental factors may underlie what age range is most influential to learning.

EFD are associated with weaker academic skills, lack of engagement, and lack of self-regulation of behavior (Sulik & Obradović, 2018). Dias and Seabra (2017) posited that students with EFD showed significant improvement in learning and behavior after specific teacher interventions were practiced, but there was not enough evidence the benefits would sustain over time. As a result, Dias and Seabra (2017) recommended future studies focus on ongoing monitoring of EFD interventions in a longitudinal study design. A study providing long-term data could more accurately inform pedagogical decisions in changing students' behaviors. Newton et al. (2017) also identified students may lack academic or behavioral consistency over time, and like Dias and Seabra (2017) supported the need for long-term studies on student progress and EFD intervention as EFD were a frequent and ongoing risk academically, and a reason for teachers to become knowledgeable of academic issues and EFD.

If the academic risk is ongoing, the proactive approach for teachers would be to identify EFD early on in school. EFD can be predictive of motivational problems and are linked to students with poor academic records (McLuckie et al., 2018). Students with EFD were more likely to lose motivation and drive as they age due to frustration (Martoni et al., 2016) Martin et al. (2017) also found students with EFD and other academic disabilities showed decreased motivation and low achievement over time. Students with learning disabilities, ADHD, and other executive function related disorders are at academic risk (Graham, 2017). To help the decreased motivation and grades linked to students with EFD (Graham, 2017), Kuhn et al. (2017) investigated

how performance-based assessments (PBA) specifically affected student motivation and grades. Kuhn et al. (2017) maintained that flexible type assessments may provide teachers with better knowledge of students' actual ability. Namely, students with EFD scored higher on PBAs than on a traditional summative assessment (Kuhn et al., 2017); showing knowledge through practical application rather than just selecting an answer. While PBAs reduced disparities in grades between students with EFD and peers (Kuhn et al., 2017), it also may give teachers an alternative measure of the ability of students with EFD who typically score low on traditional tests (Willoughby et al., 2016). Flexible assessments provide teachers with more data on student progress, and so Berninger et al. (2017) stated it is essential for teachers to be flexible with students who struggle to orchestrate thought and problem solve. Simply put, the benefit of formative assessment in relation to behavioral and classroom management, is to "inform and guide" changes in teachers' classroom (Reddy, Dudek, & Lekwa, 2017).

Another study on assessments by Berninger et al. (2017), found flexible assessments can compensate for the complex nature of attention and executive function processes. Teachers should have well-planned assessments that account for the individual strengths and weaknesses in students with EFD. It may be imperative to train teachers how to create assessments with an individualized approach, so the assessment reflects the content knowledge and not the EFD (Berninger et al., 2017). Meltzer (2018) stated that students with EFD experience a "pause" before sorting information. The "pause" time for processing a question and the consecutive delay will likely cause

students to make mistakes on tests or skin problems. As a result, Meltzer (2018) found that students with EFD need special consideration from teachers where assessments are sure to reflect student content knowledge and retention.

In addition to academic struggle, Diamond and Ling (2016) identified students with EFD experience social struggles, or difficulty maintaining peer relationships. Students with EFD are associated with socially unacceptable behavior like impulsivity (Diamond & Ling, 2016) which presents another challenge for teachers in the classroom, especially because group activities are a popular teaching approach with many benefits (Muijs & Reynolds, 2017). According to Obradovic and Finch (2017), the classroom environment must be considered by the teacher with sensitivity as social-emotional well-being is a concern for students with EFD (Meltzer, 2018). Students with EFD have trouble regulating emotions such as frustration or anger which can alienate peers in a group setting (Obradovic & Finch, 2017). Preparing a safe learning environment for students with EFD may avoid significant academic and emotional impairment, while a proactive approach for teachers helps ensure learning tasks are accomplished (Langberg et al., 2016).

To improve teaching practices, according to Hofer (2017), it is a necessity to engage in critical reflection of instruction, as well as student work and behavior to guide future instructional decisions. Reflection by the teacher may help identify problems in achievement commonly linked to EFD. For one, students with ADHD are often associated with underachievement in school (Gathercole, Astle, Manly, Holmes, &

CALM Team, 2018). Second, serious organizational problems such as lack of task management, neglecting test directions and questions, and an overall failure to finish tasks are associated with students with ADHD (Kofler et al., 2019) If students and teachers do not understand organizational weaknesses as part of a disorder, there may unnecessary frustration.

Another problem may exist for teachers of students with EFD due to the prevalence of learning disabilities associated with EFD students. In the United States 25% of students having ADHD have a diagnosed learning disability (Das, 2015). Das (2015) recommended teacher knowledge of ADHD behaviors is crucial to improving the achievement of students with ADHD; meaning teachers will need to identify ADHD behaviors to remediate behavior properly. Still, identifying ADHD behaviors in students does not mean other learning issues can be ruled out. The behaviors of students with ADHD and EFD can be misconstrued by teachers; students with ADHD are known to avoid work, and sometimes viewed as defiant rather than just unfocused (Das, 2015). Patros, Alderson, Hudec, Tarle, and Lea (2017) explained that students with ADHD when compared to peers, may lose the ability to self-regulate behavior during prolonged hands-on activities. When planning, knowing students' limitations means modifying the timing of lesson activities to discourage poor behavior choices. Reflecting on student differences, can lessen distractions and keep students actively learning rather than singled out.

The interest in executive functions and learning is on the rise as evidenced by an increase in the number of studies in the last ten years (Baggetta & Alexander, 2016; Homer et al., 2018). Understandably, the interest has drawn attention to pre-service teacher training in U.S. colleges and universities and led to the adoption of social and emotional learning (SEL) in preservice teacher education. SEL was enacted to help beginning teachers manage students with EFD in the classroom. SEL education is a study of executive function integration in classrooms, and indicative of a growing problem for teachers in the United States (Corcoran & O'Flaherty, 2017). Schonert-Reichl (2017) explained that SEL training for teachers has been identified to improve academic and behavioral outcomes in the classroom for students. Because SEL training may benefit students who exhibit a lack of emotional control, Lemberger et al. (2018) recommended cognitive training interventions by teachers to produce both emotional and academic benefits for students.

Understanding the factors contributing to the development of EFD in children may help teachers identify problems. Environmental factors for one, have been identified as positively and negatively affecting stages of EF development (Sibley et al., 2017). Researchers' findings on factors that contributed to the development of EFD in young children revealed polarization; socio-economic and parenting factors both have been identified as precursors to children developing EFD (Holochwost et al., 2016). Holochwost et al. (2016)'s study of factors contributing to EFD development in children found the extent of parental influence on EFD development in children

previously believed as a sole factor was not significant. Furthermore, prior to studies on parental influence, poverty was once the most influential factor to EFD development in children (Holochwost et al., 2016). Clearly, findings are divided between socioeconomic distress and parenting styles as factors influencing EFD development. The need for studies that focus on factors influencing EFD development may help teachers with early intervention, a practice that has shown to have significant results in young children (Berninger et al., 2017).

Holochwost et al. (2016) and Ribner et al. (2017) identified poverty as a viable concern for teachers of EFD students due to the high school dropout rate for low-income EFD students. While poverty and parental influence have been identified as factors affecting EFD development, there is no consensus on factors influencing EFD development. More studies on factors affecting EFD development would help improve teachers' ability to detect EFD early on; an idea supported by Willoughby et al. (2016) posting early identification of EFD behaviors has the potential to limit EFD from affecting academics.

### **Implications**

The purpose of this qualitative study was to investigate the experiences and perceptions of local elementary teachers about teaching students who have EFD, about instructional strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students. The study's outcomes could be used to increase teacher knowledge of EFD in the classroom, thereby improving the

overall educational experience of students with EFD. From the data collection, the analysis of data, and the emerging themes, a possible project may be the creation of professional development which could address potential problems and solutions associated with EFD in the classroom. The professional development might provide teachers with an overview of executive functions, an understanding of how students with EFD struggle in traditional classrooms, and strategies for teachers to engage students with EFD and strengthen their abilities to use executive functions.

### **Summary**

A local district problem was identified that Kindergarten through fifth-grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies. The purpose of this qualitative study was to investigate the experiences and perceptions of local elementary teachers about teaching students with executive function deficiencies (EFD), about instructional strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students.

The purpose of Section 1 was to provide an overview of the project study. Section 1 included an outline of the focus of the study, the problem, the rationale, evidence of the problem at the local level, evidence of the problem from professional literature, the significance of the study, and a literature review. Section 2 provides readers with an explanation of the methodology used for the study and includes information about qualitative research and case study research design. Furthermore,



Section 2 provides the details about the research setting, participants, data collection methods, and data analysis results. The research design has been justified through professional literature, and I have included reasons why other research designs were not appropriate for this study.

## Section 2: The Methodology

### **Research Design and Approach**

According to Merriam (2009), case study is appropriate for research that is focused on gathering specific and meaningful data on a specific situation. Stake (1995) delineated case study research as a method in which the researcher chooses what will be studied, and Merriam (2009) added that a unique characteristic of a case study is that the researcher guides the process. The problem identified in the elementary school could yield meaningful data specific to the local setting. Specifically, the local school and phenomenon were suited to a case study or what Yin (2013) described as an investigation of a phenomenon in a real-life setting. The local school served as a bounded system from which participants gave in-depth descriptions to help answer the research questions (Merriam, 2009). Although a case study design closely aligned with the purpose of my study, I explored several other qualitative methodologies before making my selection.

Merriam (2009) argued that phenomenological research is the root of all qualitative research in a way because it deals with recognizing how a phenomenon is being experienced. McCaslin and Scott (2003) stated that phenomenological studies describe the experiences of several individuals about a shared phenomenon to find a common essence. Patton (2002) related phenomenological studies to the assumption that experiences have a defining common ground. Creswell and Creswell (2017) stated that a phenomenological study is focused on participants' similar responses to

encountering a phenomenon, whereas a case study examines multiple perspectives and experiences using a broader lens (Merriam, 2009). A phenomenological study was not chosen for my study because the purpose of my study was to investigate the experiences and perceptions of local elementary teachers about teaching students with EFD, about instructional strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students.

The aim of phenomenological research has been described as seeking the essence of individuals' experiences about a phenomenon, rather than understanding the phenomenon (Moustakas, 1994); in exploring the local problem, I was attempting to do the latter. Furthermore, in phenomenological research, the researcher becomes wholly involved in a personal manner to capture the essence of the personal experiences of participants (Moustakas, 1994). A case study is most fitting as a methodology for investigating teachers in a bounded system, who may each offer a different set of perspectives and experiences about dealing with EFD behaviors.

Lodico, Spaulding, and Voegtle (2010) described grounded theory as a researcher's attempt to generate a theory based on data collected on a real-life phenomenon or shared experience. This research design was not suitable for this study because I was not looking to generate a theory. The data collected in this study came from investigating a variety of teachers' perceptions about their knowledge and experiences of teaching students with EFD; these data generated knowledge about their perceptions and experiences, rather than a theory (Creswell, 2012).

Finally, ethnography involves describing procedures or customs after an extended field study (McCaslin & Scott, 2003). Creswell and Creswell (2017) described ethnography as a study in which the researcher describes or interprets the common behaviors of a large group of people. Ethnography, according to Wolcott (1999), is more specifically designed to gather data to find cultural patterns within a group. Ethnography did not fit this study because the culture of the local school was not studied using prolonged observation, data collection, or fieldwork.

In summary, a qualitative case study method was most fitting for researching the local problem focused on teachers in a specific elementary school setting (Lodico et al., 2010). Merriam (1998) defined a case study as a study within a bounded system, limited by time, and limited to participants within the bounded system. Although case, phenomenological, and ethnographic studies all involve seeking multiple perspectives from participants, the scope of the data and the time frame for data collection are more controlled in a case study design due to the bounded system (Lodico et al., 2010). Yazan (2015) stated that the purpose of a case study about a local problem is to report perspectives that may be generalized within the local setting that serves as the bounded system from which the researcher gains an understanding of the phenomenon.

The inductive process of qualitative research aligned with the three guiding research questions seeking perceptions and experiences based on the local problem. Yin (2013) defined case study as involving the study of a phenomenon in a real-life context, with the researcher seeking to answer “how and why” questions to inform the reader

about the phenomenon. Thus, research questions in a qualitative study are phrased to guide the collection of data without a foregone conclusion (Tolley, Ulin, Mack, Succop, & Robinson, 2016). This case study used open-ended questions with individuals and a focus group in order to allow me the flexibility to build upon and be guided by teacher responses in a natural manner (Creswell & Creswell, 2017).

Stake (1995) contended that the role of the researcher in a case study design involves interpreting and gathering data to construct knowledge of several possible realities for the reader. Researchers seeking in-depth descriptions use a qualitative approach (Merriam, 1998). According to Merriam (1998), a researcher should try to make meaning of data from while recognizing the multiple points of view of participants. As per the case study approach, open-ended interview questions will seek rich descriptive responses that allow for variation among participants (Creswell & Creswell, 2017). A qualitative case study approach enabled a process of gathering and making meaning of data as I comprehensively investigated the local problem. Yin (2017) maintained that a case study is warranted in certain situations such as a seeking an unusual situation or “revelatory purpose” such as teachers in need of help.

## **Participants**

### **Population and Sampling**

The sample for this study was drawn from one elementary school within a large suburban school district in South Carolina (National Center for Education Statistics [NCES], 2016). The district had a total of 15 schools, and the student population was

estimated at 13,080, with 853 teachers employed (NCES, 2016). The local elementary school served Grades K-5 and had approximately 750 students and 47 teachers (NCES, 2016).

I chose purposeful sampling for this study to select participants. Lodico et al. (2010) recommended purposeful sampling to researchers conducting in-depth studies to seek rich descriptive content to address research questions. Researchers use purposeful sampling when a specific location and phenomenon may provide rich information to help understand that phenomenon or problem (Creswell & Creswell, 2017). Patton (2002) supported purposeful sampling for qualitative studies seeking perspectives because a diverse sample is the natural byproduct of purposeful sampling and can help increase the credibility of such a study's findings. Similarly, Sim, Saunders, Waterfield, and Kingstone (2018) asserted that the benefit of purposeful sampling is the inclusion of outliers or diverse perspectives, not uniformity, which can support a study's credibility. Because I sought to investigate multiple teacher perspectives, I performed purposeful sampling prior to data collection (Creswell & Creswell, 2017). After I had obtained a letter of cooperation and Institutional Review Board (IRB) approvals, I emailed a letter of invitation with an attached informed consent document.

### **Criteria for Selection of Participants**

Participants at the local site were able to self-select into the selection pool by assuring that they met the participant criteria, and as the researcher, I monitored the self-selection process. The criteria indicated that all participants needed to (a) be

certified schoolteachers of Grades K-5, (b) have experience working with students with EFD, and (c) have at least 3 years of teaching experience.

Qualitative methodology is used for seeking in-depth data (Merriam, 2009) and complex perspectives from multiple participants (Creswell, 2012). The first criterion for participant eligibility was important because I was seeking the perceptions and knowledge of certified professionals about the teaching profession. The second criterion was needed to ensure that the participants had knowledge of the identified phenomenon. The third criterion ensured that participants had classroom experience to draw upon.

The internal sampling procedure of self-selection was based on my knowledge of the local setting and helped to determine key informants for an appropriate sample size (Bogdan & Biklen, 2007). A case study, according to Bogdan and Biklen (2007), is not intended to generalize data based on a uniform set of participants; therefore, there is no “typical” (p. 67) sample. Rather, the goal of the internal sampling strategy should be to reach data saturation with a diverse group of perspectives (Bogdan & Biklen, 2007).

I sought to establish a sample size that would meet the standard of what Merriam (2009) called *adequate engagement* or saturation of data. The target of 10-12 grade-level participants in Grades K-5 was considered for obtaining multiple perspectives on the phenomenon (Merriam, 2009). The sample size of a qualitative study is not a precise measure, according to Sim et al. (2018), however, the focus should be on thorough interviews done with rigor. Lincoln and Guba (1990) suggested that an appropriate sample size for data collection through interviews is about 12-20

participants. Morse (2000), however, contended that the scope of the research question should guide the researcher as to how big or small the sample should be; if the question is narrower, it may be possible to use a smaller sample with a more in-depth approach to reach saturation of data. Francis et al. (2010) identified 10-17 participants as an appropriate sample size for saturation of interview data. For this study, 12 interviews were conducted, per Creswell's (2012) recommendation for an appropriate number of interviews to achieve saturation.

### **Access to Participants**

I emailed a request to both the superintendent of the school district and the principal of the school for approval to conduct the study, requesting signatures on letters of cooperation. A proposal for the study was sent to the principal and the school district superintendent. Once I received approval from the school principal and school district superintendent, I applied for IRB approval through Walden University and submitted my proposal and an IRB application. After I had received all approvals, I began seeking participants through email invitations to all teachers in Grades K-5 at the local site. I asked teachers to self-select by acknowledging that they met the three selection criteria: valid teaching certification, experience teaching students with EFD, and 3 years of teaching experience. Additionally, the invitation included an informed consent letter. The informed consent document included the approximate time requirement of 30-45 minutes, location options for the interview, full disclosure of the study's purposes, and sample questions from the interview protocol (Appendix B).



Participants were asked to respond to the invitation and informed consent by replying to my Walden email address with the words “I consent.” After I had received participant responses, I sought an equal distribution of primary and intermediate grade level teachers for the interviews (i.e., six primary and six intermediate grade level teachers). If I had received too many volunteers, I would have chosen an equal distribution of primary and intermediate grade level teachers using the three criteria mentioned above. Because I did not receive enough volunteers initially, I resent an invitation containing a simpler explanation of the study.

After the second emailed invitation, participant selection was finalized. I then asked the selected 12 interviewees if they were interested in volunteering for a focus group discussion in addition to the one on one interviews. For the focus group interviews I sought an equal distribution of three primary and three intermediate grade level teachers for a total of six teacher participants from the pool of 12 one on one interviewees.

### **Researcher-Participant Relationship**

The researcher-participant relationship in this study was also a researcher-colleague relationship. In the capacity of researcher, interviewer, and observer, I was a translator of my colleagues’ descriptive data (Lodico et al., 2010). I maintained a journal of personal reflections to ensure fairness in my role and awareness of my preexisting relationships with my colleagues (Merriam, 2009). Lodico et al. (2010) labeled a researcher who is minimally involved but present in a local study as an

“observer as a participant” (p.118). As researcher, interviewer, and facilitator of a focus group, I remained objective, neutral, and unbiased by employing quality measures. I maintained control of my past experiences and answered the interview and focus group questions in my journal; this allowed me to acknowledge and visualize potential biases (Lodico et al., 2010).

## **Data Collection**

### **Semi structured Interviews**

Case studies commonly use “interviews, observations and document analyses” as data collection techniques (Lodico et al., 2010, p. 39). Dexter (2006) contended that semistructured interviewing is the preferred technique for collecting data, in that the interviewer in this approach lets the participants’ knowledge of the topic or problem guide the interview. In this study, semistructured interviews were the primary means of collecting data to investigate teachers’ perceptions and experiences of working with students with EFD. The interview format was semistructured so that I could formulate a series of questions about the problem while ensuring that the questions remained flexible and open-ended to allow participants’ perspectives to be shared and explored (Merriam, 2009). Lodico et al. (2010) suggested one-on-one interviews for eliciting free-flowing personal feelings and experiences within a topic, noting that a semistructured interview format allows a researcher to deviate from scripted questions and build upon participants’ responses. I developed a one-on-one semistructured

interview protocol to guide the interviews with a degree of flexibility to obtain perspectives and experiences of teachers at the local site (Lodico et al., 2010).

The setting for the interviews was a secure, private office conference room in the local school before and after school hours. Creswell and Creswell (2017) cautioned that the interview setting can affect the quality of interviews. Teacher participants were not bound by location or time, nor were they put in a position that would compromise their comfort level. Taylor, Bogdan, and DeVault (2015) explained that an ideal interview setting rarely exists, but good rapport with participants and easy access to the site are desirable conditions. In this study, the interview setting was familiar and fully accessible. All participants made the choice to have the interview in a school office room rather than off campus. I shared my personal contact information with the participants and made myself available before, during, and after data collection for questions or concerns.

The interview protocol was identified at the top of the interview form (Appendix B). I explained to each participant that I would audiotape the interviews for later transcription. I also informed the participants that their responses would remain confidential and that in all reporting of information, I would use only pseudonym identifiers; no participant would be named in the study. I also acknowledged the following:

1. All information discussed and recorded would remain confidential.

2. Participation was voluntary, and participants could stop taking part in the study at any time if they felt uncomfortable.
3. I had no intention to inflict any harm on participants in the course of the study.

Finally, I reminded the participants that the interview would last no longer than 45 minutes.

Merriam (2009) suggested that interview questions be focused on topics such as teacher knowledge, feelings, opinions, behaviors, and background, and Creswell (2012) recommended avoiding sensitive or damaging questions that might pose ethical issues for researchers. Probes were used as needed to elaborate and clarify participant responses, allowing the participants to lead the course of questioning (Merriam, 2009). Probes were included in the interview protocol (Appendix B).

The interview questions (Appendix B) were open-ended questions seeking perspectives and experiences from 10-12 teachers of Grades K-5 at the local site. The one-on-one interviews consisted of eight questions each, of which two to three questions were aligned to each of the three research questions. Eight open-ended questions were composed to help answer the three research questions driving the study. The interview questions were developed from the core characteristics of EFD within the study's conceptual framework, and I crafted them to provide the necessary data to answer the research questions. I phrased the questions with the intent to not lead the answers in a specific direction (Patton, 2002).

## **Focus Group Interviews**

The second method of data collection was a focus group interview. While singular perspectives from one on one interviews may allow teachers to speak freely without hesitation, focus group interactions may capture group or other perspectives precipitated by the dialogue and discussion among teachers (Creswell, 2012). Secondly, interviewing a group of teachers could provide data relevant to the local site. In the local setting, teachers in every grade level work under the structure of a team approach. Therefore, the interview questions seeking perceptions and experiences of teachers of students with EFD should include collective issues facing teachers who are required to work together. Participants for the focus group were chosen from among the selected study participants.

A focus group interview is a form of qualitative research data collection that provides a forum for selected participants to dialogue about a specific topic, idea or concept in a controlled setting (Kitzinger, 1995). The selected participants were encouraged to engage in a discussion with one another by sharing information and commenting on the responses of other participants. In the focus group setting, I guided the discussion for the participants to interact with one another by sharing experiences, asking questions, and commenting on each other's points of view and opinions (Morgan, 1997). Smithson (2000) emphasized that the participants' responses to the questions are as important as the interactions that occur among the participants; new ideas and creative solutions often result from the engagement of participants.

The individuals invited to participate in this structured focus group interview were selected from the original 12 participants. According to Krueger and Casey (2001), the focus group needs to be large enough to have an interactive discussion, but it should not be so large that some of the participants are left out of the discussion. For this reason, I emailed an invitation to all participants detailing the time, location and purpose of the focus group, and I invited the first six volunteers to consent, to join the focus group.

I secured a lockable conference room in the local elementary school to conduct the focus group. The participants were asked to refrain from referring to others by name that during this session; instead, the participants were assigned a place card with a number that was used to identify them. These numbers were different from the pseudonyms I assigned the participants to report data; these numbers were only for identification purposes in an interview that was tape recorded. The numbers were displayed on place cards to assist the participants in remembering all participants' assigned numbers. The focus group began with introductions, clarifications of the purpose of this study, and references to the consent letter received by each participant prior to the date of the group meeting. The focus group protocol and questions were specified in the focus group interview (Appendix C).

Verd and Andreu (2011), in discussing focus group protocol, suggested that there are three phases in conducting a focus group: (a) Phase 1 – Before the Focus Group; (b) Phase 2 – Conducting the Focus Group, and (c) Phase 3 – Interpreting and

Reporting the Results. I will use Verd and Andreu (2011) protocol to conduct this focus group. Before the focus group, I identified the participants, generated the interview questions (Appendix B), wrote a script to be used, and selected the location. On the day of the focus group, I brought all the materials needed for the conference room location and set up the room. I introduced myself to the participants, reviewed the protocols, and I conducted the focus group discussion. As the researcher, I addressed Verd and Andreu (2011) third protocol, by summarizing my meeting notes, transcribing the tape recording, and analyzing the data collected. The focus group questions were designed to elicit responses that would reveal the experiences and perceptions of local elementary teachers about students with EFD, about teaching strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students. The questions were aligned with the research questions and designed to inform the research problem.

