Structured Observation as a Professional Development Tool to Prepare Teachers for Observing Social Responsiveness in Preschool Students with Autism Spectrum Disorder

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STRUCTURED OBSERVATION AS A PROFESSIONAL DEVELOPMENT TOOL TO PREPARE TEACHERS FOR OBSERVING SOCIAL RESPONSIVENESS OF PRESCHOOL CHILDREN WITH AUTISM SPECTRUM DISORDER

By

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A DISSERTATION

Submitted to the Faculty of the University of Miami in partial fulfillment of the requirements for the degree of Doctor of Philosophy

Coral Gables, Florida

August 2014
UNIVERSITY OF MIAMI

A dissertation submitted in partial fulfillment of
the requirements for the degree of
Doctor of Philosophy

STRUCTURED OBSERVATION AS A PROFESSIONAL DEVELOPMENT TOOL
TO PREPARE TEACHERS FOR OBSERVING SOCIAL RESPONSIVENESS OF
PRESCHOOL CHILDREN WITH AUTISM SPECTRUM DISORDER

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The call for high quality teacher implementation of evidence-based practice (EBP) through legislation and the increase in the prevalence of Autism Spectrum Disorder (ASD) creates a need for researchers and educational stakeholders to produce more effective professional development programs for teachers of young children with ASD. Video analysis has been used as a method for familiarizing teachers with students’ diverse approaches to learning. As a need for more specialized training in using data to guide instruction for young children with ASD has been indicated, this research examines potential learning outcomes for teachers during the use of classroom video observation. Specifically, this qualitative study explored the application of a Structured Observation Guide (SOG) to help improve teachers’ observation skills in social responsiveness of preschool students with ASD. Further, this dissertation analyzed observational and interview data surrounding teachers’ use of structured and unstructured video observation. Findings indicated that during unstructured video observation, teachers have a tendency to observe a pattern of immediate thoughts, personal reflection, and the
formation of generalizations. Further, the unstructured observational content mainly focused on ASD characteristics and instructional critique, as opposed to the SOG observational content of identifying and reflecting on specific social tendencies. Although teachers believed both video observational approaches promoted reflection, encouraged knowing the student, and were more beneficial than live observations, participants found the SOG to improve focus, reduce bias, and increase reflection rooted in video data. Despite technical issues affecting usability, the SOG was noted as being an effective professional development tool that encouraged the integration of data into instructional reflecti
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Chapter 1: Introduction

For decades, legislation has introduced critical changes influencing the educational services for students with special needs. The reauthorization of the Education of All Handicapped Children Act (EHA; PL 94-142) in 1990, renamed the Individuals with Disabilities Education Act (IDEA), ensured that children would be provided services in the least restrictive environment and alongside non-disabled peers to the “maximum extent appropriate” (IDEA; P.L. 105-1). Of particular interest to the current study are the 1997 and 2004 reauthorizations of IDEA, which created a disability category for Autism Spectrum Disorder (ASD), and placed an emphasis on the importance of highly qualified teachers who are trained in implementing evidence-based practices (EBP; Turnbull, Wilcox & Stowe, 2002; U.S. Department of Education, 2011).

Legislation has similarly had a direct influence on personnel preparation. Highlighting the importance of providing professional development to produce high quality teachers in IDEA (2004), the No Child Left Behind Act of 2001 (NCLB, 2002) echoed mandates of earlier congressional legislation. Two central tenets of NCLB were the integration of scientifically based research into the classroom and the increase in professional development programs to strengthen educators’ knowledge base of instructional practices supported by research. Scientifically based research and EBP have been used interchangeably in the field and are considered synonymous (Berliner, 2002). According to NCLB, EBP are created through “research that involves the application of rigorous, systematic and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs” (NCLB, 2002, p. 107). Despite NCLB mandating the implementation of EBP, research suggests that the application of these
practices still proves challenging at the classroom level (Fagan, Hanson, Hawkins, & Arthur, 2008; Fairbanks, Simonsen, & Sugai, 2008). Further, incorporating EBP into instruction for young children with ASD presents an exceptional challenge (Barnhill, Polloway, & Sumutka, 2011). Although EBP have been suggested to improve outcomes for preschool students with ASD (Iovanone, Dunlap, Huber, & Kincaid, 2003; Simpson, 2005), many teachers are still not implementing these strategies in their classroom (Downs & Downs, 2010; Hess, Morrier, Heflin, & Ivey, 2008). Following a primary component of NCLB, research supports specialized training in applying EBP, as teachers are the primary agents for implementation (Downs & Downs, 2010; NRC, 2001; Odom, 2009).

Leading voices in the field have critiqued NCLB’s rigid criteria for consideration of EBP, arguing that randomization is difficult with such a heterogeneous group such as students with ASD (Simpson, 2005). These concerns enabled the inclusion of quasi-experimental and single-subject design, thereby increasing the availability of several EBP for teacher training and classroom implementation (NRC, 2001). The use of data collection in a naturalistic setting for the purposes of instructional adjustment is one potential method for incorporating EBP into the classroom (Bagnato, McLean, Macy, & Neisworth, 2011). Research suggests that authentic observation presents the opportunity for teachers to identify instructional needs in the classroom environment and use this data to guide individualized interventions (Macy & Bagnato, 2010). Further, a detailed review by Nagro and Cornelius (2013) supported video analysis as a “promising practice” (p. 312) when determining criteria for EBP designated by What Works Clearinghouse. Despite the promise of authentic methods, van Es and Sherin (2002) stress that teachers
must travel beyond simple student observation towards a more targeted “noticing” through video observation. According to the researchers, “noticing” is developing the ability to identify significant events within the video observation, and gathering data to later be used for instructional decision-making. Schwartz and Hartman (2007) suggested video observation as an effective method of achieving several learning outcomes for teachers, including: targeted noticing, contextualizing classroom experiences, building skills, and gathering student data. Hence, observing student video presents the potential to strengthen teachers’ observation skills and encourage using video data for instructional change, therefore satisfying legislative mandates by integrating EBP.

**Autism Spectrum Disorder**

Autism Spectrum Disorder (ASD), characterized primarily by social and communicative impairments and repetitive behaviors, is the fastest growing developmental disability in the United States (Center for Disease Control, 2012). The Autism and Developmental Disabilities Monitoring Network (ADDM), established in 2000 by the Center for Disease Control (CDC) due to a growing need for data collection, estimated the prevalence of ASD to be 1 in 68 children (CDC, 2014). Statistics released in 2009 by the ADDM indicate an annual growth rate ranging from 10%-17%, with numbers continuing to rise (CDC, 2012). The staggering increase in the prevalence of ASD places pressure on educational stakeholders and legislators, highlighting the importance of their roles in establishing policy and services to assist with the growing need.

As ASD characteristics are typically observed by age three (Matson, Mahon, Kozlowski & Shoemaker, 2010), early identification and intervention of young children
has become more prevalent with the rising number of diagnoses. Research on treatment effects indicates significant gains with the application of effective early intervention (Boyd et al. 2013; Boyd et al. 2010; Dawson et al., 2010; Landa et al., 2011; Lovaas, 1987; Strain & Bovey, 2012). Further, outcomes are shown to be greater when intervention commences by age three as compared to those starting at age five (Harris & Handleman, 2000; McGee, Morrier, & Daly, 1999). These studies emphasize the success of early intervention is conditional on the application of EBP. However, many teachers use instructional practices that have no evidence base (Morrier, Hess, & Heflin, 2011). For example, Hess, Morrier, Heflin and Ivey (2008) suggested that less than 10% of the public school teachers surveyed in Georgia were implementing interventions considered to be EBP. These findings highlight a need for increased awareness of EBP coupled with professional development, for teachers of preschool students with ASD.

In addition to instructional issues in early childhood ASD classrooms, research presents another critical problem; frequent non-compliance of IDEA-mandated regulations has led to an influx of litigation against school districts (Hill & Kearley, 2013; Hill, Martin, & Nelson-Head, 2011; Zirkel, 2011). In fact, challenges to the adherence to the Individualized Education Plan (IEP) and utilization of Free and Appropriate Public Education (FAPE) for students with ASD represent the most rapidly increasing area of special education litigation (Baird, 1999; Hill & Kearley, 2013). In 2010, there were 68 cases of ASD-related special education litigation, in which 57 focused on issues of IEP non-compliance in progress monitoring, placement, accommodations, and instructional practices (Hill & Kearley, 2013). Despite legislation calling for adherence to IDEA’s principles and NCLB mandating the use of EBP for
students with ASD, most states do not require a supplementary endorsement in ASD for early childhood special education (ECSE) teachers (Thorton, Peltier, & Medina, 2007). This lack of mandated teacher quality may contribute to the rise in Autism-related court cases.

**Call for Autism Related Professional Development and Research**

The deluge of students identified with ASD entering the special education system and the increase in ASD-related litigation has stimulated the enactment of ASD-centric federal and state initiatives, focused on strengthening the effectiveness of teachers through professional development (Shattuck, 2006). The National Research Council’s (NRC) report, *Educating Children with Autism* (2001), concluded that very little research focuses on professional development for implementing EBP for children with ASD. Considering the surge in diagnoses and the specific social, behavioral, and language needs of children with ASD, the NRC found that “personnel preparation remains one of the weakest elements of effective programming” (p 225), urging policy makers and local educational agencies to take action.

Following the NRC’s prompting, the U.S. Department of Education’s Office for Special Education Programs funded the National Professional Development Center on Autism Spectrum Disorder (NPDC) in 2003. This center partnered with higher education institutions across the country to provide support for the implementation of EBP for students with ASD. Further, President George W. Bush signed the Combating Autism Act of 2006 (P.L. 109-416), which provided federal funding until 2011 to increase the number of personnel trained in EBP. In September 2011, the Combating Autism Reauthorization Act (H.R. 2005) was signed by President Obama, providing 693 million
dollars over the next three years for ASD-related funding and collaboration with Congress, experts, and families to further improve state and federal programs.

**Statement of the Problem**

The call for high quality teacher implementation of EBP through legislation and the increased prevalence of ASD creates a need for researchers and educational stakeholders to produce more effective professional development programs for teachers of young children with ASD. This problem is magnified by the lack of teacher application of EBP in the early childhood special education (ECSE) classrooms, as suggested by research. As effective early intervention programs integrating EBP have demonstrated substantial gains in young children with ASD, it is the duty of the ECSE field to establish effective professional development that promotes the integration of EBP into instruction. The interweaving of NCLB, increased ASD prevalence, and a call for ASD related professional development has created a complex problem in ECSE, which characterizes the aim of this research.