### **Data Sources and Tracking**

Data collection tracking was done in several ways. Merriam (2009) suggested an organized format for field notes for ease of use, highly descriptive details, and reflective commentary for later analysis. In other words, field notes could be used to capture empirical aspects of an interview that cannot be depicted in recordings alone (Bogdan & Biklen, 2007). The field notes were comprised of observations and reflections that could help deepen understanding of the written transcripts but reviewed in a timely manner so that a researcher, I was not disconnected from the setting and participants (Bogdan &

Biklen, 2007). Another form of data collection included audio recordings. Audio recordings aided the accuracy of transcribing responses. Although transcribing can be a lengthy process for both individual interviews and the focus group interview, it can help to reduce bias with recall and accuracy (Bogdan & Biklen, 2007).

In the role of qualitative researcher, interviewer and facilitator meant that I needed to reflect upon personal biases that could have influenced my interpretations (Creswell & Creswell, 2017). Keeping a reflective journal of personal feelings toward participant responses helped reduce potential bias from pre-established relationships with colleagues. Pre-existing relationships can affect the translation of participants' perspectives and must be considered (Lodico et al., 2010). A journal of my own responses to the interview questions helped address personal feelings and objectivity as a researcher. The journal was a means for evaluating differences that affected how findings are perceived. Looking at my own position on questions, also known as the practice of *reflexivity* (Merriam, 2009), was used to increase a study's internal validity or credibility.

### **Researcher Role**

I am a South Carolina certified teacher with 20 years of experience, and I am nationally board certified in education. I have worked in South Carolina my entire career and worked for 14 years in the local school district, in Grades 3, 4 and 5. I am a 4<sup>th</sup>-grade teacher and have no position of authority over my colleagues or any staff at the local school site where I work. As part of a 4<sup>th</sup>-grade team, I plan and instruct with



six other teachers and contribute to weekly PLC meetings. In the study I acted as both one on one interviewer and as a facilitator in the focus group interview. Checks for bias must be ongoing in a qualitative study, rather than at the end (Lodico et al., 2010). For a measure of dependability, or tracking my data collection and analysis process, I kept a personal reflective journal to provide continued awareness of potential bias toward participant responses (Merriam, 2009).

### **Ethical Protection of Participants**

Ethical considerations included maintaining confidentiality and providing transparency of the study's purpose to participants. After I received IRB (#01-28-19-0494199) approval, I obtained approvals from the school district and the principal at the local site. Once the agreements were signed and returned via email, I proceeded to contact teachers at the local site with a letter of invitation and informed consent. In the invitation and informed consent, participants were given full disclosure of the study's purpose and procedures, including sample questions from the interview protocol. Participants' were informed that their names and the location would not be shared to maintain confidentiality, and all collected data would be used for the purpose stated and would not be shared outside of the research study. To keep data secure, names were coded, and my data were password protected. Data will continue to be stored off-site in a secure location. Data will be kept for a period of at least five years, as required by Walden University.

## Data Analysis

### Data Analysis and Coding

Data analysis is defined as a “subjective interpretation of the content of text data through the systematic process of coding and identifying themes and patterns” (p. 1278) (Hsieh & Shannon, 2005). The purpose of the inductive process is to find if themes emerge from the data, and thus interpretations are supported (Zhang & Wildemuth, 2016). To begin coding and analysis, I organized, explored, and interpreted data from which meaning emerged (Creswell, 2012). For the process of analysis and coding, I followed Yin’s (2015) five-phased cycle for qualitative analysis using the analytic technique called *pattern matching*.

- I first organized my notes and transcribed the audio recordings from the one on one interviews and the focus group interview. I securely saved the transcriptions on my computer as a password protected file. The first step in the analysis, according to Yin, is a compiling phase where a database or the safe storage of data are created. I created a consistent format to view files by separating each interview and the focus group into their own files.
- Disassembling data is the second phase. In this phase, I used the three research questions as a guide to categorizing the data by looking for new and emerging themes or reoccurring themes to group data into three categories. Since the interview questions were divided into sections by the research questions, I highlighted important quotations and color code terms that were

repetitive in each section. Lodico et al. (2010) suggested starting with 30-40 codes or ideas and then reexamining codes to group terms and ideas that are alike but may have been phrased differently by participants in the interviews. Comparing similar terms in each interview file helped with regrouping ideas. My goal in the disassembling phase was to reduce the Level 1 codes into 15-20 Level 2, or category codes (Yin, 2015).

- The reassembling phase was the third step that included first looking back and then forward, searching for patterns or a schematic design. Yin (2015) called this pattern matching or comparing files and determining what can be combined into abstract concepts. Using the Level 1 and Level 2 code lists can be a means to identify broader concepts too and may lead to a more complex understanding of the data (Yin, 2015). Lastly, the common themes or subthemes were narrowed to between five and seven major ideas to form a detailed narrative of the findings to report (Creswell, 2012).
- The interpreting data phase involved rereading the data that supported my thematic evidence. Some themes may be big and some narrow according to Yin (2015). I created an array or matrix now to help track the process of coding and developing themes from which I devised the summary. According to Zhang and Wildemuth (2016), the purpose of a case study is to explore a singular entity using multiple perspectives that yield thick descriptions.

- In the concluding phase, I produced a narrative of findings that acknowledge personal values and influences that underlie the coding process, and supportive evidence using thick description (Lodico et al., 2010).  
Additionally, I identified several themes from the data and recommendations for future research (Yin, 2015).

In the post-analysis period, I reevaluated the data to further validate findings. To ensure the quality of research and the strength of findings, Patton (2002) suggested reviewing the data to rule out additional themes or rival explanations. Yin (2015) also concurred that the researcher should seek an absence of plausible rival explanations to strengthen the findings. To avoid a challenge of my findings, or a discrepant case I demonstrated how my findings compared to the influences of the literature and the real-world environment in which I studied (Zhang & Wildemuth, 2016).

### **Evidence of Quality**

According to Kaplan and Maxwell (2005), in qualitative studies measuring validity is a “goal rather than a product” (p.105). To ensure quality and strengthen the outcomes reported, I conducted measures of quality. I sought to validate data for trustworthiness, or that the research was conducted with rigor and followed the case study design protocol (Merriam, 2009). Patton (1999) recommended three ways to check data credibility or quality; (a) rigorous techniques for validity, reliability and triangulation, (b) the researcher’s experience, and (c) the appreciation of the qualitative approach. My first test of quality was triangulation, whereby I compared evidence from

multiple sources to substantiate themes (Creswell & Creswell, 2017). Miles and Huberman (1994) suggested using triangulation to confirm my understandings and authenticating data from multiple sources to strengthen findings. To conduct triangulation, compared data from interviews, a focus group interview, and my personal reflection journal. I reviewed multiple sources of data to validate findings (Merriam, 2009). Secondly, I used member checking to garner participants' feedback to corroborate the researcher's potential findings. Member checking helped with the accurate interpretation of data, thus increasing the likelihood of internal validity and credibility (Merriam, 2009). To conduct member checks, potential participants were asked to review the findings taken from interviews with them and discuss if they are realistic or accurate. The third measure of quality I used was directly related to my role as researcher, interviewer, and facilitator. In my role, I will be making interpretations of participant data which means the data are subject to bias, as with other data collection instrument (Patton, 1999). Thus, quality checks for bias must be ongoing in a qualitative study, rather than at the end (Lodico et al., 2010). For a measure of dependability, or tracking my data collection and analysis process, I kept a personal reflective journal to provide continued awareness of potential bias toward participant responses (Merriam, 2009).

One final method of validation for the study involved keeping highly descriptive notes which helped increase the likelihood of internal consistency. In all, several methods were used to establish the trustworthiness of the findings. Flyvbjerg (2006)

cautioned that case study research presents the biggest risk for bias, and researchers should understand the reality being studied. In the study, I have the professional knowledge of the topic, which means it was important for me to remain neutral and adhere to a carefully constructed interview protocol (Taylor et al., 2015). By exploring and interpreting the data in different ways, I enhanced the trustworthiness of the findings using various approaches (Merriam, 2009). I also clarified my biases by describing how my background as an elementary teacher shaped the analysis of the data. Finally, I shared the research results in a 1-2-page summary with the participants, principal, and the members of the district administration.

### **Discrepant Cases**

In qualitative research, discrepant cases may emerge when data collected across several sources is contradictory or unexplainable when compared to the rest of the data (Creswell & Clark, 2017). In the process of triangulation, outlier data that cannot be attributed to the developing themes would be further analyzed for rigor. Morrow (2005) suggested that when the researcher is an “insider” (p.254) reflexivity is needed to avoid bias and to be able to defend findings. Rennie (2004) defined reflexivity as awareness, or what Glaser and Strauss (1967) called the researcher’s implicit assumptions. Any assumptions by the researcher could mean a potential for bias is present and is a threat to credibility. As researcher, I practiced bracketing thoughts while notetaking or reflecting in a journal to avoid such bias (Morrow, 2005). Notetaking was also helpful

during the interview process, to maintain awareness of my own biases. After reviewing the category coding and themes, I did not find that any outlier data were collected.

### **Data Analysis Results**

Yin (2015) stated that data analysis should begin with compiling, organizing and storing data safely. I then listened to each of the 12 audio recordings and transcribed them into Microsoft Word documents. Each transcription was organized by the three research questions. The next step was to systematically read each transcript several times seeking iterative ideas and phrases that may form patterns in the data. The focus group which lasted 50 minutes provided ample and rich data. For the purpose of quality, I used three ways to increase the validity and reliability of my data. I used member checking to confirm the accuracy of my findings and for any feedback from participants regarding my translation of their perceptions and experiences. The second measure of quality was triangulation. Denzin (1970) stated that multiple sources or collection methods can be used to compare the collected data against one another as a measure of triangulation. Merriam and Greiner (2019) suggested that a breadth of sources should be used to confirm findings. For this, I searched all collected data including observation notes from one on one and focus group interviews, personal reflections, and transcripts for evidence to support my initial findings. Lastly, I made sure I had rich, descriptive notes for achieving transferability. Transferability, according to Merriam and Greiner (2019), is when the thick descriptions not only resonate to readers but can be conceptualized and compared to another setting.

## **Coding Process**

According to Yin (2015), data analysis begins with the organization, transcription and safe storage of data. To do this, I assigned pseudonyms to each participant and stored the encrypted data off site. Next, Yin's (2015) phase two, or disassembling phase, was where data was sorted in an organized way so that coding could begin. Interview responses, notes, and personal reflections were organized by my three-research question initially. I printed the transcribed interviews, so I could manually highlight, make notes in the margins, and begin Level 1 coding. Level 1 coding according to Yin (2015), is the initial process of systematically reading and noting repetitive terms in each transcript. Next, I reviewed these notes and terms and created broader categories of data, or Level 2 coding. Then, I reassembled the data by rereading interviews and color-coding ideas that were connected in the transcripts. I listened to audio recordings again and reread bracketed notes in my reflection journal. Using all notes, interview transcripts, and focus group transcripts, I identified similarities and made comparisons between the sources of data.

Although I had anticipated organizing my data by the research questions, I found that the patterns were not attributed specifically to each research questions. Rather, the data analysis produced overarching themes throughout the transcripts and notes. Therefore, to present my data I used three categories rather than three research questions. The three categories of ideas helped to determine the three corresponding themes.



### **Research Accuracy and Credibility**

According to Hayashi, Abib and Hoppen (2019) qualitative researchers must take measures of rigor while being mindful of their own subjective views. As both researcher and an instrument of data collection, I conducted measures of quality that strengthen the outcomes of my study and show an in-depth understanding of the phenomena studied. Therefore, three measures of quality were used in this study.

According to Gibbs (2018) qualitative researchers are tasked with substantiating data that are subjective. There must be measure of accuracy for the data to increase validity. To validate the authenticity of the transcriptions' initial findings, I engaged in member checking. After writing up my findings I shared these interpretations of the data with participants. I asked participants for feedback on my interpretations of the data to ensure the credibility of my findings.

A second measure of quality used was triangulation. Patton (1999) described this method to pool and cross check data sources for consistency. As a researcher and an instrument of data collection, I used one of Denzin's (1970) means of triangulation whereby the researcher cross references several sources of data collected to compare findings. My sources included personal bracketed notes, interview and focus group transcripts, and my interpretation of findings. Triangulation is valuable in helping achieve confirmability. Lincoln and Guba (1990) defined confirmability as neutrality, or that the data is representative of the participants' actual experiences and perceptions, and not the researchers' perceptions.

Lastly, I collected rich, thick descriptive data to aid transferability, or the likelihood that my data could apply to another setting. Eisner (1997) said transferability can help teach the reader about real life situations. For transferability measures to be effective, Lincoln and Guba (1990) believe the researcher must prove their findings through a wealth of data so it can be applied somewhere else. To have a wealth of data I sought both quantity and quality. Gasson (2004) referred to saturation, or the point of diminishing returns, as having enough supportive data for transferability. According to Saunders et al. (2018), the researcher determines saturation when it is unnecessary to continue collecting evidence of the phenomena studied, or where my data became iterative.

### **Discrepant Cases**

Discrepant case analysis is the process of reviewing data for any cases that may disprove your initial findings (Merriam & Grenier, 2019). A search for outlier data may present anomalies that need further investigation by the researcher. After combing all sources for discrepancies, I did not find any unusual or unrelated ideas in the data. In other words, the data collected appeared consistent with the emerging patterns and themes.

### **Findings**

The problem that prompted this study was that kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). Local elementary

teachers had trouble managing the off-task behaviors of students with EFD because the interventions they used were not working. During one on one interviews and the focus group interview, participants shared their perceptions and experiences of teaching students with EFD. Data collection was focused on instructional and behavioral interventions used in the classroom and recommendations for professional development to improve academic outcomes for students with EFD. The analysis of data showed that teachers employed a variety of instructional strategies to engage students with EFDs but recognized the importance of increasing differentiated learning strategies. Participants believed that increasing awareness of students' individual needs and learning styles were key to increasing student participation and to focusing on instructional content. To help with content retention and work completion, teachers pulled EFD students for small group or one on one instruction. To check for understanding of content with EFD students, teachers asked students to repeat the discussion material; some teachers asked students to read the directions aloud for lesson activities. Lastly, participants found that incorporating the use of technology into lessons increased EFD students' motivation to learn and their attention to instruction.

Secondly, participants shared behavioral approaches to teaching students with EFDs. Although participants applied various behavior management approaches, they struggled with the loss of instructional time due to behavioral interruptions. Participants believed that behavioral approaches required flexibility from the teacher, especially with seating and space for students. Participants recognized that traditional classroom

environments may be too rigid for EFD students due to their fidgeting and wiggling movements. Participants observed that students needed accommodations to focus such as flexible seats, proximity to teachers, and space to move, or distance from others. Participants believed that they could motivate students to behave if they developed a personal relationship with them. Participants noted that students who display EFD behaviors in the classroom negatively affect other students. EFD students who need constant redirection to focus take teachers' attention away from instruction and from other class members. Positive reinforcement is one way that participants stated they help students improve behavior without embarrassing them. Participants found that regular and consistent consequences were a good way to proactively stop behaviors, while parent contact was not always effective.

Finally, participants identified a professional need for instructional approaches to create a productive learning environment for EFD students and to develop shared expectations with parents. Participants expressed a need for instructional practices to increase active learning and to motivate students to complete work. All participants recognized that professional training or guidance is needed to deal with ongoing behavioral issues in the classroom. Specifically, participants acknowledged that consistent expectations for behavior at home and at school were inherent to changing behaviors. When expectations were consistent, participants saw that behavior improved. A problem for participants was that the expectations between home and school were not always aligned. Therefore, EFD behaviors requiring consequences for not meeting

expectations at school may not be enforced at home. In such cases where expectations between home and school differed, the consequences given at school did not reduce or eliminate behaviors. Moreover, participants conveyed that they lacked confidence in their ability to communicate with parents about supporting classroom expectations for behavior. A common frustration among all participants was the time spent away from the rest of the class while managing ongoing EFD behaviors in the classroom. In addition, the time that participants spent dealing with EFD behaviors during class slowed the pace of instruction and reduced class productivity. The ubiquitous belief of teachers was that their efforts to manage EFD behaviors was exhausting because their management of the classroom environment was not helping to improve EFD behaviors issues.

The collection and analysis of data was focused on the three guiding research questions. The three research questions served to organize the data which consisted of one on one interviews, a focus group interview, notes, and personal reflections. Three research questions informed the data collection, the data analysis, and the findings of this study. My analysis helped me to identify the themes within the data. The following themes were pinpointed from the data: a) Teachers employ a variety of instructional strategies to engage students with EFDs, but they recognize the importance of increasing differentiated learning strategies; b) Although teachers applied various behavior management approaches, they struggle with the loss of instructional time due to behavioral interruptions and; c) Teachers expressed a professional need for

instructional approaches to create a productive learning environment for EFD students and to develop shared expectations with parents.

The problem that prompted this study was that kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). In the following section, I explain how I developed the three themes of this study. The themes explain the experiences and perceptions of teachers at the local site about the local problem. Interview and focus group data, as well as personal notes will be used to support the findings and the development of three categories that informed the creation of my themes. To support the analysis, I shared participants' responses. Study participants were assigned a number for the purpose of identification to maintain confidentiality. In this qualitative study, I investigated the experiences and perceptions of local elementary teachers about teaching students with EFD, about instructional strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students. To analyze the collected data, I appraised all sources including one on one interviews (Appendix B), a focus group interview (Appendix C), notes, and personal reflections. After considering data from all sources, I determined categories of data from which three themes emerged (see Table 1).

Table 1

*Teachers' Perceptions About Teaching Students with Executive Function Deficits*

Research questions	Categories of data	Themes
RQ1. What are the experiences and perceptions of teachers about teaching students with executive function deficiencies?	<p><i>Instructional approaches to teaching students with EFDs</i></p> <ul style="list-style-type: none"> <li>• Differentiated instruction/learning styles</li> <li>• Small group instruction to meet learning goals and task completion</li> <li>• Building autonomy</li> <li>• Repetition during lesson</li> <li>• Electronic devices increase active engagement and work production</li> </ul> <p><i>Behavioral approaches to teaching students with EFDs</i></p> <ul style="list-style-type: none"> <li>• Flexible seating</li> <li>• Building a relationship/positive reinforcement</li> <li>• Modeling self-regulation</li> <li>• Consequences</li> <li>• Parent contact</li> </ul> <p><i>Professional needs</i></p> <ul style="list-style-type: none"> <li>• Instructional</li> <li>• Active learning environment to keep students on task</li> <li>• Routines that promote a focus on learning</li> <li>• Behavioral</li> <li>• Consistent expectations at home and school</li> <li>• Strategies that reduce EFD behavior issues are lacking.</li> <li>• Managing behaviors affected the pace of instruction and work production.</li> </ul>	<p>Teachers employ a variety of strategies to engage students with EFDs, but they recognize the importance of increasing differentiated learning strategies.</p> <p>Although teachers apply various behavior management approaches, they struggle with the loss of instructional time due to behavioral interruptions</p> <p>Teachers need to learn instructional approaches for EFD students and to develop shared expectations with parents</p>
RQ2. What are the experiences and perceptions of elementary teachers regarding instructional strategies used to help focus students with executive function deficiencies?		
RQ3. What are the perceptions of teachers about professional development opportunities that could enhance their instructional delivery to support the core EFD characteristics of students with executive function deficiencies?		

### **Theme 1: Teachers Employ a Variety of Instructional Strategies but Recognize the Importance of Increasing Differentiated Learning Strategies**

The first theme was developed from the category of instructional approaches to teaching students with EFD. The category was informed from data showing a pattern of strategies used by the participants for instructing EFD students. The strategies for instruction included participants using knowledge of differentiated learning styles, using small group or one on one instruction, creating autonomy, and incorporating technology into lesson activities. Although teachers identified various approaches to teaching students with EFDs, they believed they could benefit from adding differentiated strategies that work best for EFD students. Tomlinson (2000) defined differentiation as a philosophy for the classroom environment. While differentiation is already considered a best practice, it was believed to be a significant strategy to help EFD students improve attention to task and retention of content that impede their learning.

**Teachers used differentiated instruction or knowledge of student learning styles.** Participants thought that being aware of students' learning styles and preferences are beneficial to student learning. Common teacher perceptions for using instructional strategies for EFD students were missing lessons, not completing assignments, and losing focus during lessons. Participants believed that EFD students struggled to complete work on their own, due to an inability to follow lesson instructions. In their experiences, participants found that the quality and completion of work was only improved by adding instructional accommodations. Participants' experiences resulted in



the implementation of various strategies to improve instruction for EFD students. The strategies that most helped participants improve instruction were determined to be small groups, one on one conferencing, and assigning a peer buddy to an EFD student. I asked the following prompt to Participant 4, “You have taught many years, do you teach differently now?” Participant 4 explained how the number of students with focus issues has increased each year. Instead of expecting the EFD students to conform, many participants believed in accepting EFD behaviors in order to move forward and make changes. Several participants mentioned how they evolved as teachers to understand the EFD behaviors and try to determine best practices to meet the needs of EFD students. Participant 3 raised a concern about how the large number of students with EFD has affected instruction, “I see that I am losing classroom time meant for teaching lessons, and I am behind in my units of study for each subject.” Participant 5 offered that one promising solution for keeping EFD students focused was to have instructional choices when possible. Offering differentiated choices within a lesson was determined to be a motivator for EFD students whom participants thought thrived on interest driven instruction, “EFD students want to listen to task instructions because they are excited to begin.” A few participants mentioned that when they differentiate activities for a lesson, they can observe the preferred learning styles of their EFD students based on the choices they made for activities. The goal of differentiating tasks for a lesson is to identify the preferred learning style that could reduce off task behaviors while increasing the students’ motivation to learn.

**Participants provided differentiated instruction for EFD students.** Many of the participants said they did differentiate for learning styles. When asked about atypical methods used, four participants were confused by the meaning of ‘atypical’ when used to reference EFD students. The assumption of participants was that differentiation is needed for EFD students and is not atypical. Therefore, participants were unable to convey the extent to which they differentiated for EFD students. This led me to prompt the participants, “Do you change your instructional approach for your EFD students?” The responses varied. Participant 6 said, “I never thought of it that way. I try to meet the needs of my EFD students. The approaches are atypical when compared to other students, but I never thought of it that way”, and Participant 11 agreed that they do not expect other students to need accommodations typically associated with a 504 plan or IEP. Additionally, Participant 1 believed that without the accommodations, EFD students would be at a disadvantage and work would not be completed. Participant 3 realized that the accommodations made for five students in the class are not required by an IEP or 504; however, it takes many extra hours of planning to prepare lesson materials, so these five EFD students are on an equal plane with the rest of the class. “I do a lot of cutting ahead of time, I adjust the length of the assignment, and I put together materials in advance.” While Participant 3 believed the accommodations were needed, I inferred from these actions that the expectations for EFD students were less than other students in the same class.

**Participants believed that instructional strategies for EFD students should account for differentiation using learning styles.** Some participants believed they knew their students and what styles they preferred, while several others were unsure because differentiated instruction did not improve learning outcomes. Participant 2 suggested that one way to improve instruction for EFD students is to conduct small group lessons. It was noted by some that tasks that require any kind of sentence writing make it particularly difficult for EFD students to keep their focus on the task. Participant 9 used one on one instruction for some tasks; however, one on one instruction pulls the teacher away from facilitating others. Participant 9 stated, “It does not seem fair to the class that my EFD students need one on one attention due to focus.” I inquired about this concern by asking, “Do you think you have the same expectations for your EFD students that you do for the rest of the class?” Participant 9 responded that it was not possible to equate the EFD students to the rest of the class because they have additional needs that necessitate the teacher’s attention. Two participants talked about proactively planning for EFD students by having accommodations ready before the lesson. Participants stated that direct whole class instruction is less frequently used because EFD students will often not retain the lesson information. Participants noted that poor test and quiz scores revealed gaps in class listening by their EFD students. Specific lesson instruction for EFD students is typically because both teacher and student are accountable for content. To avoid repeating instruction later and to accommodate for the limited attention of EFD students, many participants used small

group or one on one instruction. Participant 3 detailed some of the proactive plans for EFD students, “I plan 45 short lessons per week that target our standards in five different subject areas.” Participant 3 explained that the lesson planning was a challenge because of the 45 short lessons. There were at least five students who required modifications prior to teaching a lesson. “I have to anticipate how the student will handle the assignment.” A participant who teaches in a lower elementary grade said there are skills expected of students, such as using scissors that have not been acquired by EFD students.” I asked, “What types of things do you do?” Participant 3 explained skills that are expected at this grade level are not developed in EFD students. Participant 3 stated, “For example, I may need to cut things in advance to avoid problems with scissors. My EFD students do not always use the scissors properly as they can be impulsive and move around a lot.” Another consideration by participants regarding differentiating for EFD students was the amount of work given to them in a set period. Participant 1 explained how reducing the steps in advance for a project helps the EFD student focus on small manageable tasks. Participant 1 stated, “I have had success with decreasing the amount of writing required for a question. In addition, I will use lines to indicate where to write words to help the EFD student focus on the task.” A few participants mentioned using lines to set writing expectations. They found that drawing lines on a page serves as a visual signal for EFD students, so they know where to write and how much to write. When I asked Participant 2, “What accommodations do you make above

and beyond the expected?” Participant 2 responded with similar accommodations as identified by Participant 3,

Even when there are no 504 plans in place, I will pre-cut papers. I will mark with an arrow to indicate where my students need to look and read on a given page, and I will lessen the amount of questions per page on a test so my EFD students are not overwhelmed.

I asked Participant 7 about how differentiation is considered in planning, “What instructional strategies do you think are effective for EFD students?” Participant 7 explained how the strategy was determined by specific student needs, “It depends on their deficit or specific need. I like to give one step directions to EFD students, instead of the three steps I give to other students.” I then probed further to understand how this participant supported this strategy choice, “Why do you do this?” Participant 7 claimed that monitoring each step helped reduce the likelihood of redoing a whole assignment. Participant 7 did caution that it is a lot of work for the teacher to check each step, but it is worth it to invest time on the front end of the assignment to ensure it is done and done correctly. Participant 7 explained that the purpose was twofold, “By checking in for each step my EFD students are self-monitoring their work and if they rush and make errors they have to go back and redo which is an incentive to listen the first time they hear directions. Secondly, it keeps the EFD student from feeling overwhelmed all at once with several tasks where they want to quit.”

**Teachers used strategies to create autonomy and reduce time off task.**

Having a peer buddy was a popular strategy mentioned by 10 of the 12 participants.

Participants thought that a peer buddy was useful to both the teacher and EFD students.

A peer buddy could serve as a role model for how to listen and to be on task while a

peer buddy also provides EFD students with support when off task. Participants

believed that EFD students could be less distracting to the class if they were taught to

rely on their peer buddy when needed. If an EFD student became off task they could

talk or observe a peer buddy to get back on track without teacher intervention.

Participants found they could increase the time given to other students and the time

spent on instruction and learning if a peer buddy was used. Participants gave a variety

of reasons as to how the use of a peer buddy helped instruction. Participant 9 believed

that a peer buddy was a way to build autonomy in EFD students by lessening their

dependence on teachers. Participant 9 recommended selecting a mature student who

serves as a model for the EFD student, "A peer buddy can work if you get the right

person. The right person is someone who can handle the student quietly without being

overbearing." While a peer buddy was helpful in increasing teachers' instructional

time and reducing distractions, it was not viewed as a cure-all for developing autonomy

in EFD students. Participant 9 elaborated, "Students in upper elementary grade levels

have to take ownership of learning and be more independent. I have found that a peer

buddy can advance that goal." Participant 8 thought a peer buddy could be a tool that

teaches EFD students how to problem solve. Participant 8 explained, "I think a peer

buddy is one way for EFD students to build confidence in themselves and to find a solution to their off-task behavior.” Like Participant 9, Participant 10 viewed a peer buddy as more than just a coping mechanism for an EFD student. Participant 8 believed a peer buddy could decrease an EFD student’s dependence on the teacher, while reinforcing their accountability for their work. Participant 7 said, “A peer buddy gives the EFD student a coping mechanism for when they need help to get back to work.” To prevent EFD students from feeling lost Participant 1 liked how a peer buddy relieved the teacher of the task of redirecting EFD students. I asked, “How does assigning a peer buddy for your EFD students help you instructionally? Participant 1 said, “A peer buddy keeps my EFD students from disrupting a lesson unnecessarily. I do not have to stop to reiterate directions, thereby disrupting the flow of instruction.” Participant 11 considered the social-emotional help a peer buddy provides,

A peer buddy also can take away the fear of embarrassment when asking something the teacher already said. My EFD students are self-conscious. I believe they know they have missed something in instruction; making them intimidated to speak up in front of their peers.

While two of the 12 participants did not specifically mention a peer buddy, all participants identified student self-sufficiency regarding instruction as necessary in the classroom. Despite the need for it, participants noted the impediments to achieving autonomy. In the focus group, this was a charged topic, as all participants spoke at once to answer my prompt, “What do EFD students need instructionally to be successful?”

Participant 3 suggested that self-advocacy was integral when dealing with EFD, “I cannot manage for them, and parents should not. I teach them how to manage themselves because I know they need this skill to be successful adults.”

I asked the focus group, “Why are EFD students so dependent on teachers?” Participant 2 replied, “Parents take over when the child struggles. They do not recognize that it benefits the child to face problems and consequences. Teachers are tasked with providing firm expectations needed.” Participant 1 explained that maturity is a large part of the problem, “We basically build their confidence while teaching independence. EFD students are catered to at home. The result is that the teacher must work to fix that before instruction can take place effectively.” Participant 4 expanded the concept of how home impacts school by extending to the outside world in general. Participant 4 added,

Society has changed. I can see the number of EFD students is increasing. This means that more and more students struggle with autonomy and thinking on their own. It seems they wait for me to step in and assist, but I maintain my expectation that the EFD student can do what I ask.

This comment by Participant 1 was in reference to the belief that EFD students are capable, but they are not aware of what they can do because they have not been made to be responsible at home.

***To foster autonomy, teachers identified self-monitoring tactics they used.***

Participant 5 said, “I used a checklist, so I would not have to call the student’s name so



much. I thought it would make him responsible.” Participant 12 liked using a checklist for reducing their time spent on redirecting the EFD student, “I will go by and tap the desk as we are talking or as I am moving around the room. I asked a follow up prompt, “Why do you think checklists are good then?” Participant 5’s response emphasized a need for improving current strategies, “Sometimes the checklist works for a week, or maybe even a month. Then it does not. I need help with what this, so I asked other teachers what they do.” Participant 3 agreed, “I always go in other rooms to see what they do. I want the help. I need ideas for my classroom.”

**Small group or one-on-one instruction benefitted task completion and retaining content knowledge.** I asked each participant, “Do you make any atypical accommodations for EFD students?” Instructional accommodations provided by participants were not considered atypical, but more so a necessity for learning to take place. Participant 11 explained, “As I am speaking to you, I realize I do not have to do everything I do for my EFD students, but I do have to do more if I want them to accomplish the learning and the work.” Participant 8 said, “I need to pull small groups or else the work is not done, or they do not stay focused on the assignment.” Several participants mentioned making smaller goals and shorter tasks helped with monitoring an EFD students’ work completion. However, the downside was that it takes a lot of time for each student to wait and check in with the teacher after each goal. Participants noted that the time consumption of this process was an issue, but also determined it to be necessary. Participant 5 supported the need for smaller tasks, “The important thing

is to be consistent and have EFD students keep checking in, so they are accountable.” Participants justified the time spent on EFD students as way to avoid re-teaching, redoing, or repeating a lesson later when the task is not done on time or done incorrectly.

**Teachers determined another way to increase self-awareness in EFD students was to use repetition.** Repetition was a strategy that some participants use to help EFD students with accountability of directions or content. When asked, “What is one strategy you use to teach EFD students?” Participant 7 replied, “I use a method of having the students repeat back to me. When EFD students repeat they are more likely to proceed with a task in a timely manner because they processed what they need to do.” Participants posited that repetition encourages personal accountability which benefits both teacher and student. According to Participant 8, “I could tell by my student’s reaction if they were on task and if there were any gaps in knowledge.” Repetition is used by many participants was provide directions with visuals on a smartboard, auditory reminders using a microphone, and utilizing Google classroom to create assignments with the directions on the screen. Another means of repetition could be the use of a peer buddy. The peer buddy can be a visual or an auditory reminder. Participant 12 believed that repetition was about developing routines. “It takes time to establish a pattern for EFD students as to how the teacher communicates directions, but if you create a system of instructional delivery, it should stay consistent for the EFD students.” Participant 7 suggested that using repetition for content material aided the

EFD students in class, “My EFD students need content refreshers so we review before class and complete an exit ticket at the end of the class, so the day’s lesson concept is repeated for them.” There are several benefits to repetition. It can be a quick way to check in on students’ attention to task or directions. Secondly, asking an EFD student to recite back means you are encouraging them to initiate the task. Lastly when an EFD student is asked to repeat, they become accountable for what they have heard and what they say, and they are more likely to be accurate in following the task. If the teacher hears inaccuracies in the repetition, the EFD student has immediate feedback to correct the misunderstanding. If a student gets off track in their work, a peer buddy can keep EFD students accountable for directions. In all, repetition can be considered part of developing autonomy and routine in the classroom to help instructional practices of EFD students.

When asked, “What is the hardest part of teaching EFD students?” the response was overwhelmingly about the time spent away from instruction. Participant 5 said, “I just do not think it is fair to the others in class that do what they are supposed to do.” Another participant noted the stress of instructing EFD students was the added pressure on teachers for covering standards, “I still need them to get their work done, and I am responsible for content being taught.” Despite the teacher responsibilities, Participant 10 suggested, “I want the responsibility for learning to be more on the student and even the parent, because I cannot do it alone.”

In the focus group interview, I asked about the time EFD students take away from others. Participant 2 stated, “I see it with my group. Basically, where I am instructionally in January is where I am normally around October. I am so far behind.” I responded with a probe, “Why is that?” Participant 2 replied, “In August, the EFD students are behind others in terms of maturity. I first address appropriate social conventions and then work on how to think and answer questions.”

**Teachers identified technology as a motivating feature for engaging EFD students.** Participant 8 commented, “It is interesting that my students cannot sit still to get work done, but give them an iPad and they are zoned in.” Participant 11 said,

I use technology as part of lessons to keep my students engaged because they love it. But I have learned it provides motivation to finish written tasks hurriedly. Typically, they rush to get to computers, and I have them correct work over and over to get it right before they can get on a computer. They learn that if they do a better job the first time, they will have time with the computer.

I asked, “Why do EFD students rush while doing their work?” Participant 11 replied, “I have learned that it is not that they cannot do the work. They just do not want to concentrate for long, so they hurry. They have other preferences, so they hurry.” The computer can be a good reward for getting something done. Participant 3 discussed how is rare for any of the EFD students to listen for more than a minute without distraction. “If I do any hands-on activities with manipulatives or iPads, my EFD students are interested. They are so used to being stimulated by the audio and visual part of

electronic devices.” On the other hand, a behavioral management program called Class Dojo was used by two participants to motivate and reinforce on task behavior using technology. Class Dojo notifies parents of the students’ points each day and how each point given or deducted is linked to a specific behavior in the classroom. The visual on the smartboard indicates when a student gains or loses a point and why. Students watch the icons on the screen to see their progress. Participant 6 said, “The best part of this program is that my EFD students and their parents can see how often their behaviors interrupt instruction, and it serves as a reminder to EFD students to focus on work.”

In the focus group I asked, “What are the instructional needs of teachers of EFD students?” Participants agreed that patience is essential. Participant 2 emphasized the instructional need for patience, “Teaching any unit of study takes much longer because of classroom disruptions.” The participants discussed how the dates for each unit in the grade level’s long-range plans were being extended to accommodate delays in class time.

Another aspect of instruction that induces stress for participants was explained by Participant 1, “Standardized testing is limiting teacher freedom to explore and be creative with lessons which EFD students really enjoy.” Participant 1 explained that with less restrictions on time, teachers would have more time for inquiry-based lessons that are less structured and preferred by EFD students. All focus group participants agreed that standardized tests do not always reflect the ability of students with focus issues. Participant 5 said, “I watch some EFD students race through tests just to finish

and yet most of my EFD students read above level and should score well.” Participants agreed that lower scores were indicative of EFD students because they do not slow down to comprehend questions on assessments. Rather, EFD students make errors directly related to a lack of focus as opposed to errors from not knowing the content. Some students were said to make rash assumptions of test questions and respond too impulsively. Some students were said to ignore key words despite that teachers instruct students to underline key words in sentences. This can take months of reiterating an expectation. However, participants postulated that in order to help improve test scores, EFD students must learn to pace themselves on their own. Participant 2 said,

A challenge is getting my EFD students to stop and process the questions or look over work for skipped questions on their own. EFD students respond to teacher guidance in class and then score low on a test if they don't use slow down strategies.

**Participants shared several methods they use to check for understanding with EFD students such as repetition and small group instruction.** One on one conferencing was favored by many participants to go over missed test questions with EFD students, and to determine whether the cause of test errors is related to rushing or focus. Focus group Participant 5 said, “During one on one conferencing, I will ask my EFD students to verbally answer questions missed on a test. I will read the question aloud, and they can answer it correctly.” Participants believed that conferencing with EFD students promotes awareness that may resonate with them during tests. They

determined that EFD students may be motivated to improve their score and demonstrate the content knowledge they have by slowing down and looking for key words and missed problems before turning in a test. In grade level meetings, participants said they focused on their instructional practices by sharing student assessment results.

Participants commented that their grade level teachers observed similar common issues with their EFD students. EFD students were observed as rushing through tests, forgetting questions, and forgetting to put their names on papers although reminders are given. It was noted that several first-year teachers in the school needed help with student assessment results. The patterns of low scores could be attributed to EFD students and off task behavior during instruction, or even while taking a test. I asked about instructional advice for teachers of EFD students and Participant 2 explained, “A teacher must know an EFD students’ strengths and weaknesses by reviewing test results and going over missed problems with them one on one to see their thinking process.” Participants stressed that a test score was only one dimension of a student’s ability and cannot depict all a student knows. Factors such as speed and inattention to class or directions affect test scores. Participant 4 reiterated the point, “I would tell a first-year teacher to find out what EFD students are processing from class by checking in and analyzing test results to determine the cause of any errors.”

Focus group participants believed that teachers’ limited knowledge of instructional practices that work for EFD students was not the only barrier to reaching EFD students. I asked the focus group, “What needs to change in your opinion to better

serve these students?” Participant 1 explained that the current very structured school schedule is not working for the way things are today.” Participant 2 interjected, “I think an alternative, flexible environment is what they need.” I asked for clarification, “Do you mean EFD students need a different school environment or are you referring to the curriculum?” Participant 2 said, “Yes, I am referring to a both a different environment and different curriculum choices. EFD students would excel in an outdoor program having freedom to touch and move with impunity.” Participants agreed that in a traditional school setting EFD students were motivated the most by technology or science where they had freedom to inquire and manipulate objects. Participant 1 added, “I feel EFD students are set up for failure in an inflexible setting. At some point the schools will have to recognize what works for EFD students.”

Participant 2 summarized the groups’ discussion saying that traditional schools are underserving EFD students because the current environment is set up to be structured and unforgiving for certain behaviors. Moreover, they believed if schools differentiated instructionally for EFD students, off task behaviors may be replaced with motivation and active learning.

## **Theme 2: Teachers Struggle With the Loss of Instructional Time Resulting From Disruptive Behavior**

Participants discussed a variety of behavioral approaches to deal with the off task and the distracting behaviors of EFD students. Flexible seating arrangements or spaces were created by all teachers to accommodate body movements, prevent



distractions, or to keep proximity to teacher for guiding students' self-regulation progress. Teachers' knowledge of their students' needs improved by creating a more personal relationship. Additionally, developing a relationship led to improved student behavior and motivation to please. When behavior expectations were not met consequences were viewed as a proactive way to reinforce appropriate behavior. Positive reinforcement was a strategy where participants could reward, praise or model examples of positive behaviors in the classroom for EFD students instead of only reacting to negative behaviors. Lastly, all participants established that parental involvement should be encouraged for consistent behavior management for EFD students. Habitual classroom behavior issues can affect not only the EFD students, but the teacher and the class by disrupting and precluding the learning process (Wright, 2016).

**Teacher used a variety of flexible seating or spaces for EFD students.** I asked each participant, "How do you prevent disruptive behaviors?" All participants answered that they use seating as a strategy to avoid problematic behavior. Flexible seating varied by participant. Half of all participants' classrooms had special wobble seats, floor rocker seats, or tall stools or small cushion seats as alternative chairs. For the other six participants flexible seating meant that students could pick a spot or area of the classroom rather than just a chair to sit in. Participant 12 said, "I use flexible seating, and Participant 4 said, "I let them sit where they need to get their work done and away from others or distractions." Participant 3 talked about seating proximity, "I

will have some EFD students nearer to me while others work alone because their noises or movements bother others around them.” Participant 7 said, "I move EFD students close to me to check in. I can monitor work production and their self-regulation progress.” Other participants used seating as an incentive. Participant 2 found that allowing students to choose their seat reinforces that having self-control and sitting attentively will earn them the freedom of picking their own seating area or spot, “My EFD students maintain focus when they earn self-selected spots because they know it is up to them whether they stay or have to go back to their regular desk.”

Alternatively, some participants used seating to improve the distracting and off task body movements of some EFD students. Several participants offered EFD students a variety of seating options as motivation to keep their body under control and still enough to focus, Participant 9 liked a doughnut shaped wiggle seat for one specific student. The circular tube seat is air filled and sits on top of a regular seat to absorb wiggling movements without the whole chair leaning or moving and bothering the class. Participant 6 encouraged students to make good decisions by allowing them to choose the seat they prefer such as a floor rocker, stool or wiggle seat, “I remind my students to choose a chair they can handle so they know that it is a privilege and can be taken away if used incorrectly.”

Three participants described how they had specifically created spaces for their EFD students to recover and reflect when off task. Participant 11 thought that designated seating areas can be used as a consequence for off task behavior, “When my

EFD students are spinning on the floor, touching others and not looking at me I will separate those students for their own good and the good of the class.” Participant 3 explained that their room had an alternative seating area to prevent students from distracting the class, but the space was close enough to the class to be able to listen, “My EFD students know that moving away from others does not excuse them from participating and paying attention in class.” I asked about what the space looks like in the classroom and Participant 3 described how the circle area on the carpet was for group discussion time, but outside the circle are marked borders for EFD students who need to move away, “The borders of each outside space are marked with masking tape so the EFD student is visually aware of their assigned space.” Participant 3 believed seating away from others would be a solution for EFD students who started the school year unable to stay put during a discussion, “These students would get up and roll around as if I am not teaching a lesson and the boundary I marked on the carpet gave them a visual reminder.” Like Participant 3, Participant 2 teaches younger elementary students and found a visual-tactile method of seating worked as a reminder to students to stay seated during lessons,

I have these paper sashes that act as a seatbelt across the student’s lap. The weight and the sight of the paper sash remind my EFD students to stay focused in their seats.

**Teachers believe that developing close relationships with EFD students should be a priority.** Many participants believed that initiating a more personal

relationship with EFD students was paramount to reducing behavior problems. All participants agreed that building a relationship with EFD students helped motivate students to want to behave. Participant 4 said, “After a few one on one conferences with one student, his participation in class improved.” Participant 6 explained that one EFD student was negative and withdrawn in class,

My EFD student gets embarrassed and does not want attention. This led me to talk to him in private to figure out his interests. After I acknowledged interest things important to him, his overall mood and demeanor improved in class.

Participant 2 mentioned how EFD students’ interests play a role in planning lessons.

I plan my activities based on what I know EFD students like. Outside of class, our talks focus on who they are not behavior. Personal interactions made a difference in the effort they put forth in class.

Participant 2 then cited a specific case that was successful,

I have a student who bothers others or plays at her desk when there is a writing assignment. Since she loves horses, I used that topic to get her excited about writing. She was highly motivated to begin writing.

In this case, the student took her time and stayed on task as a result of the personal interaction. Participant 4 observed how EFD students prefer lessons with kinesthetic opportunities. “It is interesting to see how EFD students love science lessons.” I asked, “Why is that?” To which Participant 4 replied, “That is because it is hands on and less restrictive. Students can move around and play with tools and conduct experiments

without being still and listening.” Participant 4 then explained that observing EFD students during activities shows an inclination to certain activities. I inquired, “Do EFD students make a conscious choice to focus on an activity they will participate in depending on their interest in the subject?” Participant 4 explained that science lessons cater to an EFD student’s need to move and manipulate objects, “They do not have to keep sustained attention on the teacher or a written assignment which is difficult for them.”

In the focus group interview, teacher-student relationships were paramount to change. Participant 5 said, “Relationships can be life changing for an EFD student. When you develop a personal relationship, they are more apt to behave and please you.” That sentiment was echoed by another focus group participants. Participant 6 said, “I would even say that EFD students are more willing to take part in class if they know you care.”

**Teachers use positive reinforcement to encourage expected behaviors and to build confidence in students.** Participant 9 found that to encourage participation with EFD students, the teacher must take away the fear of humiliation that comes from being off task and called upon in class. Participant 9 stated,

A reward system is effective for establishing work routines. If they get started on morning work on their own without reminders, they can earn choices. They are rewarded for being responsible and independent.

I asked, “Why does this work?” Participant 9 replied, “I think it is teaching students to make the right choices.” Another participant used modeling to focus the expectations on positive behavior, instead of addressing the negative behavior. Participant 1 explained that modeling behavior is a non-threatening way to set expectations,

I like to stop and commend students for doing what I asked. I can see the students that are off task are hearing the positive feedback and want it too.

Another form of positive reinforcement is offering choice activities in class as a reward for being on task. Some participants thought offering choices modeled a real-world example of work and reward. Participant 3 found that, “My EFD students love to earn choices like dessert books, where students can pick non-academic book choices of high interest.” I inquired, “Why do you use this?” Participant 3 replied, “It does not work for all EFD students, but it sets the expectation at this young age that responsibility is rewarded in life. An incentive is better when earned in my opinion.”

When I asked about strategies that motivate EFD students toward good behavior, Participant 9 described how students love hearing their names called out for doing well,

As motivation I will give *shout outs* to motivate those doing their work. A *shout out* is a certificate that gives the student a privilege such as sitting wherever they want or a lunch buddy pass.

I asked, “Why do you do this?” Participant 9 explained negative reactive comments from the teacher do not focus on a solution nor set an expectation that could help guide the EFD student in a different direction:

When my EFD students are called out in class they get upset and focus even less. I want my role as teacher to be a positive connotation for my EFD students and not just be a disciplinarian.

**Redirecting was used as positive reinforcement strategy.** Some participants believed it improved student participation without shaming the student. Half of the participants discussed that redirection was preferable because shaming was not productive in affecting change in EFD behaviors. Coincidentally, these participants also believed that EFD students are not intentional in their behaviors and so belittling student behavior is not reasonable. Participant 9 said, “I think we have to reduce the social stigmas of being off task for these kids. I use it because it gently brings the student back to the conversation. I have one kid that I must do this all day long. I do not want students picking on him.” When I asked Participant 8 and Participant 11 about practices that benefit EFD students, they collectively agreed that a verbal method of redirecting does not have to be negative. Participant 11 said, “I do not call my EFD students out directly for answers when I know they are off task. Instead I offer them time to think it through.”

Similarly, Participant 8 would draw an EFD student into a discussion question to redirect their attention by encouraging participation. Participant 8 explained that while class participation is an expectation, it is not intended to embarrass an EFD student who is daydreaming,

I feel that my EFD students are not good at maintaining focus especially during class discussions. I give them extra time to think through because it sends the message that they are capable to meet my expectation to contribute.

Participant 8 stressed that capability was not the issue with EFD students, but a matter of redirecting their attention so they can make informed responses that reflect what they know. Participant 10 used redirecting and discussed the negative affect of continually calling out an EFD student for off task behavior,

I used to shame my students by speaking in front of the class. I realized that my frustration was apparent to the class and the EFD students. Meanwhile, nothing changed until I changed.