Video analysis research has suggested that this method is a catalyst for teacher change, specifically concerning an increase in observational focus directly influencing instructional practices (Tripp & Rich, 2012; van Es & Sherin, 2002). As a need for more specialized training in integrating student data for instructional purposes has been indicated, this study examines potential learning outcomes for teachers during the use of classroom video observation of preschool students with ASD. Specifically, I explore teachers’ expressed cognitions during unstructured video observations of a preschool student with ASD. Further, I investigate teacher perceptions of the utility of a structured
observation guide (SOG) for the purposes of professional development focused on creating trained observers in the area of social responsiveness of preschool students with ASD.

**Background**

In the area of ECSE, there is a lack of research examining the use of structured observation to strengthen teachers’ observational skills, specifically focusing on social responsiveness for children with ASD. However, there is growing support for the use of authentic assessment of student skill through naturalistic observation of young children with disabilities (Bagnato, et al. 2011). Bagnato, McLean, Macy, & Neisworth (2010) suggested ongoing observation as a method of facilitating data-informed decision-making by teachers. The same research team supported the use of technology, such as video recording devices, to compile a database of students’ behavior in their natural environment for future analysis. The use of technology for recording and storage of observational data for young children with disabilities has become more widespread in recent years (Buzhardt et al. 2010; Ledoux, Yoder, & Hanes, 2010; Neisworth et al., 2010), as has the application of web-based professional development for teachers of young children with disabilities (Powell, Diamond, & Koehler, 2009). Both methods have indicated promising results in teacher application of EBP.

Despite a lack of research focusing on teacher video observation in the field of special education, several studies have examined video analysis for mathematics and science education. Nagro and Cornielius (2013) espoused that professional development through video analysis has a significant evidence base, when examined through the criteria dictated by What Works Clearinghouse (WWC). Research has indicated that
video observation increases noticing skills (van Es & Sherin, 2005), encourages teacher reflection (Calandra, Gurvitch, & Lund, 2008; Capizzi, Wehby, & Sandmel, 2010), and promotes a change in belief and practices (Tripp & Rich, 2012; Watts-Pailliotet, 1995). Further, the application of a structured tool to guide teacher’s video observation has been suggested to increase interpretation and analysis founded on video data, impact learning and strengthen noticing skills (van Es & Sherin, 2002; van Es & Sherin, 2006).

**Purpose**

The primary purpose of this research is to examine teachers’ use and perceptions of the utility of a structured observation guide (SOG) for the purposes of professional development to increase observation skills in social responsivity of students with ASD. A secondary purpose is to compare teachers’ observational and interview data when engaging in both an unstructured and structured video observation. My intent is to contribute to professional development research in early childhood ASD through the introduction of a structured guide for video observations, with the aim of developing teacher-observers trained in social responsiveness.

**Research questions**

1. What thoughts do participants express during an observation of a video of preschool students with ASD during classroom work time?
2. How do participants perceive the utility of a structured observation guide for professional development for increasing observation skills regarding social responsiveness of preschool students with ASD?
3. How do the perceptions of utility and researcher analysis of observational data compare between structured and unstructured observations of student videos?
Chapter 2: Literature Review

Overview

Chapter two presents a comprehensive examination of the research surrounding the use of structured observation of videos for the purposes of professional development in improving teachers’ observational skills in social responsiveness of preschool students with ASD. The areas to be critically examined include: 1) educational policy, 2) a call for Autism-related professional development, 3) current statistics and research concerning ASD, 4) professional development for EBP with ASD, 5) perspectives on teacher learning in professional development, 6) authentic assessment/observational data to target instructional needs, 7) the use of data to guide instruction in ECSE/ASD, 8) video analysis as a professional development tool, and 9) background on the Social Responsiveness Scale.

Literature Search Procedures

For this review of literature a thorough search was conducted through the journals indexed in ERIC, PsychINFO and Professional Development Collection databases, in addition to hand searches through several journals. For each component of this review an independent search was carried out with diverse inclusion criteria and keywords, based on my intent. Please refer to Table 1 for the database/journals searched, keywords used, and inclusion criteria for each component in the literature review.
Table 1

Search criteria matrix.

<table>
<thead>
<tr>
<th>Literature Review Component</th>
<th>Databases used/journals hand searched</th>
<th>Keywords</th>
<th>Inclusion Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational policy</td>
<td>ERIC, PsychINFO, Professional Development Collection, Topics in Early Childhood Special Education</td>
<td><em>No Child Left Behind,</em> special education, special education legislation, <em>Autism legislation,</em> and early childhood special education legislation</td>
<td>Included research most relevant to ECSE and ASD. Excluded research prior to NCLB</td>
</tr>
<tr>
<td>Autism-related professional development</td>
<td>ERIC, PsychINFO, Professional Development Collection, Topics in Early Childhood Special Education, Focus on Autism and other Developmental Disabilities</td>
<td><em>Autism legislation,</em> and early childhood special education legislation</td>
<td>Included most recent publications, not preceding the NRC’s report (2001)</td>
</tr>
<tr>
<td>Professional development</td>
<td>ERIC, PsychINFO, Professional Development Collection, Topics in Early Childhood Special Education, Focus on Autism and other Developmental Disabilities, Teacher Education and Special Education</td>
<td><em>professional development,</em> teacher education, teacher training, data collection, data-informed instruction, data-based instruction, special education, ASD, ECSE, and ECSE-ASD</td>
<td>Included the most recent research focused on special education, ECSE and ASD. Excluded research prior to NCLB</td>
</tr>
<tr>
<td>Perspectives on effective professional development</td>
<td>ERIC, PsychINFO, Professional Development Collection, Topics in Early Childhood Special Education, Focus on Autism and other Developmental Disabilities</td>
<td><em>professional development,</em> effective professional development, teacher perspectives/beliefs, and situated learning theory</td>
<td>Included most recent and highly cited research. Excluded research prior to Lave and Wenger (1991)</td>
</tr>
</tbody>
</table>
Educational Policy

For decades, research and legislation have aimed at improving the condition of our education system. The publishing of *A Nation at Risk* (1983) by the National Commission on Excellence of Education (NCEE) produced several conclusions concerning the status of the public education system, placing this commission in the public eye. The report stated, “the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people” (NCEE, 1983, *A Nation at Risk*, p. 1). The report further stated, “what was unimaginable a generation ago has begun to occur…others are matching and surpassing our educational attainments” (p. 1). In order to combat a loss in education preeminence
and to ensure meaningful use of federal funds, the commission called on political and educational leaders to strengthen the educational system through increased standards, assessment and implementation of effective instructional methods (Yell, Drasgow, & Lowrey, 2005). Further, the report addressed how teacher preparation programs should stay current with research-supported methods and technology, suggesting ways to provide government funding for the programs adhering to report guidelines.

Almost twenty years later NCLB (2001) reflected similar sentiments, highlighting increased standards, student outcomes, and the requirement for teachers to be highly qualified by the 2005-2006 school year. Formerly known as the Elementary and Secondary Education Act (ESEA; 1965), NCLB stated that teacher skill was a crucial element for student achievement and teachers must: 1) attain a bachelor’s degree from a university or college, 2) be fully licensed and endorsed through state certification in the areas relevant to their teaching, and 3) provide evidence of subject area competency through state examination. These same requirements for special education teachers were echoed in the reauthorization of IDEA in 2004 (IDEA, 2004).

The second critical component of NCLB is the necessity of educational practices to reflect EBP in order to promote higher outcomes for students (NCLB, 2001). NCLB emphasized specific standards for scientifically based research and mandated the research-to-practice connection, with the goal of improving student outcomes. Bridging this connection, the “What Works Clearinghouse” (WWC; U.S. Department of Education, 2013) was constructed by the U.S. Department of Education to provide researchers and educators with practices that have been rigorously evaluated to determine if they supported by research. As of 2009, there was no mention of ASD-related EBP in
government published NCLB literature (Mesibov & Shea, 2011). The first intervention focusing on students with ASD included in WWC was the Lovaas Model for Applied Behavior Analysis (2010).

Clearly, the NCLB agenda has influenced related laws and standards for teacher training, as the mandate requires a foundation in EBP in order to receive federal funding (Yell et al., 2005). The Council for Exceptional Children (CEC; 2008b) emphasized the need for teachers to have exceptional knowledge of EBP to use with diverse learners, in a publication addressing standards for adequately preparing special educators. Further, the CEC urged teachers to refer to their manual (2008a) documenting evidence base of specific instructional practices, arguing this knowledge is critical for effective teaching.

In the same year, Darling-Hammond et al. (2008) published Democracy at Risk, calling for new educational reform 25 years after the publishing of A Nation at Risk (1983). The report called for a revamping of teacher preparation in working with students of diverse needs and an expanding of continuing professional education lacking follow-up to “sustained, practice-based collegial learning opportunities for teachers” (Darling-Hammond et al., 2008, p.vii). Further, the team suggested that the government dedicate funding to technology and data systems aimed at evaluating the effectiveness of individualized instructional practices. Both recommendations contribute to the significance of the current proposal.

**Autism Spectrum Disorder**

ASD is a group of developmental disorders that fall under a spectrum of severity affecting three major areas: socio-emotional development, communication, and behavior (CDC, 2013). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-; American Psychiatric Association, 2013), the diagnostic criteria require an
indication of continuous deficits in social interaction/communication and repetitive behaviors. Generally, young children with ASD will have difficulty with social reciprocity (Lord, Cook, Leventhal, & Amaral, 2000), with initiating social interaction with peers and other individuals (Hauck, Fein, Waterhouse, and Feinstein, 1995), and in engaging/sustaining social interaction (Boyd, Conroy, Asmus, & McKenny, 2011).

ASD typically manifests around the age of three (Matson et al., 2010) and early identification is a crucial component for effective intervention (Plauche Johnson & Myers, 2007). With the application of effective early intervention, there is evidence of significant developmental gains for young children with ASD (Boyd et al. 2013; Boyd et al. 2010; Dawson et al., 2010; Landa et al., 2011; Lovaas, 1987; Strain & Bovey, 2012). Further, outcomes are shown to be greater when intervention commences by at age three as compared to those starting at age five (Harris & Handleman, 2000; McGee et al., 1999). As a result of research and urging from the public, the American Academy of Pediatrics requires healthcare professionals to conduct developmental screenings for ASD and other developmental disabilities at nine months, 18 months and 24 months, as opposed to waiting until 18 months (Plauche Johnson & Myers, 2007).

The prevalence of ASD diagnosis is currently estimated at 1 out of 68 children and 1 out of 42 boys (CDC, 2014). Children diagnosed with ASD or those who are suspected of receiving this diagnosis are known to have diverse learning profiles and are in need of specific and complex interventions that fit the style in which they learn (McGee & Morrier, 2005). As the severity ranges on a spectrum scale, the interventions must be adjusted accordingly (NRC, 2001). Following legislation mandating placement in the least restrictive environment and a general push towards inclusion from the special
education field, more teachers must know how interventions will work effectively with these complex learning styles (Barnhill et al., 2013).