Participant 10 further summarized that redirecting meant ignoring minor behaviors and shifting a student's attention to relieve the frustration of both teacher and student. The consensus among participants was that the outcome of redirecting was increased attention to expectations, and improved attitude for teacher and student. Additionally, admonishing EFD students was viewed as focusing on the negative, whereas redirecting was solution oriented. Redirecting is a preferable strategy to use to remind students of the expectation to participate and be attentive. The rationale by participants for choosing to redirect rather than punish EFD students was the belief that EFD students did not act intentionally, rather they lacked self-control.

**As a preventative measure, teachers set consequences for undesirable behaviors.** All 12 participants mentioned using various types of consequences for off



task behaviors. Some of the consequences were done at school, and others were given at home. The checklist used to monitor behaviors might be signed by parents daily. The checklists were not always effective. Participant 3 lamented, "I send checklists home for my EFD students. I do not see change though. I still see the same behaviors every day." Participant 10 described another type of consequence, "I pull the EFD student away from the group. I will let that student know that they can rejoin the class when they feel ready to participate as I expect." I prompted Participant 10 to reflect on whether removing the student was an effective preventative measure, "Do you think EFD students can control their behavior? Does this strategy make the student stop and think?" Participant 10 replied, "They can control their behavior with practice. I am consistent with what I say will happen. Over time the expectation of having a consequence resonates with them."

Many participants said having EFD students walk laps at recess around the playground perimeter before being allowed to play was a motivation for good behavior. Participants using this strategy determined that playing at recess was highly motivating to EFD students. Participants noted that EFD students who walked laps exhibited impulsive behavior or poor choices. As a result, walking laps during their free time emphasized the importance of how good choices are rewarded and poor choices have a consequence. Participant 12 elaborated on how walking laps may help the EFD student think before acting because of the social stigma. "Students do not want to be seen walking laps at recess while their friends play in front of them." I asked, "Is it effective?" Participant 12 believed that walking laps is sometimes effective, "I see the students' faces and the

disappointment for not controlling their behavior before recess.” However, it was said by a few participants that the same EFD students walk laps regularly in that despite their personal disappointment they did not control themselves. Participant 7 used silent lunch as a time out for EFD students where they must sit quietly away from the class.

Participant 7 justified that silent lunch was to enforce that play or talk time is earned. The hope expressed by Participant 7 was that the time away would help the EFD student reflect and change the next time they off task during class. “I put them at a quiet table. They do not like missing their talk time at lunch. If they do not work at work time, then they need to lose some free time as a result.”

I followed with, “How do you know silent lunch is effective?” Participant 7 noted that the impact was observed in students’ facial expressions and body language while at silent lunch. I asked a few participants about whether there was measurable evidence of the effectiveness of silent lunch such as a reduction in the number of EFD students having a second instance of silent lunch. Participant 10 explained, “Silent lunch works in that the intent is to model repercussions for poor behavior choices. It may not always stop the impulsive or disruptive behaviors, but the consistent expectation provides the structure needed for the EFD student.

While all 12 participants described various consequences, they purported the hardest part was remaining consistent with expectations and consequences for EFD students. Participant 3 opined that steadfast fidelity to expectation for behavior was taxing for teachers:

If you are a student who behaves, you are no longer considered to be 'the norm'. As a grade level we are frustrated with the energy we expend tracking consequences to be sure we are consistent. The EFD students do not have 504 plans for behavior that would provide special accommodation for a medical or physical condition that puts the students at a disadvantage. Yet, we as teachers go above and beyond to accommodate.

Participant 1 concurred that dealing with EFD students can be mentally taxing on the teacher, "I am exhausted from working with students who need reminders and redirection to stay on task all day. Over time some behaviors improve, but it is a slow process without any predictable, consistent improvement."

**Parent contact was used to help encourage support for behavior expectations in the classroom.** Participant 3 was surprised by the lack of parent interest in her grade level behavior problems,

I send daily parent notes for EFD students, but there is a lack of accountability. These parents will respond when they feel their child is unhappy or treated unfairly, but not for behavior.

I asked in another interview, "Do you think parents are helpful with stopping behaviors?" Participant 11 said, "I tried with one student to have the parents responsible for consequences at home. It worked for a day or maybe a week. I do not think the student feared having consequences at home." Participant 9 said,

I hear excuses. Parents cater to their children's happiness rather than teacher problem solving. At school we try to change the EFD students by reversing the dependency. Class time is spent on going over expectations every week.

In the focus group I asked about parent involvement, "Is it a help or hindrance?" Participant 3 said, "I call them snowplow parents. They want to do everything for their kids and make it convenient. Discipline is not convenient for them." Participant 4 succinctly observed a major difference between home and school:

Unlike parents, teachers do not have the luxury of affording choices when it comes to content. Teachers are required to cover content and thus we cannot offer or waver from what must be accomplished at school. It starts at home when the child pushes the boundaries set by parents, and the parent gives in or does not enforce rules. The limitations to improving behavior are that we cannot control what happens when students go home.

### **Theme 3: Teachers Need to Learn Instructional Approaches for EFD Students and to Develop Shared Expectations With Parents**

The final theme encompasses two categories of professional needs expressed by teachers at the local site. Teachers expressed they wanted help with improving how they structure lessons to reduce incomplete classwork. Teacher also wanted knowledge of strategies that will benefit the class environment. While consequences were sometimes a motivator for EFD students, however teachers pointed to a lack of parental support of consequences as reason for inconsistent outcomes in behavior. Additionally, a lack of

training and education regarding EFD behavior management was concerning to teachers. Specifically, teachers were seeking help to reduce time spent on off task behaviors, and increase time spent on instruction. Participants 3, 4, 6 and 9 articulated their concerns regarding their lack of knowledge of best practices for EFD students and the desire for professional training could help identify the difference in EFD students and those students who truly have a disability. Participant 6 cited a lack of training in the pre-teacher program in college regarding student behaviors and especially the off-task behavior,

I am not trained for special needs, so it is difficult to tell in First grade whether it is maturity or something more.

When asked about preparation courses for pre-teachers in college Participant 6 recalled teacher preparation as focused on class structure and organization not behavior. A lack of training in best practices for EFD students led several participants to seek help from their peers as well as keep records as evidence of interventions used by the teacher. Participant 3 taught used daily documentation or anecdotal records to track what strategies were tried with EFD students. Both behavior progress and behavior setbacks were observed by the teacher to determine if any strategies were linked to a positive change in students' behavior, "I monitor changes and strategies and keep detailed records when students are below grade level expectations in any area." Participant 3 agreed there is a lack of knowledge of best practices for EFD students is among her Kindergarten grade level team,

We worry we will be held accountable for our EFD students' subpar performance. I am not qualified to diagnose or know the difference between learned behavior and disability. I seek help from special education teachers.

Participant 3 also elaborated on what makes EFD students so complex to understand, "It is curious that some students cannot sit still or focus. Yet the research says 15 minutes is a reasonable amount of time to sit and listen in Kindergarten."

Participant 3 and 6 wanted to be prepared with records that justify why they think EFD students they are underperforming to help the next year's teacher.

A study by Goldberg (2018) that found the EF cognitive domains measured in Kindergartners significantly increased or decreased after their Kindergarten year; this may explain why participants in Grades K-1 are justified in keeping records on performance. Participant 3 explained why a precautionary measure like keeping anecdotal records is needed for EFD students as they do not have a specific diagnosis to explain their off-task behavior, "I do not have any IEPs for or 504 plans for my current students which would necessitate the accommodations I have employed." I asked, "What is the hardest part of teaching EFD students?" Participant 3 explained that the hardest part was determining the difference between whether an EFD student can perform grade level skills but is lacking the self-control and discipline to execute skills, or in fact there is a disability present:

I do not know how to distinguish between what they can do and what they cannot do. There is no explanation or diagnoses that would help inform my management of them.

**Teachers believe they would benefit from learning active teaching strategies to maintain student focus.** Participants overall were frustrated by incomplete work, rushed worked, or missing work due to a students' lack of focus. Participant 10 stated,

I implemented yoga and mindful movement into the start of each class as a preventative solution to potential disruptions. I observed students come into class and immediately start wiggling but now I have fewer issues with EFD students and off task behaviors.

When asked, "Why did you choose this as an approach?" Participant 10 replied, "I had to find a solution that would address my EFD students' needs. What they needed was to get rid of excess energy." Utilizing games in the classroom was an active way to learn content that allowed EFD some freedom. When playing a learning game, participants observed that their EFD students were more active in the lesson. The less structured environment in the classroom when playing a game resonates with EFD students and their preferred learning style. Participant 1 elaborated, "My EFD students like to move and not feel confined to assignment where they know they will struggle to complete. A game can be an oral check for understanding too."

Another active learning strategy was utilizing movement. Participants discussed opportunities for movement during the daily routine. Participant 11 believed that

moving around during the day could recharge student focus: “I have students get up and move to different areas of the classroom. I have several areas in the room designated for daily routines.”

Participant 7 used movement breaks during lessons to allow for stretching and talking with friends for a couple of minutes. This mental break helped EFD students refocus their energy on a longer lesson. Participant 12 explained how students are taught how to relieve their tension with movement, even while sitting still, “I know my EFD students need a mental break, so I show them how to relax their fingers and pull their arms behind their back or over their head to release oxygen to their brains.”

Participant 12 believed that during testing especially, students need to release the stress of sitting still and prolonged concentration.

Participant 6 found that movement could relieve some wiggling and squirming common in EFD students, “I have floor rocker seats, and these chairs we actually term “wobble seats” that look like short stool and they can rock back and forth.” Participant 6 found that EFD students made better eye contact and had more involvement in the lesson when their body could move.

**Teachers believe that cooperative work between home and school motivates improvement in student behavior.** Participant 4 observed one EFD student lacked any motivation to learn or do assigned work unless it was something of interest to him. However, not all participants found it effective in the long term. All participants expressed frustration with behaviors. I asked, “What is the hardest part of teaching



students with EFD?” Participant 3 said, “I just do not feel like the consequences I use actually change things. It is so frustrating. I am so focused on certain kids that I feel like I am ignoring others because they behave.”

Several participants struggled with whether behavior was voluntary or not. I asked Participant 11, “If the student focuses on what he likes, does this mean learning is a choice he is making?” Participant 11 appeared confused by this suggestion and was speechless for a minute. I prompted Participant 11 to answer by restating my question, “Is paying attention to their work a choice they are making?” Participant 11 replied tentatively, “I do not know. He seems to hurry and finish, so he can do other things he enjoys like read a book. He also prefers to fidget or play with erasers in his desk rather than look at me during instruction.” After hearing how the teacher perceived the student’s behavior, I sought to understand how the teacher viewed the cause of this student’s behavior, “Is there a reason this student is choosing to be off task rather than listen to instruction?” Participant 11 looked defeated and did not answer the question directly, “I have trouble with that. He is not very likeable because he comes across as unhappy. I do not know how to reach him.” I then asked about parent involvement to understand what if any solutions had been attempted for the student’s behavior, “What do the parents say or do?” Participant 11 replied, “They seemed to want to help but told me they had no idea what to do. They were supposed to set up consequences that take place at home.” “I asked, “Do you think they did take place?” Participant 11 surmised, “I do not think so, and maybe that is why it did not work?” Participant 6 was asked

about a similar situation, “Why do you think the parents do not know what to do?”

Participant 6 replied,

I think my EFD students are not engaged in listening and talking for prolonged periods at home, so parents do not have the opportunity to see and deal with EFD behaviors.

All participants expressed that their behavior expectations were challenging for EFD students to follow. Participant 5 said that what teachers see as not acceptable is allowed at home, “This means every Monday I am reprogramming the child.” In the focus group discussion, Participant 2 discussed how parenting has evolved and the subsequent effect on the classroom. Participant 2 found parenting was once an authoritative role between adult and child whereas now it can be likened to that of a friendship between adult and child. The focus group discussed how modern parenting is devaluing a teacher’s role as disciplinarian and as an authority in the classroom. Participants attributed the lack of parity between home and school expectations was evidenced by the ongoing behavior struggles with EFD students. Participant 2 elaborated on the group’s consensus, “I just do not think parenting exists today. I was raised that the adult is always right, and my parents did not offer me the choice to behave.” The participants reasoned that acceptance of EFD students is so important because they are not to blame for what they have learned at home.

Other outcomes of the inconsistent expectations were part of learned helplessness by students. Participants in the focus group all agreed that asking a student

to think critically and respond is more complicated today. Participant 4 posited that EFD students do not come to school prepared to think and answer for themselves and when asked a question EFD students respond with either no eye contact, or they stare blankly with no response. Participant 3 pondered, “Are EFD students not accustomed to talking to their family at home? Is that why they do not understand social conventions like eye contact?” Much of the justification for the social disconnect with student and teacher was attributed to parental overprotection. Participant 6 noted that the problem is that the approach to parenting in the home is about making life convenient and easy for children which includes avoiding stressful decisions and conversations requiring extended thinking. This was evident to participants in that the growing number of EFD students in classes acted unfamiliar and impatient with dialogue, as well as unfamiliar with decision making and problem solving. The result of this kind of parenting may be that these students have not learned to solve problems through social interaction and thinking through.

This idea was furthered by Participant 2 who said, “I see my EFD students as having difficulty with decision making and problem solving.” All participants observed this problem in EFD students. Participants gathered that the problem was symptomatic of households where there was less interaction with children and a lot of technology allowed. Participant 1 surmised that home and school expectations differ in part due to children being on a device and less personal interaction in the home. EFD students require a lot of attention at school because they need practice interacting with people

and managing behaviors in addition to the academic part of school, “I can imagine it is easier for parents if a child is on a device.” Participant 1 countered that the absence of a device is when parenting occurs and in that time discipline, discussion and social etiquette are taught. Participant 2 shared a realization about EFD students’ trouble with critical thinking expectations at school. The conversational skills mentioned by Participant 1 showed a lack of critical thinking,

In effect parents are taking over the decision making out of convenience. There seems to be less time spent engaging these EFD students in prolonged conversations and sharing because they come to school unfamiliar with the social conventions of conversation.

The focus group discussion revealed a confluence of beliefs about expectations at home and school. I asked, “What about listening then? Many of you have said that following directions is a problem. Where is this learned? Are EFD students choosing whether to listen or not in class?” Participant 2 responded, “I can tell you that electronic devices are entertaining the parents and children. Listening is a learned skill. You have to practice.” I connected the ideas I heard and asked for clarification, “So it is not a coincidence that EFD students seem to struggle to listen or follow directions? You are saying that technology is to blame?” to home in on solutions I prompted the group to think: “What can teachers do about the increased use of technology in the home?” Participant 2 said, “I know we cannot change parents, but we at least we are aware of

the effect.” The feelings relayed in the focus group interview centered on how parents may be enabling behaviors that work against teachers’ expectations at school.

**Teachers believe they are lacking strategies to manage their EFD students’ behavior.** Many participants expressed that their behavior expectations were challenging for EFD students. Participant 5 said, I think what we see as not acceptable is allowed at home. This means every Monday I am reprogramming the child.” I asked Participant 1, “How do you motivate children who seem not to care? Participant 1 responded that frequently engaging him in conversation outside of class time is best because he is receptive to talking and that doing so may help him care more about his work. I mirrored the response back to participant 1 to elicit more thought about the effect of talking to the student and his motivation, “When you made an effort to know him on a personal level, he was receptive?” Participant 1 replied, “Yes, but not in class.” I followed with, “Are you saying he is unmotivated when it comes to doing his classwork but is okay with spending time talking about his own interests?” Participant 1 said,

He is a straight ‘A’ student. He completes the work easily, I differentiated by giving extra challenging assignments, but he was not interested in work that was not required.

Participant 1’s response indicated a misinterpretation of my question and may illustrate the gap in teacher knowledge of EFD and the variety of behaviors they present. Clearly Participant 1 interpreted the word *lazy* to be about the student’s grades, when the issue

was the student's effort and motivation. Participant 1 later stated that this student often wants to bargain with the teacher and viewed class expectation as fluid. Participant 1 surmised, "I think he runs his house." Participant 1 referred to the student's predilection for making decisions based on his likes by indicating that there is a disparity between home and school expectations.

Frustration was a common feeling when discussing consistency between home and school. Participant 9 explained,

My student had a checklist because the parents wanted daily feedback sent home. They said they did not know what else to do with him at home, but they never considered taking something away that he likes.

The participant then explained how the parents did not have a solution of their own at home and asked for advice. "The parents and I discussed using technology as a reward at home. It only worked a short time, and he would get angry and pound the desk when I would not give him checks on his list." I asked about this behavior as it seemed immature for the grade/age, "Why do you think he has these outbursts?" Participant 9 pondered then said,

I think his outburst shows the confusion he feels between school and home. An outburst at home might garner attention at home and the parents appease him out of frustration.

I followed that comment with a direct question to get a decisive answer on the behavior "Is he able to control his behavior or not?" Participant 9 hesitated and said uncertainly,

“I do not think he can help it” I countered, “But you said he did well for a while? What changed?” Participant 9 pondered, “Maybe he does not want to change? Maybe his parents gave him the technology anyway and so it did not matter to him.” The frustration the participant experienced was that although the parents tried to collaborate with the teacher, it did not appear they followed through at home after the first week of having a checklist. The participant thought the checklist was rendered ineffective when the home-school approach failed to be consistent.

Another form of behavior management found to be effective centered on routine in class environment. Participant 12 used a classroom economy to keep EFD students focused on a job they like and reinforce routine in the classroom. Students have jobs and can apply for what interests them. The daily responsibility keeps them busy when they are not working on a lesson. It is an outlet that they like to focus on because they choose their job. They get paid for it and docked pay when they forget their job. This is an incentive to stay focused on a job and avoid off task behaviors.

Participant 12 said that having class jobs was a good management tool for keeping EFD kids from getting out of the seats and getting distracted from work. “I have someone who is in charge of sharpening pencils. They distribute two at a time. My EFD kids will lose theirs, break them, rip off the erasers and play in their desks when I am teaching.” Participant 12 found that routines are a proactive way to keep EFD students organized with less distraction or movement during tasks.

Participant 4 found that managing distractions during class can difficult when the behaviors are not easily observed. I asked, “How would you describe your ability to “see” off task behaviors?” Participant 4 said,

I had an intern the last few months and I observed in the back of the room. My EFD students do not look up or pay attention. It was disconcerting to me to see the EFD students cutting erasers up, playing with string, a piece of a wrapper, or a pencil in their desks. The revelation to me was connecting these off-task behaviors to why these students are failing tests we prepared for during class time.

I asked, “What do you do now that you are aware that there is off task behavior you are not seeing as you teach?” Participant 5 answered that there is now evidence that explains why EFD students might do poorly on a test. Previously, Participant 5 had no explanation for the poor grades of EFD students and realized that when teaching the EFD students needed monitoring for attentiveness. Participant 5 figured that the EFD students did not prefer to sit and listen to talk and that realization led to some reflection on a solution. When asked about their ability to identify off task behaviors Participant 8 relayed an ambiguity about this ability, “I would say my ability is 50/50.” When probed as to what that meant Participant 8 explained that the challenge to identifying off task behaviors is knowing what is going on inside an EFD student’s mind. Several participants agreed that the hardest part of instructing EFD students is not knowing how much of the content a student is processing when off task and to what extent the student



is able to retain content if they have EFD such as ADD or ADHD. Overall participants found they lacked knowledge of EFD students' and struggled to distinguish the cause of students' performance gaps in content knowledge. Furthermore, participants weighed whether EFD students' performances were due to being off task or if in fact poor student performance was indicative of an actual learning disorder or attentional disorder. The implication was that teachers are not qualified or lack the knowledge to make such conclusions for EFD students but need information that may improve the instruction of EFD students.

**Teachers believed that managing EFD behaviors disrupted the pace of instruction and work production.** The best way to do this is have daily routines. A routine is something they can count on as consistent and becomes a coping mechanism for when EFD students are off task. This takes time and effort from the teacher.

Participant 8 gave an example of a typical ongoing issue with instruction,

The directions on a math test instructed student to write true or false as an answer. Two of my EFD students wrote yes or no in the blanks, and another used X's. I know that the X's were intended to mean the answer was true.

The problem was delineated as a real world life lesson for EFD students by Participant 8, "When these students have a job someday there might not be any tolerance from a boss when it comes to following directions or rules-it is right or wrong, yes or no, done or not done." Several participants were concerned about the future citing the difficulty

EFD students could face navigating higher education or a job without improving their attention to what needs to be done and when it needs to be done.

### **Discussion of Findings**

In this section I will discuss the study's data as it pertains to the three themes and to the literature: a) Teachers employ a variety of instructional strategies to engage students with EFDs, but they recognize the importance of increasing differentiated learning strategies; b) Although teachers applied various behavior management approaches, they struggle with the loss of instructional time due to behavioral interruptions and; c) Teachers expressed a professional need for instructional approaches to create a productive learning environment for EFD students and to develop shared expectations with parents.

#### **Theme 1**

Teachers employ a variety of instructional strategies to engage students with EFDs but recognize the importance of increasing differentiated learning strategies. The first theme explored a variety of instructional strategies commonly used when teaching EFD students. The varied strategies shared by participants were helpful in maintaining the instructional focus of EFD students and helpful in improving instruction for EFD students. However, participants had difficulty discerning what kind of differentiated instruction would best serve the varied issues of their EFD students. A study by Otero and Haut (2016) reflected participants' assertions that off-task behaviors of EFD students is associated with decreased academic performance and productivity.

Participants found that moving students away from distraction to smaller groups or allowing flexible seating helped EFD students with task completion and focus. Small group instruction is used by participants as an academic based accommodation to promote EFD student work completion and for accuracy in following directions to complete work correctly. A study examining seating proximity and focus to task showed marked improvement when students had preferred seating near the teacher (Blume et al., 2019). One on one or small group instruction helped diminish distractions in the classroom for EFD students by moving away from the class. Another study of elementary-aged ADHD students found that the environment must be structured and inclusive of their needs, organized, and arranged with an area for activities (Higgins, Sluder, Richards, & Buchanan, 2018).

**Participants found that moving EFD students away into small groups or by themselves, away from distractions and stimuli, helped prevent late, missed, or unfinished work and helped to maintain the continuity of instruction.** Participants defined task completion as any assignment containing skipped problems, unfinished answers, or a lack of care for directions resulting in a re-do of the assignment. Irwin, Kofler, and Groves (2019) surmised that EFD students struggle to maintain attention between tasks or during a task change because they lack cognitive flexibility or set shifting skills. EFD students have been identified in research as unorganized and inattentive thus prone to not completing tasks. Students with attention disorders often lose work, delay starting, fail to write down assignments and struggle to complete and

turn in work (Boyer, Geurts, Prins, & Van der Oord, 2015). Monitoring EFD students in small groups improved students' task completion and their overall focus.

**EFD students' preference for active learning strategies is signified by their increased motivation to spend time on active learning tasks.** Carroll (2018) defined *time on task* as students engaged in active learning and as a critical determinant of student achievement. Letwinsky (2017) found that students need learning modalities that appeal to their interests, such as devices with socializing and learning interaction to stay on task. (In the same way, active learning was delineated by participants to engage EFD students with tasks that allow students to move, interact on a device, or tangibly manipulate objects. A study by Howie, Schatz, and Pate (2015) supported that active learning is positively correlated with cognitive improvement and may help teachers better identify EFD students' cognitive strengths through improved attention to task. Cognitive improvements in EFD students were observed by participants when active learning included movement, technology and hands-on projects. Barkley (2018) posited that motivation and engagement are the byproduct of active learning strategies in the classroom. Active learning styles were incorporated into lessons with consideration to the EFD students' interests and have positive learning outcomes according to many participants. One participant suggested expanding active learning opportunities for EFD students through alternative schools with outdoor programs allowing for space and hands on projects. A yearlong study by Fägerstam and Grothérus (2018) explored how the intervention of outdoor learning improved students' attention to learning tasks but

cautioned that teachers must have good management in place in a less constraining environment such as the outdoors.

**EFD students showed motivation for staying on task and increased participation in class during lessons utilizing technology or electronic devices.**

Technology is viewed in research as the preferred method of instruction for students and thus a motivating means of engaging communication and collaboration with teachers and classmates (Letwinsky, 2017). A study of classrooms using instructional choices for EFD students illustrated the benefit of allowing students to learn in a preferred manner, such as with devices with outcomes of improved engagement and a reduction of negative behaviors (Lane et al., 2018). Participants observed that when gaming or interactive lessons on laptops and iPads are used in class EFD students are more likely to retain content. Using game-based technology for learning is considered a best practice for teaching critical thinking and problem solving; or two areas participants believe are weak in EFD students (Dellos, 2015). Participants noticed that EFD students played interactive learning games without being distracted. Kay and Lauricella (2018) found significant memory retention and performance gains from iPad use in mathematics in a study of Grades 4-6 students. Research finds that insufficient memory retention is symptomatic of students with EFDs such as ADHD and thus practices in improving memory can also improve academic outcomes (Chacko et al., 2018).

Technology can be utilized to encourage the social skills needed for collaborative instruction. Participants found EFD students to have difficulty interacting with peers while collaborating on instructional tasks is frequently used to broaden knowledge. Students with executive function deficits typically experience social difficulties, lack maturity relative to their age, and have few friends (Bunford, Evans, & Langberg, 2018). Employing technology for collaborate work can build positive social behaviors that EFD students may lack. Collaborative learning practices can be improved through the use technology in the classroom in addition to the sharing of problem solving and higher order thinking (Varier et al., 2017).

Technology can decrease the off-task behaviors of EFD students. Participants observed technology as the preferred learning instrument of EFD students. Research has also found that mind wandering, or off task behavior is significantly decreased when students engaged in what they perceive as motivating activities (Seli, Wammes, Risko, & Smilek, 2016). Class dojo and other visual behavior tracking applications motivated students to stay on task. Participants used behavior applications to track and reward behaviors as they can reduce the need for interventions (Corkum, Elik, Blotnicky-Gallant, McGonnell, & McGrath, 2019).

**Participants found EFD students to be more attentive when physically active before, during, and after instruction.** EFD students, especially with ADHD, have persistent energy and prefer to move around. Research of students with ADHD found significant benefits to cognition and behavior when periodic exercise was

incorporated into the school day (Ng, Ho, Chan, Yong, & Yeo, 2017). Bartholomew et al. (2018) examined the cognitive effect of movement breaks throughout the school day and found the focus of students with attentional disorders improved with short breaks before during or after instruction. The constructive effect of physical activity on cognition was also supported in a study of fourth and fifth grade students who improved specifically in the area of brain controlling executive functions (Howie et al., 2015). Goh, Fu, Brusseau, and Hannon (2018) observed that students in prolonged instruction were often off task and that short movement integration activities significantly decreased off-task behaviors.

**The benefit to instructional time was promising to participants when they fostered autonomy practices for EFD students.** The findings in research showed the benefits to autonomy are mutually exclusive. While students showed significant gains in learning, teachers also showed greater teaching efficacy when employing autonomy as an intervention in their classrooms (Reeve, Cheon, & Jang, 2019). Participants agreed that building autonomy in EFD students reduces the time they spend dealing with off task behaviors and maintains instructional continuity. Another perceived benefit was that EFD students exhibited confidence when they are responsible for their learning needs. Similarly, a study examining self-determination theory or students' fundamental need to experience autonomy, relatedness, and competence showed an increased motivation to learn in ADHD students when building these practices (Rogers & Tannock, 2018). Teaching self-regulatory skills reinforced problem solving,

independence, and allowed the teacher to attend to the class more. Otero and Haut (2016) investigated the intervention of self-regulation with EFD students and found EFD students who could monitor their own needs allowed teachers more time to focus on instruction. Participants believed that building self-regulatory skills took time because students had to gain experience in real classroom situations through trial and error. Paananen et al. (2019) identified EFD students who gained mastery of self-regulation skills through personalized experiences rather than vicarious experiences, were more likely to improve their self-regulation efficacy.

**Students and teachers benefitted when students utilized self-monitoring checklists tailored to their needs.** Bouchtein and Langberg (2018) stated that checklists for ADHD students are a way to track goal setting and progress. In this way, participants encouraged autonomy and self-regulation of off task behaviors that could disrupt teacher instruction. Checklists helped EFD students monitor off task behaviors that lead to incomplete or inaccurate work. Participants observed a connection between off task behavior and work completion, including accuracy. This effect method was explored in a study that monitored the weekly reading comprehension scores of students who tracked off task behaviors on a checklist (Keller, 2018). Keller (2018)'s study found the checklists not only reduced teaching prompting that interrupted instruction, but students' weekly comprehension scores increased as students' self-awareness increased (Keller, 2018). Dignath and Büttner (2018) recommended that teachers spend more time teaching self-regulated learning strategies to students for the benefits to



instruction, as well as get training in how to set up self-regulated learning environments as they promote better cognitive outcomes for students. Participants found students who feel empowered to control their behavior were motivated to learn. Self-monitoring skills are especially crucial for EF students as they lag their peers in recognizing proficiency and awareness of their own competency (Basile, Toplak, & Andrade, 2018).

Participants pointed out that EFD students who learned to check over their work and test answers with self-monitoring checklists had less errors than typical for that student.

**Memory retention and focus skills were reinforced by one-on-one conferences time with EFD students.** Research finds that issues with students' memory retention, and not hyperactivity, are significantly linked to teacher ratings of higher academic achievement (Simone, Marks, Bédard, & Halperin, 2018). Specifically, participants reinforce learned concepts through quick checks of progress to reduce the time spent reteaching concepts to EFD students. Participants find EFD students were motivated to participate in the one on one setting and more likely to retain concepts after this reinforcement time. Seli et al. (2016) found that when off task behaviors are decreased through motivating strategies, memory retention improves. One on one, participants had the full attention and focus of EFD students to review knowledge of content.

## **Theme 2**

Although teachers applied various behavior management approaches, they struggle with the loss of instructional time due to behavioral interruptions. The

approaches to reduce lost time were intended to encourage EFD students to stay on task and to reduce the effect of disruptive EFD behaviors. Participants found several strategies that positively affected EFD behavior such as creating personal relationships with students, flexible seating, positive reinforcement and parent supported consequences. Several of the strategies shared by participants for off task behavior were compared in a study by Gaastra, Groen, Tucha, & Tucha (2016) that revealed the most influential interventions for decreasing EFD behaviors were equally divided between consequence-based interventions and modeling self-regulation strategies. EFD students inherently struggle with the academic and behavioral demands in school and behavioral interventions are usually necessary to enhance social and academic progress (Pffifner & DuPaul, 2018). Further, to giving praise increased EFD students' intrinsic motivation to behave, while extrinsic rewards decreased motivation (Pffifner & DuPaul, 2018).

**Modeling self-regulation strategies created accountability on EFD students for behavior expectations.** One participant piloted a calming technique as an intervention to reduce EFD behavior affecting student learning. Ennis, Lane, and Oakes (2018) stated that self-regulation monitoring requires only a small effort by teachers and supports the instruction of EFD students by increasing active engagement. The yearlong intervention was to start each class with yoga or mindfulness practices. Sheinman, Hadar, Gafni, and Milman (2018) found that employing mindfulness into schools improves students' ability to deal with struggles with coping strategies. Prior to starting class, mindfulness helped students release energy in a positive way, so they

could better focus on class activities. Other research on mindfulness by Bartz (2017) concluded that teaching mindfulness techniques to improve self-regulation in upper elementary grades produced an increase in the use of self-regulation by students, and students indicated they wanted to continue using the techniques following the post assessment. Mindfulness, also known as awareness in the moment is increasingly popular as an intervention for behaviors associated with ADHD for their value in reducing characteristic inattentiveness through self-relaxation techniques (Mitchell, Bates, & Zylowska, 2018). Executive functioning and ADHD symptoms showed significant improvement in adolescents that practiced meditation, yoga or mindfulness skills and deemed a beneficial approach when used in schools (Mak, Whittingham, Cunnington, & Boyd, 2018).

**Flexible seats allowed students to move and focus.** The use of movement to improve student attention included flexible seating areas, or flexible that allowed them to swivel, bounce, and wiggle or were portable. EFD students' inclination to a bodily-kinesthetic learning style means they learn best with seating that allows for movement, and these seats yielded improved focus and behavior in EFD students (Sorrell, 2019). Another study mirrored similar and significant improvements to EFD students' sustained attention to task when they could move around during prolonged academic tasks (Kercood & Banda, 2012).

**Participants observed a reduction in off-task behavior after positive reinforcement.** Lin-Siegler, Dweck and Cohen (2016) identified a positive relationship

between students' attitudes toward learning and the students' perception of their ability to succeed. EFD students reacted favorably in classrooms where teachers recognized students' self-control. Owens et al. (2018) examined how consistent positive reinforcement led to more on task behaviors and improved student achievement. Participants detailed several means of reinforcement such as modeling, praising and tangible rewards that had positive outcomes for student behavior. A study of positive reinforcement and off task behaviors found direct correlations between engagement and positivity, and subsequently a reduction in engagement when teachers admonished off task behaviors (Wills, Caldarella, Mason, Lappin, & Anderson, 2019). Research shows that positive reinforcement whether verbal or nonverbal, is a form of conditioning a desired response from the student through recognition of desired behaviors (Owens et al., 2018).

**Building personal relationships with EFD students facilitated motivation to stay on task.** EFD students showed a desire to improve behaviors when there was an interpersonal connection with their teacher. Optimal student teacher relationships are achieved through respect, trust and positive encounters (Aldrup, Klusmann, Lütke, Göllner, & Trautwein, 2018). Knowing students and developing a relationship invariably helped participants to recognize students' interests. Because EFD students have a weaker working memory, they struggle to process new content whereas activities that focus on their interests improve inattentiveness possibly due having prior knowledge (Orban, Rapport, Friedman, Eckrich, & Kofler, 2018).

**Consequence-based interventions might provide motivation for behavior change if parental support is present.** Participants observed inconsistent outcomes when using consequences, but believed they were necessary to improve behavior issues related to EFD students. Clarke et al. (2015) concluded that further studies are needed in parent involvement with behavior interventions, however when parent fidelity to academic interventions had promising results. The amount of parent discipline, parent consistency with discipline and parent involvement in behavior at school emerged as prominent concerns in a study of desired behavioral supports of teachers (Feuerborn, Tyre, & Beaudoin, 2018). Likewise, participants identified a gap in expectations that negated the positive outcomes of consequence-based interventions with some EFD students, however when parents are supportive of consequences their children showed gains in behavior and maturity. Similarly, inconsistencies with the level or amount of discipline at home have been associated with a higher level of internalized issues in youth (Parent, McKee, & Forehand, 2016). Participants believed that it was negligent to dismiss consequences when EFD students are not meeting expectations for behavior. A study of how discipline style affected student behavior found that students responded favorably to an authoritative approach resulting in an improved learning environment (Lau, Wong, & Dudovitz, 2018). Furthermore; Lau, Wong, and Dudovitz (2018) suggested that parents adopt a parallel authoritative approach at home for consistency.

### **Theme 3**

Teachers expressed a professional need for instructional approaches to create a productive learning environment for EFD students and to develop shared expectations with parents. Participants found that the current strategies used to improve instruction were not effective in meeting the needs of EFD students and expressed a need for knowledge that could better inform their instruction of EFD students. Additionally, participants surmise that if the right interventions are not in place EFD students will struggle in the future. A study by Murphy (2015) supported the concerns expressed by participants in that EFD students are at higher risk for learning difficulties, low achievement or even dropping out of school.

**Many participants are seeking ideas guidance in creating an ideal environment for learning and behavior for EFD students.** When seeking help from their peers' participants gained strategies to reduce academic and behavioral issues in EFD students. Meltzer (2018) posited that instructional resources provided by teachers greatly affect EFD students' success in overcoming their weaknesses. The use of varied strategies by participants may be supported by the great number of students who have undiagnosed cognitive impairments related to EFD and need accommodations and that if teachers can understand the cause of their learning struggles, they can find the right intervention. Gaastra et al. (2016) definitively stated teachers' struggles with management are due to a lack knowledge of skills and strategies that could improve both behavior and academics for EFD students. Because EFD students displayed

complex and sometimes contrary responses to interventions, more knowledge was desired. The problem of understanding EFD achievement according to Dekker, Ziermans, Spruijt, and Swaab (2017) in a study of teacher knowledge of EFD, was how to separate IQ intelligence from students' EFD limitations.

**Participants were seeking the advice of other teacher colleagues to create an ideal learning environment for EFD students.** A study by Ficarra and Quinn (2014) pointed to the absence of behavioral management courses offered at the preservice level and mirrored the imminent need for training expressed by participants. A lack of behavior management training during college preparation may explain the frustration of participants who did know the difference between EFD behaviors and true disabilities and thus how to manage them. However, a study by Murphy (2015) on professional development for literacy teachers with struggling ADHD students led to marked improvement in teachers' practices and attitudes toward students with focus issues. Teachers offered professional training may have a better understanding of EFD behaviors that reduce teacher frustration associated with these students after professional development. Participants believed they would benefit from additional knowledge on developing a classroom environment that supports focus for EFD students. Research supports that motivation drives student attention, however, the preparation for teachers does not stress enough the fundamental necessity of providing motivation for learning (Greer, 2016).

**Parent expectations of EFD students were not aligned with teacher expectations for behavior in the classroom.** A lack of parity in behavior expectations makes it difficult for teachers to hold EFD students accountable for their work and behavior. It is also challenging to enforce consistent consequences for improving EFD behavior without support from home. During conferences, some parents of EFD students revealed that their frustration at home led to an overbearing, invasive approach to dealing their children. Intrusive parenting styles were linked to students having more internalized behavior struggles and lower executive functions (Gueron-Sela, Bedford, Wagner, & Propper, 2018). A study of parental influence on EFD student outcomes found that parents' support of school interventions was significantly predictive of positive academic outcomes for students (Ratelle, Morin, Guay, & Duchesne, 2018). According to participants, a lack of involvement in EFD student behaviors at school was as equally attributed to teacher stress and poor outcomes as the dominant approach. A forceful approach to ameliorating behaviors may protract the adverse outward behaviors of EFD students (Bell, Shader, Webster-Stratton, Reid, & Beauchaine, 2018). Often a lack of parental support for expectations at school was conveyed as an area of need for professional growth and student improvement. Research supports that when parents are faced with difficult behavior typical with ADHD children, they tend to withdraw from the stress (Dennis, Neece, & Fenning, 2018). The improvement of EFD off task behaviors was evident to participants when there are consistent expectations between home and school. Challenging behaviors such as ADHD in elementary



classroom significantly diminish when teachers had set rules and consistent reinforcement of rules (Owens et al., 2018). Gage, Grasley-Boy, and MacSuga-Gage (2018) asserted that classroom management directly affects the quality of a teacher's instruction and that the best professional development for classroom management is based on teachers' assessments of student needs. Furthermore, classroom management was cited the most difficult challenge facing teachers and the number one reason for leaving the profession (Gage et al., 2018). PD that supports classroom management could effectively advance teachers' perceptions and experiences with EFD students.

The conceptual framework that grounds this study is based on the core characteristics of EFD as defined by Diamond (2013) and this framework was used to understand the perceptions and experiences of teachers who work with students with EFD. The core characteristic concepts of EFD are (a) lack of inhibition or impulsivity, (b) the inability to retain information, and (c) lack of cognitive flexibility (Diamond, 2013). The conceptual framework will serve as a foundation for the development of PD that will expand teacher understanding of EFD students. Furthermore, the conceptual framework will provide specific areas of deficits that can be linked to strategies that address those deficits.

The three themes indicated teachers' beliefs about how a variety of instructional strategies that include differentiation for learning styles help EFD student focus on retaining academic content, the struggle to teach with a loss of instructional time managing EFD behaviors, and a need for PD for instructional approaches that make a

productive classroom for EFD students and with that, a need for communicating and aligning expectations between school and home. Participants discussed instructional strategies that made observable differences in the productivity of EFD students. Behavioral strategies were implemented to reduce lost class time due to behavior issues related to EFD students. An overarching concept was the lack of knowledge of EFD and classroom management which belies the need for PD to help with strategies that are effective for EFD students. A common factor in the discussion was that the differences between expectations at home and school were interfering with EFD students' progress in the classroom. Mohr-Jensen, Steen-Jensen, Bang-Schnack, and Thingvad (2019) concluded that PD is necessary after finding teachers of ADHD students require knowledge of specific management approaches and how to make strong collaborations between home and school.

### **Conclusion**

Using the three research questions that framed this study, I obtained data that investigated the perceptions and experiences of elementary school teachers on teaching students with EFD. The research questions helped to investigate the experiences and perceptions of local elementary teachers about teaching students with EFD, about instructional strategies used to help focus students with EFD, and about teachers' professional needs to work effectively with EFD students. The following themes resulted from the study's research questions:

RQ1: What are the experiences and perceptions of teachers about teaching students with executive function deficiencies?

Theme 1 identified that teachers employ a variety of instructional strategies to engage students with EFDs but recognize the importance of increasing differentiated learning strategies. Participants shared strategies to keep EFD students on task and focused during instruction. Observations on the effectiveness of various strategies in meeting the needs of EFD students showed positive outcomes on instruction. Participants believed learning styles, small group instruction, creating autonomy, and incorporating of technology into lesson activities are beneficial.

RQ2: What are the experiences and perceptions of elementary teachers regarding instructional strategies used to help focus students with executive function deficiencies?

Theme 2 specified although teachers applied various behavior management approaches, they struggled with the loss of instructional time due to behavioral interruptions. A variety of behavioral approaches were implemented by participants to improve the off task and the distracting behaviors of EFD students that is slowing instructional delivery. Flexible spaces and alternative seats accommodated the EFD students need to move or wiggle, proximity to teacher allowed for monitoring off task behaviors and address them quickly. Developing a personal relationship with EFD students outside of the classroom allowed the teacher to gain the trust and confidence of their EFD students, and in turn EFD students' appeared motivation to behave. If EFD

students did not meet behavior expectations, they benefitted from consequences to reinforce appropriate behavior. Reinforcement also involved the praising of positive behaviors in the classroom, so teachers could model expectations to EFD students in a nonthreatening manner. Lastly, participants conveyed the importance of parental involvement and support in improving the consistency of behavioral improvement for EFD students at school.

RQ3: What are the perceptions of teachers about professional development opportunities that could enhance their instructional delivery to support the core EFD characteristics of students with executive function deficiencies?

Theme 3 indicated teachers expressed a professional need for instructional approaches to create a productive learning environment for EFD students and to develop shared expectations with parents. Two categories of professional needs were extracted from participant data that informed theme 3. First, participants sought strategies for instruction that reduce incomplete classwork resulting from off task behaviors. Second, participants believed knowledge of behavior strategies for EFD students benefit the class environment and increase time spent on instruction. The need for professional development in these areas underlies participants' beliefs that parental support is necessary to affect change in EFD students. Currently, a lack of teacher preparation for managing student behavior has been identified at the local site.

Teachers' need knowledge to build parity of expectations between home and school at the local site. Professional development could provide this knowledge.

### Section 3: The Project

For my project, I will conduct three 6-hour sessions of professional development (PD) at the local site for teachers in Grades K-5 who need knowledge about instructing and managing students with EFD in their classrooms. The development of this PD project was informed by themes that emerged from the analysis of findings in my study. Specifically, the PD will address teachers' need for help in instructing and managing the behaviors of EFD students as well as creating a classroom environment to meet the needs of EFD students. The goals of the PD project are to provide teachers with (a) knowledge of instructional strategies that help EFD students focus on learning tasks, (b) classroom management strategies that reduce the off-task behaviors associated with EFD students, and (c) support and training for communicating classroom expectations with parents to improve behavior in EFD students. Sanchez, Williams, and Ferrara (2018) cited the effect of increased accountability and diverse populations in schools as a reason for PD that improves teachers' ability to handle ever-changing and broadening demands in education.

In this section, I outline the project description, project goals, rationale, implementation, potential barriers, resources and support for teachers to continue discussion and practice of the PD concepts. To build upon the themes of my study, I conducted a review of literature to examine how theory and research support the project development and themes of the study. This section ends with a project evaluation and a summary of potential social change implications.

## **Introduction**

The purpose of this qualitative study was to investigate the experiences and perceptions of local elementary teachers about teaching students with EFD, about teaching strategies used to help focus EFD students, and about teachers' professional needs to work effectively with EFD students. Research indicates that teachers deal with a range of complex academic and behavioral challenges with EFD students (Reddy, Cleary, Alperin, & Verdesco, 2018). Participants in this study recognized academic and behavioral challenges related to EFD students that directly affected the quality of the learning environment.

The first day of the PD program will encompass an overview of the 3-day PD schedule. First, I will ask teachers to reflect on their current knowledge about students with EFD, including academic practices and behavior management strategies. In small collaborative groups, teachers will create an anchor chart of common ideas from their groups to post in the front of the room. Next, I will address how those ideas connect to research-based information on academic and behavior intervention strategies. Finally, teachers will discuss in small groups how the research may help further their knowledge. Teachers will complete an exit ticket containing three questions related to the research that they would like to be addressed in the following PD sessions.

The second day of PD will include a presentation of research via Google Docs based on PD goals. Teachers will break into small groups and be given classroom scenarios based on the first PD goal of instructional strategies and interventions, in the

form of a case study via YouTube, and will discuss possible solutions in small groups using a presentation from Google Docs. After some time for discussions, the small groups will be asked to create a solution for their unique case study and justify their reasoning using the research-based practices that I shared. Teachers may create any form of presentation for the rest of the group. After they present their case study and solution, there will be time for questions and feedback from the entire group as a means of reflective action. When the first case study presentations are complete, teachers will be placed into another small group of their peers to collaborate on a new case study focused on the second PD goal of behavioral management strategies. Teacher groups will present again by justifying their reasoning, thereby taking ownership of the new knowledge from the research presentation. All groups will be given different case study videos within the same topic to broaden their scope of situational knowledge through collaboration and the sharing of ideas.

On the third and final day of the PD program, participants will resume evaluating and creating solutions for case studies related to the third PD goal of aligning parental expectations with school expectations. Based on the data collected from teacher participants, this goal may be the most challenging for teachers. For this reason, a case study will be presented to the whole group, and teachers will reflect on solutions by brainstorming ideas on an anchor chart to display as a model. After this activity, teachers will break into small groups to view a case study, where they will present again for feedback and reflection. By the end of the PD, teachers will have gained increased



knowledge and hands-on practice in academic and behavioral interventions for EFD students, as well as approaches to parental communication of school expectations for behavior. For the final activity, I will distribute the initial exit tickets from the first session and provide teachers an opportunity to share what they have learned regarding their questions. As a resource, teachers will be given a handout with classroom interventions for EFD students to reference in the future. To provide feedback about the 3-day PD, teachers will complete an online survey form on the final day before leaving the room.

### **Rationale**

The problem investigated in this study was that kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). The importance of classroom instruction is inherently linked to the strength of classroom management; therefore, teachers, especially novice teachers, must have access to training in this area (Gage et al., 2018). This PD will address the current skillsets and attitudes of teachers related to EFD students so that student performance can be improved (Guskey, 2002). The goal of this PD is to (a) provide an opportunity for teachers to analyze and reflect on their collective teaching practices to increase their knowledge of EFD students; and (b) improve communication of behavioral expectations between home and school to improve the learning environment. Moon (2013) stated that reflective practice in PD encourages in-depth learning that enriches professional practices. I created this project

to engage teachers in analysis of and reflection on academic strategies, behavioral strategies, and ideal classroom environments to improve their knowledge of EFD students as well as improve their efficacy in working with the parents of EFD students. Galloway, Newman, Miller, and Yuill (2019) found that the parental stress of managing EFD students significantly affected EFD students' quality of life, and interventions to reduce parental stress improved the learning experience for EFD students. Participants in Grades K-5 have shared their experiences and perceptions of teaching EFD students. Regardless of grade level, Tallerico (2005) opined that PD should be developed around a common initiative to invoke a shared sense of responsibility among stakeholders, thus increasing the likelihood of continued support and reinforcement among the school culture. PD practices that focus on active participation should include opportunities for active learning and social interaction among stakeholders (Matherson, & Windle, 2017).