With a higher prevalence of ASD cases and an influx of students with diverse learning styles into the public school system (Odom et al., 2003), more attention has been given to implementing interventions that are supported by research (NRC, 2001). By definition, NCLB (2001) calls for research that employs “empirical methods that draw on observations or experiment…conducted through rigorous, systematic and objective procedures” (p. 107). Simpson (2005) criticized the reliance on randomized-controlled trials and raised valid arguments that adhering to the NCLB definition of EBP may prevent equally effective interventions for children with ASD from reaching the classroom, specifically because of randomization difficulties and the heterogeneity within the sample. To avoid this restriction on effective practices based on research constraints, some interventions supported by rigorous quasi-experimental and single subject designs are now identified as EBP (NRC, 2001). Among those interventions considered to be EBP with students with ASD are: applied behavioral analysis (ABA; Lovaas, 1987), positive behavior supports (Dunlap & Fox, 1999), and pivotal response treatment (Koegel, Koegel, & McNearney, 2001), which contain components used in social interventions. Specific evidence-based social interventions have been recognized in effectively raising social interaction levels of young children with ASD (Kamps et al., 2002; Koegel, Koegel, & Carter, 1999; Laushley & Heflin, 2000; Leaf, Dotson, Oppenhein, Sheldon, & Sherman, 2010; Leaf et al., 2011; Strain & Bovey, 2011; Strain & Bovey, 2008; Strain, Kohler, & Goldstein, 1996). A common thread across these practices is the integration of progress monitoring for instructional adjustment and data-based decision making (Iovannone et al., 2003; NRC, 2001). The incorporation of
varying research methods to evaluate criteria for EBP allows for the potential of the current research examining the structured observation of preschool students with ASD, for the purposes of professional development in increasing observational skills in teachers.

**Call for Autism Related Professional Development**

In the same year as NCLB (2001), the National Research Council (NRC) was commissioned by the U.S. Department of Education’s Office of Special Education Programs (OSEP) to evaluate the integration of EBP, student outcomes, and teacher effectiveness, which resulted in a general consensus concerning best practices for young children with ASD (Downs & Downs, 2010). In *Educating Children with Autism* (2001), the NRC’s committee of Autism experts evaluated eight programs developed for young students with ASD and produced recommendations based on their analysis. The committee found significant consensus among programs for the following areas:

1. Enrollment into intervention programs as soon as ASD diagnosis is speculated.

2. Intense instructional interventions for a minimum of five hours a day/five days a week.

3. Consistent and repeated teaching opportunities in 15-20 minutes intervals using various modalities, such as one-to-one, small group, and large group setting.

4. Family-centered component, community outreach and parent training.

The NRC provided six intervention targets that are critical for the development of skills for children with ASD: a) function-based and impromptu communication, b) social skills, c) cognitive skills, d) play skills, e) examination of problem behaviors, and f) functional life skills (NRC, 2001, p. 221). Lastly, the NRC concluded that teacher preparation “remains one of the weakest elements of effective programming” (p. 225) and urged a strengthening of teacher education programs, specifically addressing best practices for young children with ASD.

Following the NRC report (2001), a steady rise of federal funds have increased student outcomes, improved the training of teachers, and paved the way to further research (Barnhill et al., 2013; Maddox & Marvin, 2013). In 2003, OSEP funded the formation of the National Professional Development Center on Autism Spectrum Disorder (NPDC; U.S. Department of Education, 2013 http://autismpdc.fpg.unc.edu/), a multi-university project partnering with several states to promote the implementation of EBP through: a) content development, b) professional development, c) technology, and d) evaluation. The most recent intensive review of literature from the NPDC yielded 24 strategies deemed to be EBP. Concurrently, the National Autism Center (NAC; 2009) completed the National Standards Project, which was a similarly exhaustive review of literature focusing on which comprehensive programs for students with ASD could be held to the standard of EBP. Between extensive reviews and evaluations of EBP, both the NPDC and the NAC had 18 common strategies considered to be EBP, including naturalistic teaching, social skills training package and social stories.

In a recent publication, Downs and Downs (2010) examined programs serving young children with ASD and compared them to the recommended practices stated by the NRC. The study surveyed 17 early intervention centers (birth-5 years) located in the
Northwest, using a 25-item scale addressing student ratios, intervention techniques, intensity of programming, curriculum, family involvement, and student program monitoring. Results indicated a large degree of variability across programs, program intensity, and access to immediate early intervention, when compared to the recommendations of the NRC. The areas of family involvement, problem behavior prevention, and student progress monitoring had the highest percentage of adherence to NRC’s best practices. Student progress monitoring was conducted through IEP goal updating (88%), structured assessments (71%), parent/teacher rating scales (65%), longitudinal studies (24%), and observation of students/staff “having fun” (35%) (p. 155). Limitations of this study included: the survey of 17 centers in one region, which raises generalizability concerns. Further, although many centers reported using multi-modal progress monitoring, over one-fourth of the participants measured progress through observing and evaluating enjoyment, producing questionable validity.

Partially funding this research was the Combating Autism Act of 2006 (CAA, P.L. 109-416), which provided 945 million dollars, dedicated to promoting research, intervention, and community outreach for individuals with ASD. The main objectives of this act were twofold: to expand the workforce of professionals trained in effectively implementing EBP for students with ASD and to facilitate this implementation at the first consideration of an ASD diagnosis. In 2011, the act was reauthorized by President Obama, providing 693 million dollars to autism-related research through the National Institutes of Health, surveillance through the CDC, and early intervention and professional development through the Human Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services. (http://mchb.hrsa.gov/programs/autism/).
Professional Development for EBP with ASD

In applying the forgoing concerns to teacher preparation, Buysse, Winton and Rous (2009) focused on a common operationalization for professional development; a consensus was reached based on the definition given by the National Professional Development Center on Inclusion (NPDCI). Professional development is defined as “facilitated teaching and learning experiences that are transactional and designed to support the acquisition of professional knowledge, skills, and dispositions as well as the application of knowledge in practice” (NPDCI, 2008). Buysse et al. (2009) delved further into the definition to explain the who, what, and how of professional development in special education. The who refers to both practitioners and the children they serve. Both groups reflect a myriad of diverse backgrounds, abilities, and needs. Effective professional development must be sensitive to the ecological context surrounding both the practitioner-learner and the student-learner. In theory, the what focuses on the skills practitioners should acquire, based on standards and EBP appropriate for the target population of learners. Lastly, the how addresses the methods of delivering and encouraging this learning. Specifically the methods should be: 1) relatable to specific content rather than generalized content, 2) streamlined to specific goals, curriculum and environment that are most relevant for the practitioner, and 3) incorporate a form of learning feedback (Winton & McCollum, 2008). Buysse et al. (2009) maintained that following these guidelines for professional development would certainly influence the efficacy of teacher learning and potentially student outcomes as a result.

The field of special education has seen an increase in higher education teacher preparation programs specifically focusing on educating students with ASD (Barnhill et al., 2011; Lerman, Vorndran, Addison, & Kuhn, 2004). More recently this increase has
focused directly on EBP in classrooms serving students with ASD, aimed at strengthening teacher knowledge and application of practices supported by research (Barnhill et al., 2013). Typically, teacher training in EBP for students with ASD focuses on the application of Applied Behavior Analysis (Lovaas, 1987) and discrete trial teaching (Committee on Educational Interventions for Children with Autism, 2001), although there is little consensus in the field about which practices are suggested to be EBP (Mesibov & Shea, 2011). Within this research, professional development that integrates performance based measurement (Lerman et al., 2004) and field experience (Barnhill et al., 2011) has produced the highest rates of efficacy and application, when compared to programs employing didactic coursework (Morrier et al., 2011; National Autism Center, 2009). Research suggests that few teachers report having learned how to integrate EBP into practice through their teacher training programs (Barnhill et al., 2013; Morrier et al., 2011), indicating the need for a larger component of hands-on learning. For teacher in-services, long –term professional development programs comprised of workshops, planning, and coaching resulted in high implementation of EBP in classrooms serving students with ASD (Maddox & Marvin, 2013).

A recent study (Barnhill et al., 2013) surveyed the current condition of personnel preparation for teachers of students with ASD in higher education institutions. Specifically, researchers investigated how EBP were incorporated into the programs and the methods used to teach these ASD specific practices. Of 120 higher education institutions surveyed from around the country, 77% of schools indicated they offered ASD-specific courses (mainly graduate level) and 39% offered these courses online. More than 46% of schools claimed they taught the NAC’s National standards findings for less than an hour and only 30% of schools integrated the NPDC’s findings on EBP into
their coursework. Of these schools, 78% taught ABA techniques as their primary theoretical framework. Compared to this research team’s previous survey (Barnhill et al., 2011), there is an indication of more instructional time dedicated to teaching ASD-related standards and EBP, although the percentages are not ideal.

In a similar study, Morrier et al. (2011) surveyed 185 teachers in Georgia investigating ASD-related training and implementation of EBP in the classroom. Of these teachers, only 4.8% reported integrating EBP into their classrooms. Less than half of the respondents did not answer which type of ASD training they received. However, of the teachers who answered, 20.5% attended workshops, 18.9% gained experience through working with students with ASD, 18.3% were self-taught and 15% were enrolled in teacher preparation courses. Through analysis of variance (ANOVA), results indicated that training type did not have a significant effect on the implementation of EBP in the classroom. It must be noted that this survey was conducted in one small region of the country and there was a very low response rate regarding the type of ASD-related training teachers received, raising issue with generalizability.

According to research, the integration of EBP into teacher preparation and effectiveness of classroom implementation produces mixed results and focuses primarily on preservice rather than inservice training. Further, the inclusion of quasi-experimental and single subject research for evaluating EBP expands the availability of practices needing to be addressed by professional development. The combination of the inclusion of alternative research approaches to determine EBP and inconclusive teacher training research presents the need to examine perspectives on teacher learning in professional development, in order to explore alternative methods that may increase efficacy.
Perspectives on Teacher Learning in Professional Development

Research focusing on the effectiveness of teacher education has produced discouraging results (Cochran-Smith & Zeichner, 2005; Grossman, 2008), highlighting a disconnect between theory and practice (Broekamp & Van Hout-Wolters, 2007). In an effort to combat this, increased attention has been given to constructing a better understanding of how teachers learn (Korthagen, 2010). Anderson and Herr (1999) stressed the importance of gaining an “insider’s perspective” on authentic classroom experiences, in order to understand the context in which teaching practices need to be applied. Through observing what teachers experience daily, researchers and program developers can gain a new perspective of teaching and potential methods that would be more effective for teacher education (Anderson & Herr, 1999).