The genre of PD was selected for my project study in accordance with the three themes resulting from my study. The themes showed that teachers at the local site need knowledge regarding the academic, behavioral, and class environment supporting the teaching of EFD students. The PD was designed based on the data analysis derived from one-on-one interviews and the focus group interview session. The sessions will be conducted onsite, for 3 days, with each session being 6 hours in length. The three 6-hour sessions will allow participants to share and reflect upon their experiences and perceptions as a basis for further inquiry into best practices to improve their knowledge of EFD students. The primary goals of this PD are to provide teachers with knowledge

of (a) instructional strategies that help EFD students focus on learning tasks, (b) classroom management strategies that reduce the off-task behaviors associated with EFD students, and (c) strategies for creating an ideal classroom environment for EFD students that including help with parental involvement.

### **Review of the Literature**

For the review of literature, I was guided by the following topics:(a) knowledge of instructional strategies that help EFD students focus on learning tasks, (b) classroom management strategies that reduce the off-task behaviors associated with EFD students, and (c) communicating classroom expectations to parents. The search for literature involved both reading and analysis of articles related to my study's themes and purpose. To guide the literature review, I searched for peer-reviewed literature using the Walden University Library. The databases used included Education Source, Education Research Complete, ERIC, Thoreau multiple databases, ProQuest Dissertations, SAGE Journals, ScienceDirect, Taylor and Francis Online, PsycINFO, and PsycARTICLES. Additional literature was found through Google Scholar and Google.

The following search words were used to navigate the review of literature; *differentiated instruction, student off-task behaviors, classroom behavior interventions, active learning strategies, parent teacher relationships, students and focus, classroom management, executive function deficits, and professional development for teachers.* The data were collected and analyzed. The following topics, derived from the themes, were explored through the literature:

1. Knowledge of instructional strategies that help EFD students focus on learning tasks
2. Classroom management strategies that reduce the off-task behaviors associated with EFD students
3. Communicating classroom behavior expectations to parents

### **Differentiated Instructional Strategies for Teaching EFD Students**

Executive function deficits are characterized by struggles with the higher order cognitive regulatory processes that promote goal directed behavior and problem solving (Sasser et al., 2017). Students with EFD can experience academic problems related to the core components of EF: (a) working memory, (b) cognitive flexibility, and (c) inhibitory control (Diamond & Lee, 2011). Research ubiquitously holds that EF skills are vital to academic success and subsequently the reason EF deficiencies can be the source of academic struggles for students with ADHD and ASD (Rosello, Berenguer, Baixauli, Colomer, & Miranda, 2018). Therefore, accommodating EFD students in the classroom presents a challenge for teachers who lack the knowledge to meet the instructional needs of EFD students.

Students with EFD demonstrate learning behaviors associated with the core characteristics of EF. However, other learning issues frequently accompany EFDs in students (Mayes, Frye, Breaux, & Calhoun, 2018; Pham & Riviere, 2015). Research conveys the benefit of identifying EFD in primary elementary grades for the marked symptom improvements when students were given metacognitive training (Tamm &

Nakonezny, 2015). Additionally, the development of language skills in early primary grades is closely associated with EF skills, and therefore any weaknesses in language skills can be helped by improving students' EF (Gooch et al., 2016). The benefit of early intervention is evidenced by research showing Kindergarteners identified with EFDs were predictive of later academic struggles (Morgan et al., 2019). Early primary grade teachers may have the opportunity to improve instruction for EFD students when EF characteristics are disseminated from other learning issues. Studies of young students' mathematics proficiencies indicated that EF skills support the development of math skills and both math and EF skills should be developed in tandem for math achievement (Clements, Sarama, & Germeroth, 2016). Teachers may benefit from knowledge of EFD and related disabilities in order to accurately identify appropriate interventions.

The core characteristics of EFD include the following: (a) working memory (b) cognitive flexibility (c) inhibitory control have been especially correlated to students' learning difficulties in the subjects of language and math (Berninger et al., 2017; Clements & Sarama, 2019; Diamond & Lee, 2011). Students with EFD are typically associated with poor reading comprehension skills (Cartwright, Marshall, Huemer, & Payne, 2019). Reading skills are significantly linked to students with ADHD, in part, due to EFD students' difficulty staying focused during the skill development process (Guajardo & Cartwright, 2016). EFD students can be characterized by weaknesses in the core concept of cognitive flexibility which presents as difficulty with reasoning and

inferencing skills needed for improving reading comprehension (Guajardo & Cartwright, 2016). Cartwright et al. (2019) examined EFD students who demonstrated fluent reading but lacked the semantic automaticity that, coupled with fluency, creates comprehension. Cirino et al. (2019) found the EF core concept of attentional control affects oral fluency, that is phonological decoding; as well as affecting the semantics processes which scaffold developing reading skills. Based on the research of EF and reading skills, teachers may need to understand how EFD affects students' reading progress.

Teachers may benefit from knowledge of accommodations that improve skills related to the core characteristics of EF. Tomlinson (2017) stated that frequent scaffolding is requisite for the progress of EFD students because it serves to help in making meaning of their learning; a weakness associated with the core characteristics of memory and retention and attentional control. Attentional control associated with the core concept of focus and impulsivity is also a mitigating factor for poor comprehension in which teacher interventions could negate through accommodations focused on speed and repetition (Cartwright et al., 2019). Specifically, when teachers were responsible for administering interventions to help students' attention, the assessments indicated improvements to comprehension (Cartwright et al., 2019). It is significant then for teachers to understand how to interpret student assessments in reading comprehension, factoring in the role of attentional control as a variable to performance. Meltzer (2018) found that optimal academic environments for EFD students include opportunities for

direct remediation of accommodations for instruction and assessments. A study of primary elementary students' EFs concluded that EFs were predicative of future mathematics and reading difficulties; however, repetitive skills with increasing levels of difficulty in reading and mathematics improved the three core characteristics of EF: self-control, attention, and memory (Imal & Wexler, 2018).

Theoretical approaches have furnished some explanation as to how cognitive improvements can aid reading skills for EFD students. Theory of mind is based on developing awareness of self and others as it pertains to inferring and predicting behaviors, mental states and the actions of others (Brock, Kim, Gutshall, & Grissmer, 2018). Theory of mind significantly improved reading comprehension development when used to enhance awareness to comprehend text (Guajardo & Cartwright, 2016). The significance of self-awareness interventions in aiding EFD students' reading skills are relevant to the local problem as reading disorders are recurrently associated with ADHD and poor academic outcomes related to reading skills (Froehlich et al., 2018). West, Buckley, Krachman, and Bookman (2018) ranked students' EF skills to determine individual levels of functioning in specific executive functions as opposed to ranking on a broad Likert scale. West et al. (2018) held that teacher reports of EF improvements had predictive validity when comparing student rankings to student assessment performance in language arts and math. The significance for teachers of upper primary grades is the knowledge of using specific EF skills to rank students to gauge performance on standardized tests required in grades 3-5 in math and language

arts. Teacher knowledge of the core characteristics of EFD may help in understanding how to plan differentiated instruction for EFD students. Cognitive flexibility is a core component of EF enabling students to maintain attention when shifting between activities and concepts (Mueller, Hong, Shepard, & Moore, 2017). Students' cognitive flexibility is the capacity to which they can maintain on task behavior and retain content during instruction. Research indicates evidence of improvements to cognitive flexibility as a result of using highly motivating tasks for instruction.

Dawson, Wymbs, Evans, and DuPaul (2019) delineated how technology-based instruction with students ages 4-9 was strongly correlated to increased motivation for learning and increased content retention or improving students' cognitive flexibility. Computer based tasks therefore could be considered a preferred learning modality that improves the core concept of EF that controls memory retention and attention to task. Project based learning is considered highly motivating because of the personalized approach tailored to students' interests (Beard, 2019). Murphy (2015) found that teachers recognize the importance of acquiring differentiated approaches and broadening their skill set of learning opportunities for EFD students which leads to successful outcomes for EFD students in a regular classroom setting.

### **Behavioral Management Approaches for EFD Students**

Martin and Fulater (2019) defined behavior management as modifying unwanted behaviors through research-based practices and emphasized the importance of early interventions to student progress. Gooch et al. (2016) found EF skills in early



primary grades were predictive of behavior issues such as attentional control throughout elementary school. Universally students with ADHD and EFD experience behavioral struggles in school (Suarez-Manzano, Ruiz-Ariza, De La Torre-Cruz, & Martinez-Lopez, 2018) Thus, it may be recommended that early primary teachers be knowledgeable in identifying signs of behavior issues related to EFD to thwart problems later. The research on EFD behavior cites the role of happiness and well-being as being significantly tied to students' feelings of competence and autonomy (Reis, Sheldon, Gable, Roscoe, & Ryan, 2018). Tarbetsky, Martin, and Collie (2017) posited that students' social and emotional learning is directly tied to students' competency in relational skills. Citing the self-determination theory, researchers found that autonomy supported environment build the necessary social competencies that build motivation and positive behaviors (Tarbetsky et al., 2017).

EFD behaviors and academic issues are codependent or inextricably tied. EF skills control students' self-regulation and improvements to self-regulation support students' reading readiness and achievement (Sulik & Obradović, 2018). EFD students experience social and behavioral struggles related the core concept of inhibitory control that helps control impulsive reactions and the core concept of cognitive flexibility that enables understanding of multiple perspectives (Diamond, 2013). Students with EFD may respond differently than students without EFD and have substantial differences in emotional control that affect social relationships in the classroom (Serrano, Owens, &

Hallowell, 2018). EFD students' emotional control can get in the way of classroom instruction, be disruptive, and prevent effective collaboration.

Teachers may struggle to instill confidence in EFD students. A study of EFD students concluded that psychological flexibility and self-regulated learning improved EFD students' receptiveness to academics (Asikainen, Hailikari, & Mattsson, 2018). According to Gabrieli, Ansel, and Krachman (2015) the ranking of executive functioning in students can provide teachers with knowledge of the non-academic EF skills such as goal attainment, physical and mental well-being, and achievement that are equally important in determining student success. Student well-being is a result of confidence and competence in the classroom and provides the impetus for the engagement that underscores good behavior. Therefore, developing a positive regard for learning may aid teachers in reducing unwanted classroom behaviors. Kim et al. (2016) found that teacher ratings of students' attentional control indicated improvement after students employed self-regulation practices.

Self-determination theory posits that student engagement is a product of teacher supported autonomy and a structured setting (Domen, Hornstra, Weijers, van der Veen, & Peetsma, 2019). Reeve et al. (2019) believed that motivation drives behavior which then renders extrinsic rewards insignificant in comparison to engaging and stimulating activities (Ryan & Deci, 2017). Furthermore, when teachers supported autonomy and self-regulatory practices, prosocial behaviors increased (Cheon, Reeve, & Ntoumanis, 2018). Ryan and Deci (2017) believed a flexible and responsive approach to students

likes and dislikes, the instruction encouraged interactive discussion as opposed to scripted and unilateral.

A study of elementary grades teachers who focused on the cognitive processes needed for modifying behavior concurrently created a more structured, stimulating environment for students (Vandenbroucke et al., 2018). A consideration of research is the teacher's own feelings of autonomy, and how much influence they have professionally also influences how likely they are to use autonomy practices with students in the classroom (Marshik, Ashton, & Algina, 2017). Additionally, EFD students may need parental support to continue the reinforcement of autonomy practices at home. EFD students' characteristically lack adaptive skills related to the core concept of flexibility and shifting attention that can be helped by an autonomous parenting style and support for autonomy at home (Brenning et al., 2019). Berkowitz et al. (2017) posited that parental involvement and perceptions of school the environment is significantly linked to the academic and social outcomes of students. Mounting evidence exists on the impact of parenting practices on ADHD, the most common behavioral disorder in children (Choenni, Lambregtse-van den Berg, Verhulst, Tiemeier, & Kok, 2019).

Teachers trained in positive classroom management interventions had students with significant gains in EF skills (Sasser et al., 2017). Similarly, study outcomes on the quality of positive teacher-student relationships have shown improved EF skills (Sasser et al., 2017). Positive acknowledgement, as opposed to punitive measures is a

researched strategy shown to foster a healthy learning environment while building student relationships (Skiba, Ormiston, Martinez, & Cummings, 2016). Van Petegem, et al. (2017)'s study supports that adolescents responded favorably to behavior modification that was less controlling, and more self-regulated and autonomy focused.

Movement and physical exercise have been linked to improved executive function (Dupuy et al., 2018). Studies on movement and acute movement during the school day alleviate internal stress for EFD students whose efforts to focus during academic time drain energy (Benzing, Chang, & Schmidt, 2018; Piepmeier et al., 2015). Imal and Wexler (2018) reported the effects of cognitive training using technology-based exercises as well as physical exercises to improve EF skills in primary elementary students and determined that attention and self-control significantly improved the following school year because of training targeting students' EF. Research is divided as to how to structure cognitive breaks. Research has shown the length of time given for exercise or mindful breaks is more significant to improved EF than the intensity or type of activity used for a cognitive breaks (Knight & Tyler, 2019), and research also showed that the type of activity could be more relevant than the length and intensity (Neudecker, Mewes, Reimers, & Woll, 2019), or lastly, studies on acute and intense exercise significantly improved EF in post activity measures of EF (Benzing, Chang & Schmidt, 2018; Zhang & Liu, 2019). In conclusion, research is clear that exercise is beneficial to cognition in a variety of approaches; however, the benefits to both ADHD

and non-ADHD in clinical trials may mask the significance of the results for EF improvement (Zhang & Liu, 2019).

Pfiffner and DuPaul (2018) suggested that teachers be vigilant in mitigating the outcomes for behavioral interventions to avoid creating a stigma for certain students in the eyes of their peers, or even themselves. Hinshaw (2018) advised teachers and intervention teams to consider what pharmacological and behavioral structures are already in place in the classroom or at home when setting goals for EFD students. An understanding of other existing supports can guide an intervention team in determining if student improvement is focused on symptom reduction or developing coping behaviors (Hinshaw, 2018).

### **Effective Classroom Environments for EFD Students.**

Teacher attitudes, beliefs and knowledge of EFD students, or their perceptions and experiences, are directly related to the success of interventions and to student achievement (Noyes, 2017). The importance of teacher perceptions and experiences for student achievement may explain why a leading cause of teacher attrition is a lack of preparedness for behavior management during preservice training (Poznanski, Hart, & Cramer, 2018). Research shows that teachers must undertake a level of understanding of EFD students that personifies qualities such as patience and tolerance to overcome the challenges of EFD behavior that directly affects learning (Toplak, 2015). PD is defined as educational experiences designated for a common purpose and as a means for

improving both teaching practice and teaching outcomes (Patton, Parker, & Tannehill, 2015).

According to Patton et al. (2015) PD is developed to help teachers rethink and reflect upon how current practices are working to improve them. Kennedy (2016) believed that effective PD is foremost based on one central learning point so as not to overwhelm teachers. Secondly, the development of PD must provide ongoing supportive structures for teachers to implement the newly learned strategies (Kennedy, 2016). PD sessions that provide time for practicing new strategies and allow time for constructive feedback will help ensure efficacy when used in the classroom (Lindvall & Ryve, 2019).

Research suggests that the key motivation for adult learners is a PD designed around an imminent purpose or problem (Fogarty & Pete, 2017). Similarly, Patton and Parker (2015) cited core features that define the most meaningful PD sessions as aligning and clarifying the purpose and sustaining the support beyond the training. Fogarty and Pete (2017) also believe that because adult learners are self-directed and eager, and adults prefer PD with real world experience learning styles which help them to apply learning into their real work setting. Matherson and Windle (2017) analyzed teachers' perspectives on PD and identified four themes that define teachers' preferred experiences such as interactive, relevant, practical, teacher-driven and they allot for support over time.

Dewey (1933) believed that reflection action was inherent to teaching practices. Zwozdiak-Myers (2018) theorized that reflective practice is a necessary approach for professional growth and therefore a chief consideration when developing PD. Wenger (1998) developed three dimensions of reflective practice that include mutual engagement, joint enterprise and a shared repertoire to help direct professional conversation to improve school practices. A study by Park (2018) surmised that the influential effects of teacher discussion focused on student data and professional inquiry will create the necessary process of reflective practice. Sawyer and Stuckey (2019) proposed that reflection should seek to propel teacher communities to become inquiry driven in the quest for change. Teachers' need to create learning relevant to their evolving needs will create cycles of organic discussion that lead to change (Sawyer & Stuckey, 2019).

Collaborative practices are considered a best practice among school communities for empowering teachers to engage in new practices by providing support through the implementation process (Datnow, 2018). Murphy (2015) indicated that collaborative PD sessions help to maximize the benefits for teachers through the shared endeavor to change. Datnow (2018) study demonstrated how collaboration provided teachers the opportunity for reflective practice and innovation while lessening the emotional stress of change. Dewey (1933) asserted that teachers need to practice reflection action as means to improvement and change. Additionally, research emphasizes that teachers' social emotional competence, or their capability to satisfy

basic psychological needs to be productive in the workplace, plays a role in how PD is received (Collie & Perry, 2019). Collie and Perry (2019) claim that PD addressing teachers' social emotional needs regarding challenges and differences within the workplace can create an environment of support and encouragement conducive to progress.

While there are many facets to designing effective PD, a measure for effectiveness can be as simple as observing what occurs after PD sessions are completed. Research asserts that the effectiveness of PD learning opportunities for teachers should be measured by the extent to which teachers feel ready to use strategies in their own classrooms and for the duration strategies are employed (Hargreaves & Fullan, 1992). Support for ongoing practice of PD strategies can increase the likelihood for change. Research purports that an administrator's role in PD effectiveness is to create an atmosphere of teacher leadership and collaborative efficacy should not be overlooked as a part of PD planning. Goddard, Goddard, Sook Kim, and Miller (2015) concluded that a school's culture should embody the shared beliefs of staff and serve as a framework for promoting PD efficacy associated with higher achievement. Fullan (2007) cautioned that common failures of PD are a lack of what research indicates as best practices, namely motivational content, specificity, and prolonged support for classroom implementation. Grasley-Boy, Gage, and MacSuga-Gage (2019) echoed the importance of having a foundation of support for teachers that follows PD training for classroom management to review data on implementation.



## **Conclusion**

The literature review is focused on research studies related to my study and planned PD. The literature supports teacher strategies for differentiating instruction for EFD students, behavioral management approaches for EFD students and best practices in professional development to improve the class environment and instruction of EFD students. The exploration of research produced knowledge of instructional strategies and behavioral practices that create a productive learning environment for EFD students.

After I completed the literature review, I found strategies and interventions that supported the PD I wanted to create. Specifically, I incorporated reflective action practices for teachers to synthesize and apply knowledge of instructional and behavioral interventions for EFD students. I will encourage sharing and collaboration for teachers to take ownership in their learning and become stakeholders in school wide beliefs. The case study analysis and reflection will be used to help me create opportunities for teachers, such as hands on practice applying new interventions and strategies. Using collaborative groups, I intend to develop a support system among teachers for maintaining implementation of new interventions and strategies. I will model approaches for parent communications. This may help teachers who need specific strategies to support classroom learning and to maintain on task behavior. Lastly, I will supply teachers with resources on Google docs for future reference and reinforcement in their endeavors.

## **Project Description**

### **Potential Resources and Existing Supports**

PD is an opportunity to encourage change in teacher practices, attitudes and beliefs so that ultimately student learning can be improved (Guskey, 2002). I will offer PD sessions to facilitate teachers with increasing their knowledge of interventions regarding the instructional and behavioral strategies that create an ideal learning environment for EFD students. DuFour (2004) stated that professional development should offer stakeholders clear and specific instructions to improve instructional performance. And, moreover, for teachers to become engaged in PD, they must have the opportunity to contribute to the process of change (DuFour & Fullan, 2013).

Prior to the start of the PD, I will meet with the local elementary principal to share the results of my study and the agenda and timeline schedule for the three 6-hour PD sessions. I will send an email to teachers in Grades K-5 at the local site to invite them to participate in the PD sessions. In the invitation I will ask the teachers to respond to the email stating if they are available to attend the PD sessions.

The three 6-hour PD sessions will be held in a conference room located in the local elementary school. A smartboard will be used for presentation of a PowerPoint outlining the session goals for teachers and for linking YouTube videos for group activities. Other materials will include anchor chart paper, markers, laptops, photocopies of handouts, and name placards.

**Potential Barriers**

A potential barrier that may occur is that the teachers may be concerned about the 3-day time investment in lieu of having planning time. Teachers may also find that their schedules may not permit them to attend the PD on the designated days. To avoid conflicts of time, I will ask administrators if they are willing to post scheduled PD dates to the shared Google school calendar prior to the school year commencing, so as not to interfere with other school commitments on those days. To help participation, I will also ask the principal to allow the PD to use a designated planning day each week when teachers are already contractually obligated to be at school after normal school hours. Upon approval of the PD program, I will reserve a room designated for PD at the local site. I will then share the location, days and times with the school faculty via Google docs.

**Proposal for Implementation and Timetable**

Planning for the implementation of the PD will occur during the academic year. The planning of the PD will include input from the assistant principals, the lead teacher, and the math and reading specialists. Details of the proposed timeline are presented here (see Table 2).

Table 2

*Proposed Timeline*

Date	Task	Person	Deliverable
November	Meet with principal, obtain permission and create an outline of the 3-day sessions	Principal, asst. principals, & lead teachers	PD PowerPoint slideshow presentation to administrators for approval.
December	Identify key participants and publish session dates and times	Researcher	Email invitation
January	Participant responses	Potential participants	Email responses and pre-PD multiple choice quiz survey
February	Select & notify participants	Researcher & committee	Email response. Schedule, room & food arrangements
March	Conduct PD sessions	Principal, asst. principals, lead teachers, teachers, and specialists.	3 6-hour session agendas, PD on Google docs, resource handouts, reflection sheets, and laptops for exit quiz survey.

For this PD I will facilitate a collaborative learning opportunity. The goals of the professional development project are to provide teachers with (a) knowledge of instructional strategies that help EFD students focus on learning tasks, (b) classroom management strategies that reduce the off-task behaviors associated with EFD students, and (c) tools for communicating classroom expectations to parents. The PD will be held in an environment conducive to participating and the sharing of ideas. Teachers are valued as participants who can contribute to the improvement of teacher knowledge of EFD students.

Tabach and Schwarz (2018) stated that using collaboration to learn is essential to learning competency and life-long learning and further, small group collaboration

should be the goal of modern education, rather than just a resource for instruction. Thus, I will ask teachers to participate in small collaborative group activities. The PD presentation will be used as a resource for teachers, and as a tool to improve instructional behaviors that relate to student achievement within the school. My role in this PD will be that of a facilitator to all teacher participants, in addition to working as a collaborator with school administrators, lead teachers and specialists.

### **Roles and Responsibilities**

My responsibility and role will be to organize all meetings, facilitate communication between all PD stakeholders; including administrators, lead teachers, specialists and classroom teachers. I will present all workshops for the PD and collaborate with the school district, principal administrator and instructional leaders for the success of this initiative. The district administrator will support the work by approving the use of a school facility to conduct the professional development. I will serve as facilitator in conducting collaborative sessions. The sessions will be both active and reflective in design to promote engagement and growth. The workshops will provide participants opportunities to engage in collaboration among their peers and to determine strengths and weaknesses in teaching students with EFD. I will provide time and space for participants to discuss research-based strategies and classroom environments designed to help students with EFD's grow academically. Presentation of the project will support teachers' concerns regarding the rising number of students with EFDs. Second, the presentation will support the school initiative of a collective

commitment to discussing best practices. My presentation will help facilitate discussion and ideas to remediate an identified problem. Not only will this presentation benefit students, but the PD will be shared to help other teachers in the district to meet the needs of students with EFDs. My role will be as a facilitator of the discussion data and research of best practices to teachers in the school. Feedback from this presentation may be used to inform teachers in other schools within the district and address the same teacher concerns about the rising number of students with EFDs.