Several scholars have emphasized the importance of tying adult learning to meaningful professional experiences. Lave and Wenger (1991) examined the effects of adult learning in authentic contexts, which they labeled situated learning. Situated learning departs from the traditional transmission model of learning in that knowledge is gained through experience in a meaningful context. Instead of disseminating knowledge from the teacher educator to the teacher, the teachers construct knowledge through experiences paralleling what they will encounter in their own classroom. Hendricks (2001) found that teachers viewed problem-solving activities reflecting the complexity of teaching responsibilities as more meaningful. Putnam and Borko (2000) suggested that current teachers learn most effectively when the learning objective is directly taken from their professional experience, in the same context in which they are expected to demonstrate their knowledge. Further, the use of computer technology as “pedagogical
tools” (p. 11) with a situated learning approach facilitates teacher learning (Putnam & Borko, 2000).

Integrating situated learning through video, Langone (1998) incorporated video demonstrations from the special education field into a teacher education course focused on instructional strategies for children with moderate to severe mental retardation. Data collected from the 13 undergraduate students included essay analysis, student satisfaction survey, and an interview with four students. Results suggested that the students felt the video components provided meaningful examples of authentic issues that they will experience, and this method was more effective than traditional lectures. Essay analysis indicated improvement after the video component was integrated into the course, which were corroborated by interviews demonstrating student reflection of video examples. Although a situated learning approach presents the promise of improving teacher buy-in and ultimately the efficacy of professional development, there is a lack of research examining the effects of training teachers of students with ASD. The current study addresses the need for situated learning professional development assisting teachers of preschool students with ASD in improving their classroom observation skills.

**Observational Data to Help Target Instructional Needs**

The movement towards a situated learning approach to professional development has been mirrored by a more naturalistic approach to assessment and instruction for students in ECSE, specifically exemplified by the use of authentic assessment to help guide instruction towards a student’s individualized goals (Bagnato & Neisworth, 2004). Authentic assessment is defined as “the systematic recording of developmental observations over time about the naturally occurring behaviors and functional competencies of young children in daily routines by familiar and knowledgeable
caregivers in the child’s life” (Bagnato & Yeh-Ho, 2006, p. 16). Bagnato, McLean, Macy, and Neisworth (2011) identified eight standards for authentic assessment procedures to also be developmentally appropriate for young children with special needs, which include: 1) acceptability/social worth, 2) authenticity/natural observation, 3) collaboration with professionals/family, 4) evidence-base, 5) ecological perspective, 6) sensitivity, 7) universal design, and 8) usefulness for interventions (p. 245).

There is growing support in the field for naturalistic approaches to instruction (Wolery, 2005), which parallels authentic assessment of students conducted through observation of a child engaged in day-to-day activities in the classroom (Bagnato et al., 2011). As young children with disabilities are receiving services within their natural environment, Bagnato and colleagues assert that teachers should be collecting ongoing observational data to record specific behaviors within this environment. Through this process, teachers can identify instructional targets with the observation serving as practice–based evidence (PBE), allowing teachers to adjust their instructional practices accordingly (Bagnato, 2007). Further, Bagnato et al. (2010) suggested the use of technology as a means of recording and monitoring ongoing authentic assessment of young children with disabilities, stressing terminology as a critical step for the future of data-informed decision-making by teachers.

The potential of incorporating technology for in-class data collection was explored when Ledoux, Yoder and Hanes (2010) distributed Personal Data Assistants (PDAs) to record ongoing observations of early childhood students throughout the day. In-depth interviews revealed the two novice teachers favored the technology and believed it was helpful in guiding them towards appropriate objectives for their students. Results differed with the remaining two veteran teachers; they upheld that inputting the data took
away from their instructional time and preferred hand writing anecdotal observations throughout the day. Further, the veteran teachers felt familiar enough with early childhood standards and their students’ functioning levels that they found the PDA was unnecessary. The researchers concluded that although this was a small-scale study that was difficult to generalize to other settings, these results might indicate the need for PDA and other technology to guide less experienced teachers’ observational practices.

One study (Keilty, LaRocco, & Casell, 2009) examined 73 early interventionists’ perceptions of various uses and constraints regarding authentic assessment. Through qualitative focus groups, researchers were able to conclude that the majority of participants believed authentic assessment had a high level of usefulness and usability, in addition to being the most comfortable type of assessment these professionals had implemented. Additionally, the participants suggested that using authentic assessment for student progress monitoring was the easiest method, as opposed to determining service eligibility. The primary barrier acknowledged to integrating authentic assessment was a lack of professional knowledge and skill. Many of the professionals discussed how less experienced teachers would “benefit from using curriculum-based instruments or similar tools to serve as authentic assessment guides” (p. 251). The research team argued for professional development addressing authentic assessment methods, concluding with the necessity of guiding teachers towards more trained observations and interviews.

In the field of ECSE for students with Autism, authentic observational assessment is widely used for social skill progress monitoring in the classroom (Boyd et al., 2011). Many studies examining the efficacy of social skill interventions use structured observational methods as a means of in-class data collection (Boyd et al., 2011; Kamps et al., 2002; Koegel et al., 1999; Koegel et al., 2001; Leaf et al., 2010; Leaf et al., 2011;
Strain et al., 1996). One aspect common in the methodology for each of these studies is the systematic training of these observers to focus on target objectives. In order to avoid bias, rater effects, and error, individuals conducting observational research require substantial and rigorous training to promote reliability (Crawford, Zucker, Williams, Bhavsar, & Landry 2013; Pianta & Hambre, 2009). Both Ledoux et al. (2010) and Keilty et al. (2009) asserted that teachers need more training to guide their observations, each suggesting professional development as a potential resolution. There is an absence of research concerning professional development for preschool teachers of students with ASD in the area of observational training, which increases the need for the current study as a contribution to necessary research. In order to increase comprehension of the potential of the present study, it is crucial to examine the research surrounding teachers’ use of observational data to guide instruction in ECSE

**The Use of Data to Guide Classroom Instruction in ECSE/ASD**

For the current study, it is critical to examine in-service teachers’ perceptions of the utility of professional development programs aimed at the incorporation of data collection to guide classroom instruction. One of the major conclusions of the NRC’s (2001) report was that the majority of ECSE teachers of students with ASD are not exposed to professional development in EBP specific for ASD, including various methods of data collection to guide instruction.

Gettinger (2001) published a descriptive study with preliminary results, focusing on the construction and implementation of a 10-month professional development program aimed at performance monitoring for teachers of inclusive preschool classrooms. *Changing, learning and growing* (CLG), the performance-monitoring system, intended to provide a “match between the content of teachers observations, documentation of
children’s performance and the content of the curriculum” (p. 10). Gettinger discussed necessary steps prior to performance monitoring procedures, including a) acknowledging assumptions regarding child development, b) identifying goals to serve as monitoring criteria, and c) identifying goal indicators that can be observed. For the implementation of progress monitoring, observations must be ongoing, occur within the natural environment, be linked to established goals, and documented continuously. After these steps, the CLG trains teachers to think about how to use this data to inform instructional decisions and accomplish goals. Preliminary results from this professional development program indicate that teachers believe they can effectively monitor their student’s progress and adjust their instruction based on ongoing data collection. However, the CLG was noted to be time-consuming for teachers. The methodology evaluating the usefulness of the CLG was not discussed, nor was the analysis of teacher data, common problems in preliminary research, which raises questions regarding validity and research methods.

One research team (Buzhardt et al., 2010) developed a web-based tool to assist special needs teachers and early interventionists data-informed decision-making. This tool, labeled Making Online Decisions (MOD), uses Individual Growth and Development Indicators (IGDIs) as the progress monitoring data input and combines this with the educator’s judgment/collaboration with caregivers, in order to develop an intervention plan based on the data collected. The MOD suggests interventions based on the progress monitoring and periodically displays fidelity checks.

Subsequent evaluations of the MOD with Early Head Start students and teachers produced positive results. Buzhardt et al. (2010) conducted a random assignment study of 26 early interventionists using the MOD and 22 acting as a control. Results indicated
significant gains in communication for the MOD group and interventionists found the tool to be user friendly with high utility. A second study immediately followed (Buzhardt et al., 2011) examining interventionists’ application of progress monitoring, naturalistic language intervention, and data-based decision making. In a randomized, controlled trial of 48 interventionists and 124 children, results suggested that both groups increased their student progress monitoring through the use of an online data collection system. However, the students in the MOD group made significantly more language gains when compared to the control. A replication study (Buzhardt et al., 2013) presented similar findings. Both the original (Buzhardt et al., 2011) and the replication (Buzhardt et al., 2013) found similar satisfaction levels with professionals concerning usefulness and usability of the MOD. Further, both studies were limited by a lack of third-party fidelity checks, although they claimed to have high fidelity.

Strictly focusing on teacher perceptions, Sandall, Schwartz, and LaCroix (2004) examined ECSE professionals’ attitudes toward the use of data in their classrooms. The researchers analyzed surveys, interviews, and reflective journals of 17 participants, investigating their views on using data for evaluating/adjusting instruction, and collaborating with families. Findings revealed a disconnect between beliefs and practices; although teachers felt collecting data was critical to their practice, they did not report consistent data collection in their classrooms. Further, the majority of professionals discussed being frustrated with their current methods of data collection, which served as a deterrent. Participants perceived barriers to data collection included: lack of time, challenge of data management, and difficulty in collecting data during instructional time. One participant stated, “it certainly felt like I could do data collection or I could teach, but I could not do both at the same time” (p. 167). Several of the
professionals surveyed admitted to rarely analyzing data and even less frequently using it for intervention. Professionals mentioned progress monitoring as the most common reason for using data, although participants rarely implemented systematic data collection methods. Further, researchers suggested that teachers lacked the knowledge and confidence to buy-in to their own methods. Without this buy-in, many of the participants reported an absence of data-driven instructional adjustment. The study concluded with a recommendation for: meaningful professional development in data collection and usage, the encouragement of teacher buy-in and the incorporation of systematic progress monitoring to guide informed instructional decisions.

Producing similar findings, Brawley and Stormont (2013) surveyed 137 teachers in a public ECSE program and Head Start programs to examine their perceptions and practices concerning data collection, analysis and integration into instruction. Following the completion of an online survey, nearly 90% of teachers believed using data to monitor student progress was “very important” and 94% felt using data to make instructional decisions was also “very important”. When looking at frequency of use, 67% of teachers reported using data for progress monitoring and 73% claimed they used data to adjust instruction. The mismatch between perceptions and practice contributes to the need for more professional development in progress monitoring and the integration of practices that engage teachers and encourage EBP implementation.

**Video Analysis as a Tool for Professional Development**

The use of technology for recording and storage of authentic assessment and progress monitoring data for young children with disabilities has become more widespread in recent years (Buzhardt et al. 2010; Ledoux, Yoder, & Hanes, 2010; Bagnato et al., 2010), as has the application of web-based professional development for
teachers of young children with disabilities (Powell et al., 2009). Both methods demonstrate promising results in teacher application of EBP. Although this integration of technology is significant, for the purposes of this study it is necessary to further examine video observation analysis as a professional development tool for teachers.