### **Project Evaluation Plan**

#### **Formative Assessment**

Formative assessment is a means for a facilitator to receive feedback on participant learning to improve future instructional outcomes (Andrade, Bennett, & Cizek, 2019). The first PD activity will ask teachers to brainstorm and create an anchor chart that will guide and inform the pace or the content focus of the PD. For all the PD sessions, I have planned collaborative group activities for teachers to apply their learning by using a case studies for which groups will discuss and present solutions. The presentation will serve as an observable method of a formative assessment that informs the direction of my PD content. At the end of the first session I will ask for three questions from each teacher as an exit ticket that will reflect teachers' understanding of the 3-day session outline, overview and goals. Hallam (2019) referred to formative assessment to informally guide changes to instruction. On the last day of the PD, teachers will be asked to reflect on potential uses the PD information and

materials, the strengths and weaknesses of the PD, and the supports needed to implement the ideas. Reddy, Glover, Kurz and Elliott (2019) suggested PD facilitators can benefit from assessments that relay the effectiveness of their coaching and interactions within the PD. Formative assessments will informally and quickly help to determine if content and activities are aligned with the PD goals.

### **Summative Assessment**

Summative assessments evaluate learning growth over time and compare growth to a pre-determined benchmark (Buzick & Weeks, 2018). To determine a baseline of understanding, teachers will be given an online survey prior to the first session that is aligned with the content goals of the PD. The ten multiple choice questions will inquire about teacher knowledge related to the PD goals. On the last day teachers will be given the online survey again as a post assessment. I will compare the first and last online survey responses to gauge the extent of learned concepts. This summative assessment will provide a measure of learning growth specific to the PD timeline (Hallam, 2019). I will consider the survey responses as a possible predictor of how much support teachers will need going forward into classroom implementation.

### **Overall Evaluation Goals**

The purpose of using formative assessment is to gather data during the PD process in order to adjust instruction and provide feedback to participants (Andrade, et al., 2019). To measure what participants have learned or retained from the PD sessions, I will also use a summative assessment. Over the course of the 3-day PD, formative

assessments will guide my day to day instruction (Dolin, Black, Harlen, & Tiberghien, 2018). Andrade et al. (2019) stated that the benefit of formative assessment is the creation and the evidence of learning without the stigma of an evaluation. A formative assessment removes the feelings of judgement that come from formal evaluations. A hands-on creation of learning may allow participants to take ownership of new learning and experience practical application in a safe and supportive setting. The overall function of my summative assessment will be to help measure participant learning or growth at the end of the PD. Summative assessments will be examined as a measure of the learned concepts of the PD. The measures of learning could be used to inform future planning, as well as help me as the project developer to determine how well aligned the content, activities, and resources were to the PD goals (Goldman & Pellegrino, 2015).

### **Key Stakeholder Groups**

The PD was derived from the study's themes. The themes revealed the following: (a) Teachers employ a variety of instructional strategies to engage students with EFDs, but they recognize the importance of increasing differentiated learning strategies; (b) Although teachers applied various behavior management approaches, they struggle with the loss of instructional time due to behavioral interruptions and; (c) Teachers expressed a professional need for instructional approaches to create a productive learning environment for EFD students and to develop shared expectations with parents. Teachers believed that they shared the responsibility for student learning with a larger community including administrators, lead teachers, specialists, parents



and students. To include the multiple stakeholders in the development and organization of the project, all administrators, lead teachers and specialists will be invited to participate. While parents will not participate in PD, the PD objectives will include recommendations for teacher-parent collaboration.

Prior to the PD, the principal and assistant principals will be given a review of the PD goals and asked for input as leaders of the school community. After the PD, it will be important that teachers have a school wide support system as a resource for implementing new strategies and interventions. The presence of school leaders in PD may increase feelings of community and collaboration that will improve teachers' motivation to learn.

**Teachers.** Teachers will be the primary participants for this PD program at the local elementary school. Other participants will be the administrators and the lead teachers who may volunteer to attend any of the 3-day PD sessions. The PD will be focused on reflection action and collaborative group work to expand teachers' knowledge of EFD students instructionally and behaviorally. The benefit for the school community is the possibility of improved student performance and improved teaching practices.

**Administrators.** The principal and assistant principals will be key in the success of the PD. I will include district administrators in the development and implementation phases of the PD. Administrators play a supportive role in the PD planning and implementation process. Including administrators in the PD sessions will provide an

opportunity for collaboration between teachers and principals. In addition, administrators' presence in PD will acknowledge the importance of teacher experiences and struggles with EFD students and will build understanding as to how to support them in the classroom. Support from administrators can encourage and motivate teachers to implement newly learned strategies into their instructional approaches and practices with students.

**Lead teachers.** The lead teachers serve as support for classroom teachers in a variety of ways. Lead teachers and specialists are available for teachers as a resource for instructional advice, best practices materials, lesson planning, and to provide PD when needed. The inclusion and participation of the lead teachers and specialists in the PD will serve as an additional support network for teachers following the PD training sessions. PD is an opportunity for lead teachers and specialists to collaborate with classroom teachers as a show of support, and then encouragement during implementation.

## **Project Implications**

### **Social Change Implications**

To improve instruction, teachers must know their students. By knowing the students and how they learn, teachers can differentiate instruction to meet the unique needs of each student. When teachers use appropriate instructional strategies and behavioral interventions that allow for success, students may become confident and motivated to learn. Teachers have reported an increase in the number of students with

EFD at the local site. The research supports that EFD students respond positively in classrooms that are structured with self-regulating routines. The potential for social change goes beyond student learning. This study and the accompanying project can lead to teachers creating a learning environment that accommodates EFD students' social emotional needs. In learning environments where teachers support student competence in self-regulatory skills, EFD students show a significant increase in the positive behaviors needed for learning (Rogers & Tannock, 2018). The importance of building confidence is supported by a research study that determined there is a deficit in meeting the functional impairment needs of EFD students (Capriotti & Pfiffner, 2019). Gage et al. (2018) found significant gains in positive student behavior are promoted through teacher PD that is focused on behavior management. The implications for social change of this study may result from teachers who receive the PD to create classrooms that encourage positivity.

Parent communications and expectations may improve overall student performance. Boonk, Gijsselaers, Ritzen, and Brand-Gruwel (2018) concluded that when teachers encourage parents to hold high expectations at home, they subsequently promote improved student performance. In this PD, teachers will learn how to communicate the importance of shared high expectations for students through the building of parent involvement to maintain expectations similar to those expected in the classroom. Smith et al. (2015) stated that parents must engender structures of discipline like that of the classroom for teachers to create an effective learning environment.

Additionally, Postorino et al. (2019) describes how parenting stress can contribute to disruptive classroom behavior such as weak adaptive functioning as it relates to the core concept of flexibility and EF. Therefore, maintaining a supportive system of communication and structure between home and school may then minimize problematic behavior in EFD students for teachers.

This PD will provide teachers the opportunity to expand their instructional skillsets and increase their knowledge of EFD students. Teachers' practices for EFD students will be informed by research on best practices for EFD students and the ideal classroom environment for learning. Teachers revealed they need knowledge to improve the learning environment for EFD students. Moreover, these findings helped me to develop the PD to provide teachers with valuable instructional tools.

Additionally, EFD students will benefit from new instructional and behavior management strategies that promote confidence and achievement and relieve the social-emotional stresses in the classroom. Providing teachers with new instructional skill sets may positively affect student learning and improve teaching practices. New instructional strategies for improving student learning may have the potential to support the education of EFD students through improved parent communication related to classroom expectations. Moreover, when administrators and teachers share professional development ideas among other schools in the district, there is potential for social change to reach and to affect other school communities as well.

### **Importance of the Project to Local Stakeholders**

This project has potential importance to local stakeholders, including school leaders, teachers and parents. The teachers could benefit from PD that positively influences instructional and classroom management practices and that fulfills an identified gap in practice at the local site. Participants shared their desire to extend their knowledge of EFD and to align expectations between home and school. This PD will provide teachers with an opportunity to increase their knowledge of strategies and interventions for EFD students and to improve their understanding of EFD. I will invite principals, lead teachers and specialists to participate in any of the 3-day PD activities. The presence of school leaders validates the importance of the workshop; leaders will have opportunities to collaborate, support, and motivate teachers. Based on the findings of the study, district leaders, teachers, and parents could benefit from the immediate use of this project. The school district is supportive of teacher directed learning experiences and open to PD collaboration that improves instruction. The findings and the project will be important to local stakeholders.

### **Importance of This Project to the Larger Context**

In the larger context, this project has great potential for influencing teaching and learning related to students with EFD, as well as classroom behavior management practices that improve the classroom environment. If teachers focus on strategies that help EFD students instructionally and behaviorally, it will lead to improved student performance.

This project was created to inform teachers about EFD students, their preferred instructional approaches, and behavior management interventions. This PD program can be used with teachers of students in the elementary schools. EFD strategies that are aligned with home expectations can help support classroom success at any age. I will share the findings of this study with other educators at the local site to promote understanding of EFD students and to share best practices for working with them.

## Section 4: Reflection and Conclusions

Kindergarten through fifth-grade teachers in this local elementary school were struggling to teach and to manage EFD students in their classrooms. Teachers were struggling to come up with strategies to improve the academic and behavioral issues arising from increased numbers of students with EFD. Teachers tried various interventions, but most reported that they were not successful. They believed that they needed to understand more about EFD in order to improve the delivery of instruction to EFD students. The findings from this study revealed that teachers needed more explicit strategies to effectively teach EFD students. PD sessions that are focused on EFD students' unique needs may improve how teachers manage associated academic and behavioral issues in the classroom and support EFD students' overall learning experiences. This section focuses on my reflections and conclusions about constructing the project.

### **Project Strengths and Limitations**

#### **Project Strengths**

One strength of this presentation is the potential for improvements to teacher instruction. Knowledge of EFD and the core characteristics related to planning and instruction will come from sharing interventions that provide best practices for EFD students and their academic needs. EFD students have characteristic learning struggles in the classroom that can be attributed to the core characteristics that define EFD. This PD presentation will provide teachers with clear, descriptive characteristics that define

EFD students and their special learning needs. While many of the teachers have been working with EFD students, they have not been informed about characteristic behaviors or offered strategies to manage the behaviors. This PD has been organized to present specific strategies that are research based and that have been proven effective. Teachers will be given opportunities to practice strategies in collaborative action. Sagor (1992) defined *collaborative action* as a process through which professional relationship building may occur that enables teachers to improve student learning and their own instructional practices. Researchers have found that collaborative action is most effective when conducted among teacher peers rather than through a one-on-one mentoring approach (Willegems, Consuegra, Struyven, & Engels, 2017).

Sagor (1992) contended that effective PD for teachers should include a specific process of collaboration. This PD will employ the processes of problem solving, data analysis, and the forming of action plans based on shared results (Sagor, 1992). The case studies provide situational experience and practical application opportunities to which teachers can apply new learning. Adult learning theory acknowledges that the transfer of knowledge is most efficiently accomplished through problem solving about novel situations (Knowles, Holton, & Swanson, 2012). Lastly, the collaborative approach to PD will allow colleagues to support and reinforce new learning. Graesser (2015) stated that collaborative learning is a 21<sup>st</sup>-century approach for developing a deeper understanding of concepts, especially when combined with the use of technology-based resources that may promote a higher level of discourse. This PD



contains YouTube case study videos. The YouTube case study videos will allow teachers hands-on experience and discussion opportunities that will assist them in transferring their learning to real classroom settings. The strength of this project may be its potential to change instructional practices in order to increase student learning and improve teacher practices to promote a better overall learning environment for EFD students.

### **Project Limitations**

One limitation of this project may be how receptive teachers will be to implementing new strategies in addition to meeting all of their other responsibilities as teachers. As facilitator, I will need to impress upon teachers the importance of understanding EFD students' unique needs. Moreover, I will need to convey how changing their instruction to differentiate for students with EFDs may benefit these students. Many veteran teachers may be reluctant to change and grow because they fear that growth will require extra work. Additionally, some teachers may distance themselves from involvement in collaboration because they fear that they are inadequate or fear being vulnerable with their peers.

Another potential barrier or limitation to this project is that teachers may be reluctant to spend voluntary time participating in PD, especially if PD is not required by the district. To help secure teacher participation, I will schedule the PD sessions at times when the district already requires teachers to participate in PD. I will inquire with the school district's office of accreditation to determine whether teachers may be

eligible to earn credits for participation toward their certification renewal. I will inform teachers that the PD workshop will provide strategies that they can implement upon returning to their classroom. Participants will receive a copy of the presentation for reference, as well as data and best practices research to incorporate into their existing classroom environment and for day-to-day instruction. By attending this PD, the participants will have the opportunity to gain insights from data, research-based best practices, and their colleagues.

### **Recommendations for Alternative Approaches**

#### **Alternate Approaches to the Problem**

An alternative approach to the local problem could involve focusing on parental communication and expectations. A focus on parent perception and experiences could provide ancillary data that teachers cannot obtain on their own.

Creating a parent survey or interview protocol to collect data could reveal factors that affect learning that are currently unknown to teachers. The protocol or survey could be used to collect data about how parents perceive their child's experience in the classroom. The questions may inquire as to what perceived struggles at home or at school an EFD student has, and thus inform teacher instruction. Feedback from parents could be used by teachers to form resources based on knowledge of the core characteristics of EFD. Together, teachers and parents could devise strategies to meet EFD students' needs.

### **Alternate Definitions of the Problem**

The problem that prompted this study was that kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). I interviewed 12 teachers in a local suburban elementary school who had taught kindergarten through fifth grade for at least 3 years. I collected data using both one-on-one interviews and a focus group interview. The data showed that teachers desired knowledge of instructional and behavioral strategies that would improve the learning environment for EFD students. The project based on this study was designed to improve the instruction of and behavior of EFD students through knowledge of interventions from research-based practices. The PD will allow teachers to collaborate in problem solving in relation to case study scenarios. Two alternative definitions for the problem of interest in this study are as follows:

1. Teachers need to engage in collaborative partnerships to continue implementation of intervention strategies with students.
2. To support the implementation of EFD intervention strategies, teachers can develop networking and collaborative relationships with teachers from other school districts.

These alternative definitions of the problem support the problem that prompted this study and refocus the problem on acquiring intervention strategies that improve learning for EFD students.

### **Alternative Solutions to the Local Problem**

Due to the short duration of elementary school planning time and the number of subjects to plan and prepare for during the school day, teachers may need alternative solutions to the local problem. Teachers may already feel limited in how often they can collaborate and grow their skills. After the PD training, additional support in the classroom could be arranged to ensure teachers can implement EFD strategies with a support system of feedback and reflection. In order to reflect on EFD students' needs and to continue using and growing their new skills sets, teachers will need to collaborate in an efficient and effective way. Alternate solutions are provided to help teachers feel supported and to emphasize the importance of ongoing learning processes for the short and long-term goal of improved student performance. In planning of the PD sessions with administrators, I will ask for support staff such as lead teachers and reading and math specialists to be involved in some or all the PD sessions. These teachers can serve as collaborative support and can work with classroom teachers on a collaborative action plan based on feedback and reflection from classroom observations.

Teachers will need a framework of support to encourage the continued practice of PD goals. Within the existing structure of grade level collaboration at the local site that currently includes lesson planning and data analysis, teachers may be encouraged to incorporate collaborative action specifically supporting the PD goals. Teachers may need guidance in using their weekly meetings to share progress. With the support of administration and school leaders, such as academic specialists, behavior specialists,

lead teachers, and grade level team leaders, I could create a network of resources for each grade level. I could ask each grade level for a liaison who would be responsible for tracking grade level progress and any questions that arise regarding the PD goals.

### **Scholarship, Project Development and Evaluation, and Leadership and Change**

In my investigation of the experiences and perceptions of local elementary teachers about teaching students with EFD, I sought data on instructional strategies used to help focus students with EFD, and I inquired about teachers' professional needs to work effectively with EFD students. As a fourth-grade teacher, I have observed and listened to teachers who struggle with EFD students. Teachers have opined that they lack strategies to deal with EFD students' academically and behaviorally. Teachers have sought help from administrators and lead teachers as the population of EFD students in the regular classroom increased at the local site.

In my twenty-one years of teaching, I have experienced first-hand the difficulties of teaching EFD students. Through continued education and by having my masters' degree in school counseling, I was curious as to how learning and social behaviors affect the progress of EFD students in the classroom. I have been particularly interested in helping EFD students move beyond their functional weaknesses to experience success in school.

After identifying the local problem and after conducting the first review of literature, I was eager to begin investigating teachers' perceptions of working with EFD students. I wanted to expand my own knowledge of this problem in order to provide

knowledge of strategies or interventions for teachers to improve instruction for EFD students. I interviewed participants to inquire about current strategies used with EFD students and areas that they felt they lacked knowledge to help EFD students. The discourse revealed that teachers have some knowledge of the difficulties experienced by EFD students but were frustrated dealing with the increase in the number of students with EFD in their classrooms. Participants shared the various approaches employed in their classrooms that were also supported by the literature.

As I listened to the participants discuss their experiences and perceptions of EFD students, I had to remind myself that my role as researcher means I cannot allow my own experiences to influence the interpretation of participants' responses, nor should I hold expectations or preconceived notions about their beliefs. Considering the years of my teaching experiences with EFD students, I had to reflect often on my own feelings and journal them to remain unbiased. While I was aware of the local problem, I had to remove myself from the practitioner role in order to effectively serve as researcher. During the second review of literature, I found evidence supporting the local problem. Studies on EFD conclusively identified issues teachers face in dealing with EFD students. I was confident that the research supported teachers needed knowledge of interventions for teaching EFD students as they can present academic and behavioral challenges in the classroom.

**Growth of Self as a Scholar**

As I completed my study, I became an adept and experienced researcher. After data collection I had to transcribe interviews and the focus group interview. I listened to the recorded transcripts several times to help ensure accuracy. Reviewing the transcriptions from an objective viewpoint was a challenge. In my role as researcher, I had to remove myself and any prior knowledge or bias toward the study or participant. Data collection led to a careful consideration of the data's iterative ideas, however I found it difficult to do so without being reflective of my own personal biases. Beginning the coding process, I often read over my journal of personal notes and interview responses from the data collection stage. The coding process then formed the themes that drove the second review of literature. Using the themes as a framework for research, I conducted a second review of literature. The research was extensive as I developed a deeper understanding of the data and themes based on the local problem. I was able to broaden the scope of research driven by the local problem by searching the research guided by my study's themes.

**Growth as a Practitioner**

By engaging in the research for this study, I gained professional knowledge that positively impacted my practice as an educator. Using the themes gleaned from the data in this study, I deepened my understanding through an extensive search of literature. This knowledge informed my own classroom practices to help improve learning for EFD students. As a teacher and practitioner, part of my job includes being a part of

collaborative practices with my peers and grade level colleagues. By collaborating with my peers, I was able to share strategies from my research to help improve student learning in other classrooms. The feedback and discourse with my peers were also a resource for professional growth as I reflected upon what worked or did not work for my peers. I became a resource for my peers who needed knowledge to help their instruction of EFD students and in turn, was able to apply knowledge that would improve instructional practices.

This study's findings helped me to develop PD goals that may improve instruction at the local site. As a practitioner I gained knowledge of valuable instructional tools to employ with EFD students in my own classroom. The experience was a reminder that students' needs are unique and require ongoing education by teachers in order to maintain best practices. I learned that collaboration within a school community is an ongoing opportunity to grow and change as a practitioner to improve student learning.

### **Growth as a Project Developer**

Creating this project allowed me to reflect on my own practices, and how my own instruction was affected by new knowledge and a new understanding of EFD students. As I assessed the value of this new knowledge to my own practices, I was able to find effective means to impart the importance of this knowledge to my peers. When researching PD and best practices for educators, the literature centered on the benefits of using collaborative action in schools (Tabach & Schwarz, 2018). Using the literature,



I designed a project that will allow teachers to work together to problem solve various real-life situations with EFD students. And, since active learning is known as an effective means to transfer knowledge from PD into a real-life setting, I included hands on application of the PD goals.

### **Reflection on Importance of the Work**

The process of collecting and analyzing data had a great influence on my personal growth as a practitioner, researcher, and project developer. The rigor of a study, in my experience, involves accurately transcribing data without bias, and examining repetitive ideas in the data to develop the themes that will drive the second review of literature. Those themes must be carefully constructed and must parallel the ideas of the participants and their responses to the research questions for the purpose of dependability. Additionally, for the purpose of validity, a qualitative researcher strives for transferability, or how a study's outcomes can be applied to other settings. For this reason, it was important to align the research questions to the problem and purpose of the study. Finally, I observed that the themes are what connects the researcher to the second literature review in that the quality and quality of data found are dependent on the outcomes of the data analysis.

### **Implications, Applications, and Directions for Future Research**

This study contributes to the literature about teachers' understanding of EFD students. By collecting data from 12 K-5 elementary teachers, I conveyed their perceptions, thoughts, and experiences about their current teaching practices for EFD

students and interventions for EFD behaviors. When I analyzed the data and identified three themes from the data, I created a PD to help teachers increase their knowledge of EFD and the core characteristics of EF as they pertain to student learning and behavior.

### **Potential Impact for Positive Social Change**

Within the school environment teachers have the potential to serve as facilitators of positive social change. This project provides teachers with knowledge of appropriate interventions to improve the overall learning environment for EFD students. The knowledge provided in this study will assist teachers in differentiating their instruction to better meet the needs of EFD students. The PD will focus on providing knowledge of EFD and the core characteristics that drive EFD behaviors. Secondly, the PD will focus on strategies to improve instruction for EFD students. And, lastly teachers will learn how effective parent communication of school expectations may positively affect their classroom environment by the added support for behavior at home. Knowledge of EFD and the core characteristics that drive behaviors may help teachers become more aware of EFD students' needs and how to improve instruction for their unique needs.

While the data analysis yielded common themes in Grades K-5 for teaching EFD students, the context of age and development in primary elementary grades K-2 challenged teachers to distinguish learning disabilities from characteristics of EFD. Because EFD students present behaviors like those who have actual learning disabilities, disseminating the difference as young as Kindergarten may require further training and support for those teachers. To address this issue consideration of the needs

of teachers of primary grades versus intermediate elementary grades may be needed to help account for differing needs (Owens et al., 2018). Furthermore, training for teachers should focus on developing appropriate responses to the relative needs of primary versus secondary teachers of EFD students (Owens et al., 2018). A study of classroom behavior and EFD found that interventions that began in Kindergarten helped future teachers to track behavior progress and to adjust interventions throughout the elementary grades to the students' age-related needs (Martin & Fulater, 2019).

### **Methodological, Theoretical, and Empirical Implications**

This study has important methodological, theoretical, and empirical implications because the problem that prompted this study focused on providing teachers with strategies to improve the overall learning experience for EFD students for improved performance in schools. The study's problem was investigated through interviews with elementary teachers from their real-life classroom experiences with EFD students. The methodology used for this study was qualitative case study design. This design was the most fitting for this study as it allowed me to engage in discussions with participants to reflect on the local problem. Specifically, the one on one interviews and focus group interview allowed me to discuss and further probe participants about the research questions to gain a deeper understanding of their perceptions and experiences. The conceptual framework of this study was based on the core characteristics of EFD (Diamond, 2013). The core characteristics of EFD, identified by Diamond (2013), directed the literature search of strategies to help teachers struggling with EFD students'

behaviors. The theoretical implications from this study assert that teachers provided with strategies to improve learning by addressing the behaviors that are associated with the core characteristics of EFD in their classrooms may improve the overall learning environment for EFD students.

The empirical implication of this study is that K-5 elementary teachers with at least 3 years of teaching experience are reliable sources of information about their instructional experiences and practices with EFD students. The data suggests that teachers utilize some strategies to help EFD students with instruction and behavior but would like to increase their knowledge of strategies to improve learning. For teachers to increase their knowledge of strategies they must be offered opportunities to learn and engage in new practices as part of their professional development. An empirical implication of this study is that additional studies which focus on teachers' perceptions and experiences may be beneficial to teachers and other school districts that are struggling with behaviors of EFD students that affect learning. Further studies could provide teachers with additional skillsets that enhance their professional growth.

### **Recommendation for Practice and/or Future Research**

Consideration for future studies should focus on the extensive research related to EFD students and learning. There is potential for additional research on the core characteristics that drive the behaviors of EFD that are currently affecting teaching and learning in schools. The findings of this study demonstrated that teachers want to increase their knowledge of strategies for teaching students with EFD. Future studies on

EFD students and their learning related needs may improve the overall learning environment for EFD students and provide the instructional skills for teachers needed to teach EFD students. The findings of this study showed that parental structures at home affected the learning progress of EFD students in the classroom. Specifically, the potential for future studies focused on improving parent communication regarding consistent and high expectations at home and school could improve learning outcomes for EFD students. Finally, future research about how teachers can effectively manage EFD behaviors and provide early interventions in the elementary grades may improve students' academic success as they move ahead through the upper school grades.