In a detailed review of video analysis research, Nagro and Cornielius (2013) concluded that video analysis as a professional development tool has a promising evidence base, when using screening criteria from WWC. Aside from instructional practices, studies of the use of video technology has also noted a high level of teacher reflection (Calandra, Gurvitch, & Lund, 2008; Capizzi, Webby, & Sandmel, 2010), even suggesting that teachers’ observation of classroom interactions are strengthened through the observation of classroom videos (Sherrin & van Es, 2003). Specifically, research acknowledged a change in noticed behaviors and the interpretation of these behaviors, when teachers observed videos of their students (Sherrin & van Es, 2005). Despite the empirical support for video observation altering perception, Miller and Zhou (2007) argued that several factors affect what the observer notices, creating diverse interpretations based on individual differences. Prior to examining these studies in detail, it should be noted that most focus on mathematics instruction and teacher/student interactions. Although this varies from the current study, the results present implications for the potential of strengthening teacher observation skills in the area of social responsiveness for preschool students with ASD.

Watts Pailliotet (1995) developed “deep-viewing”, a methodical approach to analyzing videos concentrating on three analytic components: initial and literal observation, interpretation of observation, and analysis and application. Watts Pailliotet acknowledged the impossibility of stripping observations of the subjectivity, beliefs and
interpretation of the observer. As a result, she imbedded this interpretation into the deep-viewing process and acknowledges that this will influence teacher’s perspectives on student behavior and teaching practices. Indeed, research has evidenced a change in teacher beliefs and practices, after implementing deep-viewing of classroom videos (Watts Pailliotet, 1995; Watts Pailliotet 1999; Watts Pailliotet, Semali, Rodenburg, Giles, & Macaul, 2000).

Schwartz and Hartman (2007) supported the potential for learning through video observation when outlining the four outcomes of learning resulting from a designed video. A designed video is defined as a video containing components designed with a specific purpose by the author. As suggested by the researchers, designed videos may result in one or more of the following learning outcomes: 1) seeing, 2) engaging, 3) doing, and 4) engaging. Seeing is described as video assisting in noticing events that tend to go overlooked. There are two different aspects to seeing; familiarity helps to first introduce events that are unknown and discernment assists in noticing details that may go unnoticed. Engaging is described as the potential for video to keep the observer interested and involved in watching. The authors suggested, “video is superior at creating engagement and setting the stage for learning, even though the video itself may not contain the new information people are supposed to learn” (p. 339). Essentially, through engaging video inspires individuals to learn. Doing involves the observer completing some sort of action, whether it is adapting attitude or developing a skill. Video can result in doing when the observer is shaping his or her attitude through modeling video behavior or required to complete a performance task. Lastly, video observation can result in saying when the observer explains the occurrence and association between facts evidenced from video.
Applying this framework for learning, Schwartz and Hartman (2007) embedded designed video into a larger interface *STAR.Legacy*, which walks pre-service teachers through various phases of learning to create “pedagogically sound instruction” (p. 344). Starting with a news segment to capture students’ attention, preservice teachers were asked to comment on what they noticed, before being introduced to expert commentary on the same segment, encouraging them to notice more. Students were then instructed to find other sources of relevant information, such as newspaper or scholarly articles. Through this process, the researchers described each of the four learning outcomes evidenced, demonstrating the potential for multi-method learning from designed videos.

Despite this learning potential, Miller and Zhou (2007) remind the field of the difficulties of video observation, specifically focusing on the variability of what individuals notice. In an unpublished manuscript by Miller, Zhou, Sims, Perry, and Fang (2007), researchers compared teachers in the United States and China, based on aspects noticed during video observations of classrooms. After implementing a coding system based on content of narratives, results indicated a stark contrast in what the two populations noticed. American viewers had a tendency to comment on teacher personality, interpersonal relationships, and the critique of presentation style. Chinese viewers had a tendency to comment on lesson content, lesson tools, lesson structure, and student understanding. Authors attributed one aspect of the different comments to Ross’ (1977) *fundamental attribution error*, which reflects the likelihood that observers will attribute behavior to personal factors, instead of situational or environmental factors. The researchers used this approach to explain the abundance of American comments focused on teacher personality. Implications from this research stress the various individual differences that affect the lens through which videos are observed, thereby presenting a
high variability of what is noticed. Further, Miller et al. (2007) suggest the potential for an American cultural pattern, as the Chinese viewers did not demonstrate a fixation on attributing behavior for dispositional factors.

Although there is a gap in research focusing on increasing observational skills through video usage for preschool teachers of students with ASD, mathematics education has been examining the development of teacher noticing through video observation for nearly two decades. Fredriksen, Sipusic, Sherin, and Wolfe (1998) constructed a framework for viewing the functions of teaching through video portfolio assessments. The researchers discovered that teachers developed skills for noticing significant classroom occurrences, as a result of video observation.

Van Es and Sherin (2002) expanded on Fredriksen et al.’s (1998) research to operationalize the process of “noticing”, while introducing a software tool that aims at assisting noticing skills. The authors stressed that current teacher preparation highlights the principles of immediate teacher action in the classroom, which ignores the primary step of first interpreting classroom events. “Noticing” is defined as: 1) identifying significant events in the classroom, 2) drawing a parallel between these events and larger doctrines of learning, 3) incorporating what is known about the specific context where learning occurs, and 4) using context knowledge to interpret events. To assist in teacher training of “noticing”, the authors developed the Video Analysis Support Tool (VAST). The Teachers use the VAST as a software tool to analyze videos of their own classrooms, which focuses on three components of classroom interaction: student thinking, teacher roles and discourse. The VAST places these three components in tabs appearing on the computer screen along with the video. Teachers are required to organize their comments using these specific tabs. During their observation of math instruction, teachers are
encouraged to use “call-outs” (Frederickson, 1992) to bring attention to significant classroom events. Teachers are required to defend their call-outs with video evidence, followed by interpretation and analysis the observed events.

In the study unveiling the VAST (van Es and Sherin, 2002), researchers selected 6 out of 12 interns completing a certification program to use the tool once a month for 11 months. Students from both the control and experimental groups were asked to write two essay reflections of their teaching, at the beginning and end of their program. Results indicated that the experimental group progressed in complexity of their writing. Specifically, participants organized their examples around call-outs, classroom evidence, and detailed interpretation of skills, as compared to control group essay organization around chronological events. Implications from this study include: 1) guided video observation has the potential to increase “noticing” skills in preservice teachers, 2) the VAST was suggested to increase student interpretation and analysis based on classroom evidence, promoting EBP, 3) the VAST demonstrated an impact on learning, despite being a brief intervention, and 4) the VAST improved immediate and long-term effect observations as demonstrated in essays written a month after use.

Continuing their exploration of video observation increasing “noticing” skills, Sherin and van Es (2005), examined the VAST’s effects on teacher’s ability to notice more within classroom math instruction. Researchers addressed how difficult the process of “noticing” is within the complexities of a classroom environment and suggested that video recording and analysis of behavior would help shape teachers’ “noticing” skills. In this study, teachers completed 10 video club meetings, where they applied the VAST to video analysis. Video club sessions were transcribed and analyzed in terms of pedagogy, student thinking and discourse. Results indicated positive changes in
teachers’ ability to notice. Specifically, teachers were shown to: 1) develop more understanding for student perspectives and actions, 2) perform detailed analysis around specific events, 3) acquire more interpretations based on the context, and 4) construct interpretations from video evidence. Although the VAST research concentrates on mathematics education, the positive results support the purpose of the present study: the potential of improving observation skills through the use of the SOG for preschool teachers of students with ASD.

Brunvand and Fishman (2006) presented a different method for guiding observer attention during video observations. Through a control group study of 41 pre-service teachers, the authors examined the impact of video edits in the form of scaffoldings on noticing and learning from video observations. The two intervention groups had scaffolding throughout their video, guiding observer behavior to specific aspects of a science lesson. In contrast, the control group observed the video without any scaffolding. Through interviews, observations and pre/post lesson plan, results suggested that although both the intervention and control groups noticed several aspects of student behavior and understanding, the intervention group reported more focused observations. Specifically, the intervention group indicated significant growth from pre/posttest in recognizing teaching strategies and misconceptions. Further, the intervention group was more likely to incorporate scaffolding vocabulary directly into their lesson plan reflection, suggesting internalization and retention of target information. Researchers stressed the importance of clear explanation of scaffolding, resulting from participants’ feedback that they were unsure of the purpose of the video edits. Despite the limitations of uncertainty of the scaffolding purpose and the short duration of the intervention period, this study has implications of the potential for video edits serving as an observation guide.
that encourages focused noticing and learning from video observation.

Although the previous research has supported the positive effects of video analysis on noticing student behavior, teacher reflection, and encouraging instructional adjustment, few of these studies focus on in-service teacher professional development. Further, this research is widely conducted within a general education population, creating the need to expand the scope to students with special needs. Video observation and analysis presents the promise for a professional development approach that effectively trains teachers in becoming better observers of classroom events. However, to fill the gap in research, it is necessary to examine the potential of video observation for professional development of preschool teachers of students with ASD. More specifically, research is needed to identify what ECSE teachers notice during video observations and examine their perceptions of the utility of professional development using video observation, with a focus on creating trained observers in the area of social responsiveness.

Social Responsiveness Scale

For the purposes of this study, the SOG was adapted from the Social Responsiveness Scale (Constantino & Gruber, 2005), which is a rating scale examining student tendencies for social responsiveness. I selected this tool because it focused on a primary characteristic of ASD and has been determined to hold high statistical validity.

The SRS (Constantino & Gruber, 2005) is a 65-item scale developed to assess strengths and limitations of student abilities in social reciprocity through parent and teacher questionnaires. According to Constantino and Gruber (2005) the SRS “covers various dimensions of interpersonal behavior, communication and repetitive/stereotypical behavior that are characteristic of autism spectrum disorders” (p. 3). More specifically,
the SRS utilizes a Likert scale to ascertain ability levels in five subscales: social awareness, social cognition, social communication, social motivation, and autistic mannerisms.

According to Constantino and Gruber (2005), the five subscales of the SRS reflect diverse components related to social reciprocity. Social awareness addresses the “ability to pick up on social cues” (p. 17), measured through items addressing a student’s focus of attention or lack of awareness of surroundings. Social cognition examines how students interpret social cues such as a student exhibiting anxiety from overstimulation within their environment. The social communication component examines social communication and the “motoric aspects of reciprocal social behavior” (p. 17), such ability to communication emotions and imitate others. Social motivation addresses factors motivating or inhibiting a student from engaging in social interaction, such as tendencies to join or avoid group activities. Lastly, autistic mannerisms focuses on repetitive and restrictive behaviors associated with ASD, like sensory interest, which may affect social interaction.

Constantino and Gruber (2005) espouse that the SRS “is useful for measuring response to interventions over time, and its reliance on naturalistic observations by parents, teachers and other care providers allows it to be applied easily in clinical and educational settings” (p. 3). However, the scale is primarily utilized as a screener and contains no information concerning treatment validity. Treatment validity pertains to how an assessment informs interventions and the practice of progress monitoring (Hayes, Nelson, & Jarrett, 1986). In a study of the treatment validity of three ASD screeners similar to the SRS (Livanis & Mouzakitis, 2010), the authors found no evidence of treatment validity within the screening tools. However, researchers suggested that
through the adaptation of a screening tool, they were able to use the data produced to construct individualized social interventions for a student with ASD. The team concluded that although the target screening tool did not provide treatment validity, they were able to use the data to target areas of need and adapt a tool for progress monitoring. Despite the fact that Livanis and Mouzakitis (2010) were not specifically evaluating the treatment validity of the SRS, the study contributes to the feasibility of developing a professional development tool for progress monitoring, adapted from a screening tool with established validity.

**Summary of Literature Review**

After a thorough exploration of the various intersections of research on which this study intends to focus, it is clear that no single study has examined all of the following areas in a preschool setting serving children with ASD. After framing the background and significant research related to ASD and educational policy, this literature review addressed:

1. Professional development for EBP in ASD
2. Perspectives on integrating situated learning into professional development
3. Authentic assessment/observational data as professional development tools to inform instructional decisions
4. The use of data to guide classroom instruction in ECSE/ASD
5. Video analysis as a professional development tool with preschool students with ASD
6. Development of structured observation tool adapted from the SRS

(Constantino & Gruber, 2005)
Despite the movement towards integrating technology into professional development to increase observational skills, very little research documents the use of structured observations of students for the purposes of improving teachers’ observational skills of students with ASD. Moreover, there is a lack of research focusing on the potential of using video observations for in-service teacher professional development. Hence, one objective of this study is to fill in the gaps in research, while concurrently evaluating the effectiveness of using a structured observational guide for professional development. The current study examines three aspects surrounding video observation for professional development for teachers of students with ASD: 1) what teachers tend to think about during an unstructured video observation of a student with ASD, 2) teacher perceptions of SOG utility in increasing observation skills, and 3) how the perceptions and observational data compare between the SOG and an unstructured video observation. The following section will explain the methods used for the current study.
Chapter 3: Methods

The primary purpose of this research is to examine teachers’ use and perceptions of the utility of a structured observation guide (SOG) for the purposes of professional development to increase observation skills in social responsivity of preschool students with ASD. A secondary purpose is to compare teachers’ observational and interview data when engaging in both an unstructured and structured video observation. My intent is to contribute to professional development research in early childhood ASD education through the introduction of a structured guide for video observations, with the aim of developing teachers’ observation skills in social responsiveness. This purpose guided the collection of five data points: 1) unstructured observation think-aloud, 2) post-unstructured observation interview, 3) application of the SOG for video analysis, 4) post-SOG interview, and 5) follow-up interview.

Through an integration of ethnographic methods of inquiry and qualitative research considerations, this study was able to gain perspective of teacher beliefs toward the SOG as a useful professional development tool. With semi-structured interviews and observations of participants during the professional development session, my research focused on the process rather than solely on the product, which Bogdan and Biklen (2003) highlighted as a critical component to qualitative research. The process incorporated consistent reflections, from myself as a researcher and from my participants as synchronous teachers and students. Lincoln and Guba (2005) believe reflection allows individuals to assume multiple roles such as “inquirer and respondent, as teacher and learner” (p. 210). As I gathered qualitative information and learned through the role of researcher, I also reflected on the research process as a teacher-educator through th
construction and implementation of a professional development tool. The research questions guiding the study were:

1. What thoughts do participants express during an observation of a video of preschool students with ASD during classroom work time?
2. How do participants perceive the utility of a structured observation guide for professional development for increasing observation skills regarding social responsiveness of preschool students with ASD?
3. How do the perceptions of utility and researcher analysis of observational data compare between structured and unstructured observations of student videos?

**Research Design**

The current research is a descriptive study with a qualitative design aimed at gaining knowledge on teachers’ perspective of the usefulness of a structured observation guide when viewing videos targeting social responsiveness in preschool students with ASD. I applied an ethnographic approach to data collection through the integration of semi-structured interviews, a follow-up interview and observations of the professional development process. Adler and Adler (1994) refer to observation as the foundational base for ethnographic methods within social science research. Further, Patton (2002) affirmed that interviewing is a method promoting depth and understanding of participant perspectives, providing the opportunity to probe further with open-ended questions. Following these leading scholars in the qualitative field, my design alternated observation and interview. This method allowed me to ask participants to clarify and elaborate on the events observed, gaining a better sense of the teacher’s perspective. A grounded theory
approach to analysis (Strauss & Corbin, 1998) was used for coding all five of the data points. Additionally, I integrated the Studiocode data to showcase frequency and themes of my participants’ coding through the use of the SOG.

**Structured Observation Guide for Professional Development**

The SOG utilized in this study was adapted from the Social Responsiveness Scale (SRS; Constantino & Gruber, 2005). I developed the SOG from the five components found in the SRS: 1) social awareness, 2) social cognition, 3) social communication, 4) social motivation, and 5) autistic mannerisms. Each component was then converted into non-clinical language that would help guide teachers with social interventions in the classroom, as opposed to clinical language to help guide diagnosis, which is the primary usage for the SRS (Table 2). The “autistic mannerisms” component was divided amongst the other four components as a negative category; for example, when the child ignores stimuli (social awareness), when the child has zero affect to a person/object capturing his or her attention (social cognition), when a child has a negative expressive communicative response like screaming (social communication), or what decreases the chances of a children engaging with a peer or joining a group (social motivation). Essentially, the SRS was converted into sections that are more conducive to producing trained observers for social responsiveness in a classroom for preschool students with ASD. Development of the SOG was conducted in consultation with an ASD expert and members of my committee, who served to guide the process.
Table 2

*Comparison of SRS to SOG*

<table>
<thead>
<tr>
<th>Social Responsiveness Scale (Constantino &amp; Gruber, 2005)</th>
<th>SOG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social awareness-</strong> Classroom indicators that signify a student’s ability to pick up on social cues. Example: does not focus attention on where others are looking or listening.</td>
<td><strong>Awareness Object/Person</strong> What person or object does the child pay attention to? What keeps the child’s attention? Sustained eye gazes. <strong>Awareness Object X/Person X</strong>- Non-attention, ignorance. What does the child ignore?</td>
</tr>
<tr>
<td><strong>Social cognition-</strong> The ways the interpretation of these cues are observed. Example: becomes upset in a situation with lots of things going on.</td>
<td><strong>Cognition Object/Person</strong>-Response to what the student is paying attention to: requesting, showing interest in object/person attention was given to. <strong>Cognition Object X/Person X</strong>- No response to what the student was paying attention to, no affect exhibited, or negative response.</td>
</tr>
<tr>
<td><strong>Social communication-</strong> How a child demonstrates expressive social communication. Example: inappropriate play, imitation of only certain actions of</td>
<td><strong>Communication Object/Person</strong>- Response to stimuli in an expressive form of communication for social purposes. Examples: turn-taking, verbalization,</td>
</tr>
<tr>
<td>others.</td>
<td>gestures, initiations, requesting</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Communication Object X/Person X- Negative expressive response to stimuli.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social motivation- Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>increasing/decreasing the chances of social interaction. Example: stares off into space, reluctant to join group activities.</td>
</tr>
</tbody>
</table>

| Motivation Object X/Person X- What decreases the chances of this child joining a group, engaging in play or joining a peer? |

The structured observation guide was constructed using Studiocode (Studio code Business Group, 2013). Studio code is a video analysis tool, which enables participants to code a video as they watch it in real time. For the purposes of this study, participants were asked to watch the video and code through Studiocode, based on the five components adapted from the SRS. Studiocode is constructed as a screen with code “buttons” that participants must click on during the video observation in order to code (Figure 1). The code window for the SOG was constructed from the SRS adaptation, prior to use by participants. Participants were able to rewind, fast-forward and stop the video during the coding process. After coding was complete, participants were able to group codes in categories and view a video montage of clips with the same code. Additionally, participants viewed codes in a matrix grid, to analyze the student’s social tendencies for this particular video.
For this study, participants were asked to simply code the video with specific keywords relating to the social responsiveness components in the SRS. The Studiocode “buttons” were labeled: awareness, cognition, communication, and motivation. Below each of these main components were subcomponents of object/Object and person/Person, providing description of the stimulus. Participants were given a brief tutorial of how to use Studiocode, in addition to how to use the SOG. To simplify the coding process for my participants, the observation guide was divided into two sessions: the first session asked participants to code with the awareness and cognition components and the second session was coded using the communication and motivation components. Figure 1 presents a visual example of the SOG, with the code window and video screen. Figure 2 displays both sections of the SOG.

Figure 1. Screen shot of Studiocode (video, code window, and matrix window).
Figure 2. SOG.

Video Segment Used for Observation

The video excerpt was instrumental in the application of the SOG, as well as the preceding unstructured observation. After gaining access to student videos previously used for a larger study through one of my committee members, I searched for a video that contained certain criteria. First, the video needed to take place during unstructured work time, where the student is able to independently interact with materials. Second, the student needed to have the ability to choose the activities he or she would be working with, reinforcing the unstructured nature of the play environment. Third, the student must have the opportunity to engage and interact with both peers and teachers. Although the SOG is not examining the nature of the interaction or teacher practices, the video needed to provide the chance for social interaction with other individuals, if the student chose to do so. After finding a student video that satisfied these criteria, permissions were obtained from the parent for the purposes of research and teacher training. Lastly, the video was edited to fit a 10-minute timeframe for the purposes of this research.
For a more comprehensive picture of the current study, I will briefly explain the content of the video. The video opens with the target child sitting at the computer, rearranging the mouse pad. The student then begins to play a computer game, which reinforces his correct answers with a pop-up cartoon on the screen. The bell rings, signifying a transition to the next area on the student’s schedule. A teacher calls the student’s name and the child remains at the computer. The teacher taps the student on the shoulder, hands him a symbol indicating transition and tells him to “check schedule”. Student gets up and tries to push in his chair, but is physically guided by the teacher toward the visual schedule. Student looks back at the computer on occasion as he is walking. Student arrives at schedule and teacher hands him a symbol for block area saying, “block area, come on lets go”. Student hesitantly walks over to block area and looks back at the computer, stopping at the entrance to the blocks. The teacher comes over to prompt entry into the area and the student shakes a little before stomping in.