### **Conclusion**

EF are a set of cognitive processes that are associated with students' ability to self-regulate and learn (Craig et al., 2016). Students with EFD can present instructional challenges for teachers. Vandenbroucke et al. (2018) found that teachers can promote cognitive abilities in EFD students that affect learning through goal directed behavior interventions. Behaviors associated with EFD affect learning and require teachers to have a knowledge of effective instructional strategies and classroom management approaches.

The problem that prompted this study was that kindergarten through 5th grade teachers were struggling to find appropriate interventions to support the rising number of students exhibiting executive function deficiencies (EFD). I interviewed 12 teachers in a local suburban elementary school who taught Kindergarten through fifth grade. I

analyzed the data that resulted in these findings that captured teachers' perceptions and experiences of (a) knowledge of instructional strategies that help EFD students focus on learning tasks (b) classroom management strategies that reduce the off-task behaviors associated with EFD students (c) support and training communicating classroom expectations with parents to improve behavior in EFD students. During the interview process I learned that teachers believed that they needed knowledge of instructional and behavioral strategies to improve learning for EFD students. The data revealed that teachers were lacking professional knowledge to meet the needs of their EFD students.

The rising number of students identified as having EFD has contributed to the dilemmas teachers are experiencing in managing EFD students in their classrooms. This study is relevant to the growing interest in EFD and student performance. This study contributes to the literature by presenting strategies and approaches that teachers can employ to serve a growing EFD population.

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## Appendix A: The Project

**Goals:** In this 3-day PD, teachers will be provided with information about EFD and strategies to teach students with EFD. The goal of this PD is to grow teachers' knowledge of EFDs and provide strategies to help with instructional practices that aid in the teaching of EFD students, effective interventions that address the problematic behaviors related to teaching students with EFD, and tools for helping teachers to communicate to parents, expectations that improve classroom practices with EFD students. I will share differentiated instructional practices that address the core characteristics affecting EFD student learning. Teachers will learn behavioral interventions that address problematic EFD student behaviors. Lastly, I will share tools for parent communication that help teachers in aligning expectations for EFD students between home and school. I will arrange collaboration groupings to engage teachers in discussion, hands on practice activities, reflection and for feedback to help teachers apply, synthesize, and transfer new practices related to teaching EFD students.

**Learning Outcomes:** Teachers could build upon their current knowledge, perceptions and experiences about teaching EFD students including instructional strategies and behavioral interventions to improve the overall learning environment for EFD students. Teachers will participate in a group brainstorming activity to help with the assessment of their current knowledge and to determine their current needs and

goals related to teaching EFD students. Upon completion of the PD, teachers will be provided with a resource handout containing instructional strategies, behavioral interventions, and parent communication approaches for teaching EFD students.

**Target Audience:** The target audience for this project will be all Kindergarten through Fifth grade teachers in the local school. Administrators, lead teachers and academic specialists will be invited to attend and participate in the PD sessions to provide support to classroom teachers on the instructional strategies, behavioral interventions, and parent communication approaches related to teaching EFD students.

**Components:** The PD will be organized by topic, which will help participants to achieve their goal of increasing their knowledge and practices for teaching EFD students.

Day 1: Instructional Strategies: Define the core characteristics of EFD and how differentiated instructional strategies can address the needs of EFD students as they pertain to the core characteristics of EFD.

Day 2: Classroom Management Strategies: Identify typical behaviors related to the core characteristics of EFD as they present in the classroom, and share current strategies used as well as new research-based strategies that may improve these behaviors.

Day 3: Tools for Communicating Expectations with Parents: Present various approaches to communicating classroom expectations with parents, and how



consistent expectations at home and school positively affect learning for EFD students.

To plan this project, three findings were used to guide the presentation of instructional strategies, classroom management strategies, and tools for communicating expectations with parents associated with the teaching of EFD students. The project was created to help provide teachers with interventions that can be incorporated into classroom instructional practices. Days 1, 2 and 3 of the PD were all designed for teachers to engage in peer collaboration in the form of discussion, hands on activities reflection and feedback.

The PD sessions and collaborative activities were organized using PowerPoint slides and facilitator notes. The PowerPoint slides provided participants a framework for each session, outlining the 3-day sessions according to the PD goals. Formative and summative assessments were also incorporated into the 3-day PD sessions. The following charts outline the time frame, activities, and methods used for each day of the PD:

### PD Session Schedule - Day 1

Time	Activity	Method
8:30 – 9:00	Sign-in, PD material pick-up, and group assignment	Sign-in at a designated table in school conference room, pick-up PD materials, and table assignment for groups
9:00 – 9:30	Breakfast	Countertop area to the right of the room
9:30 – 10:00	Welcome, Introductions, Overview of 3-day PD session goals and learning outcomes	Lead by PD facilitator using PowerPoint slides on Smartboard
10:00 – 10:45	Pre-activity-Get to know you. Group name and logo. Present to the entire audience.	Anchor chart paper and markers, Led by Facilitator and Groups
10:45 – 12:00	Brainstorming Activity; Core concepts of EFD and placement activity	Lead by PD facilitator and a collaborative group activity.
12:00 – 1:00	Lunch	On your own
1:00 – 2:00	Instructional Strategies for teaching EFD students. Compare and contrast teachers' current knowledge with research-based strategies.	PowerPoint presentation- presented by PD facilitator; Handout
2:00– 2:30	Closing Session	Reflection: Exit Ticket

### **PD Facilitator Notes for Day 1**

- During the sign-in teachers will receive a name tag and a group table assignment. A folder will include PD handouts and exit tickets.
- A box for the collection of the exit tickets will be placed on a table near the exit door of the conference room.
- Share all PD information with the participants using a PowerPoint presentation, providing them with a copy of the PowerPoint slides with note lines, and handouts.
- Anchor chart paper and markers will be in the front of the room for group activities.
- The participants will be provided with breaks during the sessions.

The facilitator will address the following tasks at the start of the day 1 session:

- Welcome the participants to the PD program and introduce the principals, lead teachers, and specialists, if they are in attendance, and give an overview of the 3-day PD schedule of activities.
- Explain how the goals and learning outcomes of the PD will be used to assist teachers with instructional intervention strategies that address the needs of EFD students, and that can be implemented in the classroom.
- Pass out materials for creating a group name and logo on adhesive anchor chart paper. Explain that this activity is to promote a shared vision within

the school and among colleagues for approaching the teaching and learning of EFD students.

- Ask participants to share their anchor chart with the group and speak to its meaning. Post the anchor charts on the wall facing the participants as a reminder of their teaching beliefs.
- Review the rules for group discussions with the participants prior to the start of the group activities. I will list them on the dry erase board in front of the room.
  - Listen respectfully; do not interrupt
  - Listen actively and be open to others' views
  - Try to be vulnerable and share
  - Give everyone a chance to speak

Once rules are discussed, the session activities will begin.

- The facilitator will go over the core characteristics of EFD and lead participants in a brainstorming/reflective activity about their own instructional practices with EFD students. The facilitator will introduce the placement activity and ask 4 different questions. Each of the four questions will be answered by a different participant based on their seating location around the chart. Groups will record answers using a placement activity chart that is on their table.

Q1: How does teaching EFD students affect your instructional planning?

Q2: What kinds of EFD learning related behaviors do you see in your class?

Q3: What do you perceive the instructional needs of EFD students to be?

Q4: Describe any accommodations used for instructing EFD students.

- Group members will discuss their individual answers for a few minutes and then come to a collective response that combines all beliefs and write it in the center circle of their placement activity chart. Each group will share via a speaker and I will allow for questions, feedback and reflective comments after each presentation.
- Inform participants before breaking for lunch that during afternoon session, they will be presented with information about the core characteristics of EFD and how they are associated with instruction strategies for EFD students.
- Activity 2 will have participants viewing research-based strategies for the instruction of EFD students. Groups will compare current knowledge with research-based strategies and present outcomes to the PD audience.
- Finish day 1 with the Closing Session, which will involve teachers completing an Exit Ticket as a reflection activity. The exit ticket will be given to the teachers to complete at the end of the day 2 session. Teachers will then place their completed ticket in a box by the exit door as they leave the session for the day.

The PowerPoint presentation slides for PD day 1 are found below:

## TEACHING AND EFD STRATEGIES FOR MANAGING A CLASSROOM

Professional Development  
Day One

## OVERVIEW OF 3-DAY SESSIONS

Slides will follow handout given at sign in.



### SESSION SCHEDULE DAY 1

PD Goals	Learning Outcomes
<ul style="list-style-type: none"> <li>The goals of this professional development project are to provide teachers with an knowledge of instructional strategies that help EFD students focus on learning, tasks, (i) classroom management strategies that reduce the off-task behaviors associated with EFD students, and (ii) skills for communicating classroom expectations to students.</li> </ul>	<ul style="list-style-type: none"> <li>The PD presentation will be used as a resource for teachers, and as a tool to monitor instructional behaviors that relate to EFD student achievement within the school.</li> <li>Formative Assessment</li> <li>Summative Assessment</li> </ul>

### Activity 1: "Get to Know You"

- Facilitator will ask PD attendees to share words they associate with great teaching. The facilitator will write and display the words on the smartboard for viewing during activity.
- Create a "Team" Name for your Group and a Logo that is representative of the group's collective beliefs about teaching.
- Use the Anchor Chart paper and markers provided.
- Share and display charts in the front of the room.

### Brainstorming: Activity 2

**What is EFD?**

- EFD Defined: A set of cognitive processes controlled by the frontal lobe of the brain. The three core concepts of EFD according to Diamond and Lee (2011), are:
  - Flexibility or ability to transition between tasks
  - Attentional Control
  - Inhibitory

**Placement Activity**

- How does teaching EFD students affect your instructional planning?
- What kinds of EFD warning/signals/behaviors do you see in your class?
- What do you anticipate the instructional needs of EFD students to be?
- Describe any accommodations used for instructing EFD students.

### Instructional Strategies For Teaching EFD Students

- Flexible Seating -(focus)
- Accountability (self monitoring/peer buddy)
- Learning Styles/ (Differentiated approach)
- Brain Breaks (Focus)
- Active Learning (engaging)
- Goal Setting (Ex: Incomplete work/Check ins)

### Compare and Contrast Current Knowledge with Research Based Strategies

- Each participant will list old versus new strategies on handout provided. Then, as a group, discuss current instructional knowledge for EFD students (from placement Activity 2) and determine how this compares or contrasts to research based strategies.
- Prepare a consensus on what strategies group members feel comfortable using in classrooms.
- One group leader will share outcomes of the discussion.

### Closing Day 1

- Please use the exit ticket provided in your packet to create three questions that demonstrate some reflection of today's learning
- Leave ticket in box by door

**PD Session Schedule - Day 2**

Time	Activity	Method
8:30 – 9:00	Sign-in	Sign-in at table in foyer of conference room
9:00 – 9:30	Breakfast	Countertop area to the right of the room
9:30 – 10:00	Reflect on day 1; Present outline of day 2 activities	Lead by PD facilitator
10:00 – 11:00	Review core characteristics of EFD and student behavior related to EFD	PowerPoint Presentation presented by facilitator; handout for notetaking
11:00 – 11:15	Break	
11:15 – 12:30	Collaborative Group Activities	Lead by PD facilitator, group discussion, anchor chart
12:30– 1:30	Lunch	On your own
1:30 – 2:30	Collaborative Group Activity – Case Study Scenario 1	Lead by PD facilitator, You tube video, and group discussion
2:30– 3:00	Closing Session	Participant will write a reflection on day 2 activities

### **PD Facilitator Notes for Day 2**

The facilitator will address the following tasks at the start of the day 2 session:


- Welcome participants for day 2 of the PD. Share exit ticket questions from day 1 and identify how PD will address the answers to these questions.
- Inform teachers that the morning session of the second day will address EFD behaviors as they relate to the core characteristics of EFD, and reflection on the current management practices used in the classroom, as well as possible solutions to improve problematic EFD behaviors.
- Inform participants that the morning and afternoon sessions will involve collaborative group activities for problem solving possible strategies for managing problematic EFD behaviors in the classroom. After viewing research-based strategies and reviewing the core characteristics of EFD, individuals will reflect on their current practices.
- Next, each group will work collaboratively to identify and list problematic behaviors they have all observed in their classrooms and create a T-chart indicating problem behavior and solutions based on both their new knowledge and their current knowledge of EFD behavior strategies. Afterward, there will be a feedback and reflection time for all the PD audience.
- After the lunch break groups will view Case Study Scenario 1 via a You Tube link on the smartboard. The task of the collaborative groups is to determine the most effective behavior strategy to use based on the video scenario



depicting problematic EFD behavior. Group will take turns defending their solutions to the entire PD audience. Each group will choose one participant to present as spokesperson.

- Groups will have a time allotment for collaboration. The timing process will be monitored in order to keep the progress of the activity moving forward productively and the activity will continue until closing.
- The closing activity will reflect their learning on day 2. Teachers will be given space to write this in their handout to be shared voluntarily on Day 3.

The PowerPoint presentation slides for PD day 2 are found below:



### SESSION SCHEDULE DAY 2

### Case Study Scenario1

**YouTube Link:**  
<https://www.youtube.com/watch?v=8m3h11111111>

**Watch together.** Link is also available on the desktop of your individual laptops.

- Discuss various strategies as a solution to the problematic behavior seen in Case Study Scenario1 video.
- Using knowledge of the core characteristics and research handout, defend your choice to the PD audience.

## DAY ONE REFLECTIVE QUESTIONS

Discussion and Feedback

### Case Study Scenario1

**YouTube Link:**  
<https://www.youtube.com/watch?v=8m3h11111111>

**Watch together.** Link is also available on the desktop of your individual laptops.

- Discuss various strategies as a solution to the problematic behavior seen in Case Study Scenario1 video.
- Using knowledge of the core characteristics and research handout, defend your choice to the PD audience.

#### Core Characteristics of EFD and Student Behaviors: Activity 1

Core Characteristics Defined  
 (Chenoweth et al., 2011)

- (1) Flexibility
- (2) Attentional Control
- (3) Impulsivity

#### Research-Based Strategies:

- Consistent Expectations
- Physical Exercise Breaks/Movement
- Self Regulation
- Positive Reinforcement
- Parent Communication/Expectations



## CLOSING DAY 2

In the space provided in your handout, please reflect on your personal learning from Day 2.

### Brainstorm:

Brainstorm EFD behaviors that are problematic for you individually in the space provided in your handout. Adjacent to the problem, briefly describe and reflect upon strategies you currently use to remediate this problem.

As a group, apply new learning by creating a T-chart with the paper and markers provided. Label the headings: Problem/Solution. As a group collaborate and agree upon EFD behaviors that are problematic and list them on the problem side. Formulate solutions in the second column based on knowledge of new strategies and reflection of current practices.

PD Audience will discuss and reflect

### PD Session Schedule - Day 3

Time	Activity	Method
8:30 – 9:00	Sign-in	Sign-in at table in foyer of conference room
9:00 – 9:30	Breakfast	Countertop area to the right of the room
9:30 – 10:00	Recap of day 2 session and outline of day 3 activities	Lead by PD facilitator
10:00 – 12:00	Research and Discussion. Collaborative Group Activity – Case Study Scenario 2; Parent conferencing tools	Lead by PD facilitator, PowerPoint, group discussion; sharing and feedback/reflection
12:00 – 1:00	Lunch	On your own
1:00 – 2:30	Collaborative Group Activity – Case Study Scenario 3 and role play activity	Lead by PD facilitator and group discussion; handouts, presentation, feedback/reflection
2:30 – 3:00	Closing Session	Question/Answer Period and Complete PD online survey on laptop.

### **PD Facilitator Notes for Day 3**

The facilitator will address the following tasks at the start of the day 3 session:

- Welcome participants for the final day of the PD. Provide a brief recap of the day 2 session activities and present research-based tools for communicating with parents.
- Inform participants that the morning and afternoon sessions will involve collaborative work on Case Study Scenario 2 and 3. All activities are focused on tools for communicating with parents about expectations. First teachers will view research-based information on EFD and parent expectations. Then participants will reflect on their strengths and weaknesses with parent communication and discuss. The facilitator will create a chart with participants' strengths and weaknesses. Then, the PD audience will view Case Study Scenario 2 on the smartboard. Groups will be asked to formulate a plan of action in response and share for feedback and reflective discussion.
- The afternoon session will focus on Case Study Scenario 3. This collaborative task will have groups apply new strategies or tools to role play a solution that could be used with parents. Participants will be provided with a handout that includes various approaches for parent communication to guide them in the process of the role-playing activity. The PD audience will take notes and critique each presentation for strengths and weaknesses to share after each presentation.

- Groups will have an allotted amount of time to collaborate. The timing process will be monitored in order to keep the progress of the activity moving forward productively.
- Group members will be asked to rotate their roles as presenters on day 3.
- After returning from the lunch break, the participants will begin Case Study Scenario 3 of the collaborative group activity.
- This activity will continue until it is time for the Closing Session.
- During the Closing Session, participants will have opportunity to ask questions and provide feedback. The final online survey will be taken on a laptop via Quizlet to complete during this time.

The PowerPoint presentation slides for PD day 3 are found below:



### Case Study Scenario 3 Activity

- YouTube Link:  
<https://www.bing.com/videos/search?q=youtube+case+study+on+teaching+and+learning&usqp=detail&mid=9B8357831921F8410AC89B535753F021F8810AC8&FORM=VRUC5H>
- Watch together. Link is also available on the desktop of your individual laptops to review again if needed.
- Discuss various strategies as a solution to the problematic behavior seen in Case Study Scenario 3 video.
- Using the video and research handout, role play the solution for PD audience.

## CLOSING SESSION DAY 3

Participants: Thank you for your time. Please take a brief online survey as a post assessment to improve future PD sessions.

## Appendix B: Interview Protocol

Hello, I am Susan Dunlap and I will be interviewing you. The title of my study is  
 “Teachers’ Perceptions About Teaching Students with Executive Function Deficits”

Participant Name \_\_\_\_\_

Location and Time \_\_\_\_\_

### Introductory Protocol

*To facilitate my data collection, I would like to audio tape our conversations today. Information collected today will remain confidential, and all reporting of information will use pseudonym identifiers; you will not be named in the study. Please note the following: (1) all information discussed and recorded will be held confidentially, (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable, and (3) I do not intend to inflict any harm. Thank you for your agreeing to participate. The interview will last no longer than 45 minutes.*

### Introduction

You have been selected because you met the criteria for the study: a) you are a certified school teacher of grades K-5, (b) you have experience working with students with EFD, and (c) you have at least 3 years of teaching experience. The purpose of this qualitative study is to investigate the experiences and perceptions of local elementary teachers about teaching students with executive function deficiencies (EFD), about teaching strategies used to help focus EFD students, and about teachers’ professional needs to work effectively with EFD students. This study will not evaluate your techniques or experiences. Rather, I am trying to learn more about working with students with EFD, and hopefully learn about teaching practices that help improve student learning.

*RQ1: What are the experiences and perceptions of teachers about teaching students with executive function deficiencies?*

1. Students with executive function deficiencies (EFD) may display behaviors that challenge teachers instructionally. What is your approach to instructing students with executive function deficiencies? **Probe:** Can you discuss a strategy you use?



2. Issues with attention, focus, or self-control are behavioral characteristics of students with EFD that get in the way of instruction. What do classroom management practices you engage in to prevent disruptive behaviors?  
**Probe:** Why do you use this method?
  
3. Do students with EFD require you as a teacher to make accommodations that are atypical? **Probe:** In what way do you differentiate your teaching strategies to meet the needs of these students?

*RQ2: What are the experiences and perceptions of elementary teachers regarding instructional strategies used to help focus students with executive function deficiencies?*

1. Can you explain any practice that you believe is valuable when teaching students with EFD in your classroom? **Probe:** Why is the practice a benefit to students with EFD?
  
2. Sometimes teachers do not “see” the off-task behavior-like daydreaming. How would you describe your ability to identify students who are off task? **Probe:** How do you feel about the time spent dealing with or managing off-task behaviors?

*RQ3: What are the perceptions of teachers about professional development opportunities that could enhance their instructional delivery to support the core EFD characteristics of students with executive function deficiencies?*

1. What is the hardest part of teaching students with EFD? **Probe:** Is there a specific area of instructional support that would help strengthen this area?

2. What kind of knowledge or training might help with your classroom management of students with EFD? **Probe:** What ideas or advice would you share with other teachers?
3. If you were offered training to manage students with EFD, what would the focus of the training be? **Probe:** How will this help you?

### Appendix C: Focus Group Protocol

Hello. I am thankful for your participation today. My name is Susan Dunlap and I will be facilitating our conversation. You have been selected for our focus group because you are a participant in this study, you volunteered for this specific task, and your experiences and perceptions are of great value. You should contribute to our discussion, as you feel moved to do so without any expectations from me or anyone in this group about what you say or how you say it. Respectful communication is a group norm, so even if you may not agree with the statements that others may make, all the participants' ideas are welcome. I will be recording our conversation to make sure that I capture everything. When you speak, do your best to speak clearly. When one member of the group is sharing, please allow him or her to have the floor. We will use the assigned numbers to identify one another during our conversation. Furthermore, I would like to ask you not to name your school or colleagues, but to say instead, "my school" or "a math teacher" without further identification. Finally, let me ask you to turn off any electronic devices including cell phones if you have them. Before we begin, do you want to ask me any clarifying questions? I am going to begin now as I press the voice recorder button.

*RQ1= What are the experiences and perceptions of teachers of teaching EFD students that are used to address the core EFD characteristics of students with executive function deficiencies?*

1. EFD have been associated with student characteristics such as a lack of focus, attention, and socially acceptable behaviors with peers. Have you observed these behaviors in your classrooms? **Follow-up:** Do you accommodate for instructional differences for students with EFD? **Probe:** What instructional strategies do you use specifically?
2. Students with EFD may have behaviors that distract others from learning, including themselves. How do you manage behaviors that distract others or an individual from engaging in learning? Follow up: Are there specific accommodations or strategies you may use to maintain an active learning environment? **Probe:** How do students with EFD respond to your accommodations?

*RQ2=What are the experiences and perceptions of elementary teachers regarding their current practices in teaching students with executive function deficiencies?*

1. Teachers usually differentiate instruction to meet the instructional needs of their students. How do you feel your instructional practices meet the needs of students with EFD? **Follow-up:** Is there a way you feel is best or worse to

approach students with EFD? **Probe:** Can you explain what is beneficial or not beneficial to teaching students with EFD?

2. Some teachers have years of experience with classroom management yet struggle to help students with attention and focus. Can you explain how you feel about your ability to instruct students with EFD? Follow up: Do you feel strongly about certain practices you use? Prompt: If so, can you give an example of something you felt worked?
3. Best practices in teaching are always evolving as educational needs change with the times. What is your perception of best practices when it comes to teaching students with EFD? **Follow-up:** Do you feel your perception of best practices for teaching students with EFD has changed in recent years? **Probe:** If so, why has it changed, or why has it not?
1. Teaching students with EFD can require a skill set that may be challenging for some teachers. What do you perceive as most challenging when teaching a student with EFD? Behaviorally or instructional? **Follow up:** Can you elaborate or tell me about a specific situation and why it was challenging? **Prompt:** Or describe a mistake that helped you better your understanding of student with EFD?

*RQ3=What are teachers' ideas about professional development opportunities that could enhance their instructional delivery to support the instruction of students with executive function deficiencies?*

1. Based on your experiences teaching students with EFD, what skills do feel are your strengths or weaknesses? **Follow-up:** How well do you feel you were prepared for teaching students with EFD? **Probe:** What type of training do you feel would benefit the teacher of students with EFD in the classroom?
2. Based on your teaching experience thus far, what do you think are the instructional needs of teachers of students with EFD? **Follow-up:** What kind of training do you think would best support the instruction of students with EFD in the classroom? **Probe:** What ideas or advice in terms of classroom management would you recommend as helpful to improve instruction for students with EFD?