The teacher hands him a box of blocks and he immediately dumps them over onto the ground. The para-professional (para), who is already in the block area with another student, asked the target to pick up the blocks he just dumped over. The para then assists the student hand-over-hand in picking up before allowing the student to clean up on his own, saying “clean up train.” Another student enters the area and starts building a train track. When the target seems interested in playing with the train, the para says, “ok go play with the train” and she continues to clean up on her own. The student then takes one piece of the train track and feels around the outside of the track with his with his fingers. The para says, “go build the train, looking at Anthony”, attempting to engage the target in building on his own after observing his peer. The student returns to feeling the outside of the track. After the para asks the student, “where’s the train” he finds an opportunity to
leave the block area and return to the computer. The para comes over and taps him on the shoulder, saying “we’re in block, lets go back to block.” The student returns to block area and the para tells him to make a train, pointing at the train tracks. The student responds by saying, “papi clean up train” and starts to put some of the tracks back into the bin.

After seeing this, the para gets on the floor and begins to hand the student small buildings to put next to the train track that his peer is constructing. She identifies each building as she is handing them to the student, who vocalizes his own version of this identification. The student engages with placing building next to the track. When the para asks the students to start the train, the target realizes he has buildings and not a train, so he jumps up stimming and vocalizing. He then begins to walk on the train tracks and then walks on the large tinker toys before losing his balance and falling. Para redirects him back to the train, which he walks past and tries to exit the area. After being told to stay in block area, the student walks around before trying to escape over one of the shelves. Once redirected, the student begins kicking the individual tracks and almost kicks the larger track construction, resulting in the peer pushing him and screaming, “oh no, back up!”

The target student does not react, but instead starts singing the clean up song and begins to clean up. He picks up most of the train tracks and says “fruta” when he picks up the trees. The student continues to clean up saying, “bye choo-choo train.”

When the para asks if the student wants to play with the farm, he says “farm” and walks past where she was pointing towards the large tinker toys. The para tries to engage the student by giving him the name of a color (of tinker toy) to step on, but he picks up the color instead and hands it to her. The student picks up one of the tinker toys and starts rolling it down his stomach, staring at it, when the bell rings signifying a transition to the
next area. The target leaves the area and goes back to the computer, where he is redirected by the teacher to “check schedule.”

**Setting**

This study was conducted in various settings, dependent on participants’ schedules and at their convenience. Three sessions were held after school hours in an office in the Department of Teaching and Learning, at the University of Miami’s Coral Gables campus. Two sessions were conducted at the participant’s place of employment and two were held in the home of a participant. All sessions were conducted through the use of a university-owned laptop computer, which had the StudioCode software installed. Duration of the sessions ranged from 50 minutes to 90 minutes, with the majority of sessions lasting an hour.

**Participants**

Participants were selected using a purposive sampling technique, satisfying certain criteria to participate. First, individuals were required to be either in the process of obtaining a position as a pre-kindergarten special educator or be in their first/second year as a prekindergarten teacher of students with special needs. Participants were required to be relatively new to the ECSE field for inclusion in the study, with all others being excluded. The goal of this study was to examine how teachers with less experience in ECSE view the SOG in order to evaluate its utility in assisting new teachers in the field.

I recruited through referral by my former and current colleagues in the field, whom I had positive relationships with during my experience as an early childhood special educator and graduate student. Additionally, I recruited teachers from recent enrollments in the Graduate Program in Early Childhood Special Education at the University of Miami, through referral from my committee members. Lastly, I recruited
from referrals of recent graduates of the Graduate Program in Early Childhood Special Education at the University of Miami. This method allowed me to gain entry and establish rapport through the use of a “gate-keeper” (Bogdan & Bilken, 2003), or the individual providing referral. Strauss and Corbin (1998) considered choosing a site for research and gaining entry as one of the more difficult aspects to qualitative research. Through these referrals, I gained access to participants, while also laying the foundation of being viewed as an insider from my previous early childhood teaching experience (Harry & Rippey, 2009). The insider perspective will be addressed in a later section concerning the role of the researcher.

The present study had a total of seven participants (Table 3). Two were recruited from a list of previous graduates of the Graduate Program in Early Childhood Special Education at the University of Miami, four were recruited from the currently enrolled students of the Graduate Program in Early Childhood Special Education at the University of Miami, and one was recruited through referral from a former colleague teaching ECSE in Miami-Dade County Public Schools. Please refer to Table 3 for participant teaching background and current job description.

Table 3

Participant background and demographic

<table>
<thead>
<tr>
<th>Participant Name (Alias)</th>
<th>Age</th>
<th>Race/Ethnicity</th>
<th>Teaching/ Education Background</th>
<th>Current Job Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julie</td>
<td>22</td>
<td>Hispanic</td>
<td>First year ECSE. Graduate Student ECSE, Undergraduate degree in Education.</td>
<td>Paraprofessional ECSE</td>
</tr>
<tr>
<td>Rebecca</td>
<td>23</td>
<td>Caucasian</td>
<td>2 years teaching general</td>
<td>Preschool teacher, 2 year</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Ethnicity</th>
<th>Experience</th>
<th>Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mari</td>
<td>41</td>
<td>Hispanic</td>
<td>2 years teaching first grade (general education), 8 years non-profit director. Zero years ECSE. Graduate degree in ECSE.</td>
<td>Non-profit director/interventionist 2-8 grade, private setting.</td>
</tr>
<tr>
<td>Sue</td>
<td>39</td>
<td>Caucasian</td>
<td>Former preschool director, 2 years in Head Start. Zero years in ECSE. Graduate degree in ECSE.</td>
<td>Head Start Teacher</td>
</tr>
<tr>
<td>Louise</td>
<td>36</td>
<td>Haitian-American</td>
<td>3100 for MDCPS for 6 years in 1-3 grade. 1 year paraprofessional in ECSE, 1 year in Head Start. Graduate Student ECSE, Undergraduate degree in Education.</td>
<td>Head Start Teacher</td>
</tr>
<tr>
<td>Caro</td>
<td>23</td>
<td>Hispanic</td>
<td>Zero years in ECSE. Undergraduate student in Special Education.</td>
<td>Undergraduate student, Special Education</td>
</tr>
<tr>
<td>Rosie</td>
<td>22</td>
<td>Hispanic</td>
<td>First year teacher. Zero years in ECSE. Graduate Student ECSE,</td>
<td>First grade teacher, general education.</td>
</tr>
</tbody>
</table>
Data Collection

A combination of semi-structured interviews and structured and unstructured observations were conducted for a total of five data points for the current research (Table 4). The initial data point consisted of a video recording of each participant viewing a student video and completing a “think-aloud” (Davey, 1983). For the think-aloud during the initial unstructured observation of the student video, participants were asked to verbalize their cognitive processes as if they were documenting the observation through speech. Participants observed the same video of a student diagnosed with ASD in a prekindergarten classroom; the child was not a current student in any participant classroom. Participants were advised to take particular notice of the social functioning of the student and to discuss what they were thinking about during the video observation. Participant think-alouds were documented through video recording and observational notes. Observing this professional development session enabled me to “see events through the eyes of the people being studied” (Angrosino, 2005, p. 732), while also gaining insight into the participants’ thoughts in reaction to what she was observing.

Table 4

Abridged data points and analysis

<table>
<thead>
<tr>
<th>Data point</th>
<th>Description</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Video recording of participant think-aloud during unstructured observation of video.</td>
<td>Grounded theory analysis, open, conceptual and thematic coding.</td>
</tr>
<tr>
<td>2</td>
<td>Video recording of semi-structured interview</td>
<td>Grounded theory analysis, open, conceptual and</td>
</tr>
<tr>
<td></td>
<td>following unstructured observation of video.</td>
<td>thematic coding.</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>3</td>
<td>Video recording, observer note-taking while using the structured observation guide during video viewing.</td>
<td>Grounded theory analysis open, conceptual and thematic coding, structured coding using Studiocode,</td>
</tr>
<tr>
<td>4</td>
<td>Video recording of semi-structured interview following structured observation of video.</td>
<td>Grounded theory analysis open, conceptual and thematic coding.</td>
</tr>
<tr>
<td>5</td>
<td>Follow-up interview</td>
<td>Grounded theory analysis open, conceptual and thematic coding.</td>
</tr>
</tbody>
</table>

The second data point was a semi-structured interview following the video viewing and think-aloud, which was video recorded. Shown below, the sequencing and types of questions asked in an interview were crucial for maintaining a comfortable interview flow and accomplishing research goals. Participants were asked singular, open-ended questions, as suggested by Patton (2002) to be less limiting for the participant and encourage expanded responses. The interview integrated a general interview guide including questions about specific verbalizations recorded during the think-aloud process, for purposes of clarification and elaboration. Although I used an interview guide to help keep my questions focused, I combined this strategy with a conversational approach, to keep the interview comfortable and build rapport. My initial interview question, inquired about participant teaching background and current job status, which intended to alleviate any tension surrounding the interview process or video recording through a non-threatening and descriptive approach. This first brief interview continued by asking the teacher to reflect on the process of unstructured video observation and how this may differ from observing students in the classroom.

First interview guide:
1. Please briefly tell me about your teaching background and current job description.

2. Ask about educating preschool students with ASD, if not mentioned.

3. Tell me a little about the process of observing this video.

4. What did you notice yourself thinking about during the observation?

5. What did you find yourself thinking about that you were not directly observing?

6. How might this observation differ from a live observation of one of your students during work time?

7. Any comments to add?

For all of the interviews in this study, I was conscious of my verbal/nonverbal communication and use strategies to encourage rapport building and genuine reflections from my participant. I used proxemic and kinesic modes of nonverbal communication (Gordon, 1980), which consists of leaning closer to my participant and maintaining consistent phases of eye contact, to ensure him or her that I was listening intently. I reinforced this through being responsive to my participants’ statements and asking probing questions when needed for elaboration. I purposefully integrated slowed speech (chronemic) and a lowered voice (paralinguistic), which are verbal strategies noted to promote clarity and ease in the interview process (Gordon, 1980). Through the video recording of these interviews, I also had the ability to observe nonverbal communication and nonverbal responses from my participants, to include in my analysis.

The third data point included the observation of my participants while using the SOG for the same video previously observed. After a brief tutorial of the areas targeted for observation, how to use the guide, and the mechanics of coding through Studiocode,
the participant was videotaped throughout the professional development session. Any clarification questions or correspondence between the participant and myself were transcribed for the subsequent interview and analysis.

My second interview and fourth data point was more in-depth, as I asked for the participant to reflect on their application of the SOG, perceived utility, and comparison of both video observations. As in the previous interview, I implemented a conversational approach with an interview guide, to retain focus and a comfortable interview setting. My questions, shown below, continued to be singular and open-ended in nature, as suggested by Patton (2002). I initiated this interview by asking participants to reflect on the structured observation process. Following, I asked them to describe how this tool may be useful in assisting to inform instructional decisions in the classroom. Conversely, I probed for discussion of any limitations they experienced with this tool and if there were any changes they would suggest to increase usefulness. Participants were asked to compare their experiences during both the unstructured and structured observations of student behavior. Lastly, I inquired about the participants’ beliefs on this activity as a form of professional development focused on increasing observational skills of social responsiveness.

Second interview guide:

1. Tell me about the process of observing the video.

2. How might this tool be useful in helping teachers?

3. How might this tool be useful in training teachers in observation?

4. What difficulties/limitations did you experience when using this tool?

5. What changes would you make to this tool to increase its usefulness/usability?

6. Compare your experiences with both observation styles.
7. What are your thoughts on this tool as professional development?
8. How was this entire experience for you as a research participant?

During the interview process, I inserted probing questions when needed for clarification and elaboration. According to Patton (2002), “probing is a skill that comes from knowing what to look for in an interview, listening carefully to what is said and not said” (p.374). Probe questions served two purposes: they helped ensure that my interpretation of the participants response was correct and reinforced that I was listening and invested in what my participant was discussing. Detail-oriented probing was especially helpful when asking for feedback of how to adjust this professional development activity for higher teacher utility.

The fifth data point was in the form of a follow-up interview, which took place after all initial data had been collected from participants and analyzed. This was a face-to-face interview asking the participants to discuss any lasting perceptions they had concerning the video observation (both unstructured and SOG) and if it had affected the manner in which they observe their students in the classroom. During this meeting, participants were asked to review concepts within the transcripts as a form on member checking, which is a consideration for qualitative research validity. Member checking and other validity measures will be discussed in a later section.

**Data Analysis**

In order to examine the present research questions, this study implemented a blend of grounded theory coding and analysis (Strauss & Corbin, 1998) and Cobb and Whitenack’s (1996) three-pronged approach to video analysis. To explore data systematically throughout my three questions, it was necessary to incorporate three
different analyses. For the analysis of the first research question, I examined the participant think-aloud, and coded utterances to document what each participant was noticing during the unstructured video observation process. The second question was addressed through the analysis of participant interview responses alluding to their perceptions of the structured observation tool. Following, the third research question was investigated through an analysis of both the markers of what participants noticed in structured and unstructured observation and a comparison of their perceptions of structured and unstructured observations. In the following subsection, these processes of analysis will be explained in specific detail.

**Grounded theory coding and analysis.** All data collected were transcribed, entered into Atlas ti, version 6.2 (a qualitative analysis software) and analyzed using an inductive grounded theory approach, in order to systematically capture all emerging themes in the data. Although I am not constructing a theory, as Strauss and Corbin (1998) intended when they redeveloped this form of analysis originally developed by Glaser and Strauss (1967), I follow a similar coding process to examine themes surrounding the utility of this professional development tool for teachers of preschool students with ASD and participant perceptions of both the unstructured and SOG process. For the purposes of this study, I integrated the sequential coding components applied by Harry, Sturges and Klingner (2005), adapted from the procedures used by Strauss and Corbin (1998). I selected the sequential coding used by Harry et al. (2005), which includes three phases of coding: open coding, conceptual coding and thematic coding.

**Open coding.** In the open coding phase of data analysis, the transcriptions were broken down “incident-by-incident” (Charmaz, 2006, p 53), which would specifically refer to either participant utterances during the unstructured video observation think-
aloud (RQ1), participant responses alluding to perceptions of the SOG (RQ2) or both the markers of participant observation and participant perception of unstructured video observation and the SOG process (RQ3). After a salient incident was identified, the segment within the text was then assigned a descriptive code, which is reflective of the event or belief it is representing. Strauss and Corbin (1998) emphasized that the descriptive codes should avoid abstraction and remain close to the concepts uttered by participants. An example of open coding from the unstructured observation data is: “he just disconnected after feeling the failure of not having the correct materials to play” was coded as *immediate inference of child interpretation*. For the structured observation, an example of coding included: “use assessment to guide my instruction” was coded as *structured- helps to adjust instruction*. In many cases, verbatim participant speech serves as an optimal description of the concept it represents, labeled “in-vivo” codes (Strauss & Corbin, 1998). An example of in-vivo codes taken from the data includes: “I was able to notice more positive interactions, instead of just focusing on negative with the big picture”. The first round of open coding resulted in a total of 279 codes for the current data. After peer debriefing with a colleague and my committee chair, it was suggested to merge and condense codes where possible, thus reducing the number of open codes to 168.

**Focused coding.** Through a constant comparison process, codes were grouped together based on similarities or re-coded, which resulting in a set of focused codes (Charmaz, 2006). Because my data reflects participant observations, interviews, and perceptions of both unstructured and structured video analysis, my focused coding resulted in codes that reflected participants perceptions and processes: *Think aloud, video observation benefits (general), video observation drawbacks (general)*,
unstructured video observation benefits, unstructured video observation drawbacks, structured video observation benefits, structured video observation drawbacks, instructional practices associated with structured observation, teacher philosophy and self-reflection. After a collaboration session with my committee chair, I was advised to label groups of codes within these focused categories, by the concepts they represent. Thus, the categorical grouping would now move on to conceptual coding within the headings mentioned above.

Conceptual categories. Through Strauss and Corbin’s (1998) process of constant comparison, conceptual groups of categories were formed based on similarities. As these groups become saturated with open codes, I was able to develop understanding on the larger concept the codes represent. Within each categorical group of open codes, the entries vary by property and dimension while continuing to share similar meaning (Strauss & Corbin, 1998). The properties were considered the characteristics that contribute to a shared meaning, whereas the dimensions were how the properties can differ by frequency and intensity. For example, the open codes “can be overwhelming”, and “need more time to process”, belong in the same category labeled: what structured observation does to the mind-negative. The open codes share similar properties as they all reflect perceived negative aspects of using the structured observation tool. However, the codes also differ in the properties that they represent; in this particular case the properties differ the need for more processing time and a feeling of an overwhelming amount of simultaneous cognitive processes needed. After the conceptual coding process, I had a total of 28 conceptual categories to examine for thematic relationships to answer my three research questions.
Thematic coding. In the thematic coding phase, conceptual categories are examined by property and dimension to develop thematic statements suggesting relationships between various concepts (Strauss & Corbin, 1998). With support from the data, I was able to see how my thematic statements suggest relationships amongst the concepts recorded through participant observation and interview. For example, after examining the think-aloud data surrounding the unstructured video observation, an emergent theme was “immediate thoughts with personal reflection leads to generalization”. During analysis, a pattern emerged for the majority of participants; immediate reactions to student/teacher would typically be followed by personal reflection and then result in a generalization about the student/teacher. Once the relationship between conceptual codes was evident, this pattern created the sole theme for the first research question. Following the examination of the relationship between conceptual codes to form themes, I had a total of nine themes. Specifically, these themes were distributed by data organized under research questions: RQ1 had one theme, RQ2 had four themes and RQ3 had four themes.

Cobb and Whitenack’s (1996) approach to video analysis. This approach was adapted in order to illustrate a holistic view of concepts and themes emerging from the data through Strauss and Corbin’s (1998) grounded theory analysis, while also examining individual participant profiles. Cobb and Whitenack (1996) found that their methodology used for data analysis helped to cope with very large qualitative longitudinal datasets, which are frequently viewed as difficult to manage by researchers. This approach includes three steps: 1) initial analysis, 2) episode by episode, and 3) analysis of analyses (p. 217). For the current study, Cobb and Whitenack’s (1996) approach was adapted to 1) initial collective analysis, and 2) participant by participant analysis. An example of initial
collective analysis derived from data is focusing on specific markers of student social behavior during the use of the SOG. Each participant commented on this during the interview, therefore it is an emergent theme representing the collective group of participants. For the participant-by-participant analysis I have developed participant profiles, which include demographics and themes representative of the individual. An example of an individual-specific participant theme is SOG helped reduce emotional bias. Louise felt emotion during the unstructured observation, incited by the student’s frustration and the lack of acknowledgement of this by the teacher. However, during the structured observation Louise felt the use of the structured observation tool helped to “keep her emotions at bay”, which allowed her to effectively complete her observational coding without needing to stop. This is a theme that was unique to this participant and was reflected in her individual profile.

**Considerations within Qualitative Research**

In the area of qualitative inquiry, leading researchers support specific considerations to promote the validity and trustworthiness of the findings. Although it was difficult to control for certain factors, careful forethought assisted in avoiding issues that past researchers have encountered with qualitative methods. The areas included in this component are: sensitizing concepts (Strauss & Corbin, 1998), role of the researcher (Harry & Rippey, 2009) and quality indicators for a rigorous qualitative design and accurate results (Lincoln & Guba, 1985).

**Sensitizing concepts.** Although this study was not intended to develop a theory, the consideration of sensitizing concepts is necessary and relevant to my data analysis. Sensitizing concepts include any knowledge or previous experiences concerning the research topic, which serve as catalysts for interpretation and analysis (Glaser, 1978).
Strauss and Corbin (1998) believed it is this background knowledge that allows researchers to “see beneath the obvious to discover something new” (p. 46). Many professionals conducting qualitative research strive to remain as objective as possible, however “we cannot completely divorce ourselves from who we are or from what we know” (Strauss & Corbin, 1998, p. 47). As a previous ECSE teacher of students with ASD and a current researcher immersed in the field of ECSE, I have a high degree of sensitivity to the experiences and issues surrounding the areas of focus within this study. My background enabled me to delve deeper into the core of teacher beliefs, instead of using interview time for clarifying teacher responsibilities, legal mandates or classroom complications. According to Charmaz (2003), sensitizing concepts first inform the topic of research and will “deepen perception, provide starting points for building analysis” (p. 259).

My knowledge and personal experience in this area were the motivating factors for choosing this topic of research and my familiarity with sensitizing concepts inevitably affected my data collection, interpretation and analysis. An example of this is evident during my interview with Sue, who began discussing the various assessments she is required to use in her Head Start class. When Sue referred to “inaccurately tallying the screener” I was aware that she was implying that these mistakes in calculations of the Batelle screener resulted in having to conduct the full Batelle assessment, which can take up to several hours. Thus, her miscalculation in assessment resulted in less time for progress monitoring for her other students. Because I had knowledge of Head Start assessment requirements and general assessment administration, I was able to probe further into what Sue uses her progress monitoring data for, instead of focusing on assessment requirements and clarification.
Role of Researcher. As a former teacher, current researcher and the developer of the present SOG for in-service teacher training, it was critical to consider my professional role in this study. Although I intended to use my teaching background to expedite the establishment of rapport, it was necessary to maintain neutrality during the data collection, analysis and interpretation, which has been regarded as a difficult task (Patton, 2002). My perspective was a potential complication rather than an advantage, without properly orchestrated with calculated planning.

Harry and Rippey (2009) examined the various roles researchers assume when using ethnographic methods, building from Van Mannen’s (1988) emic and etic perspectives. Harry and Rippey (2009), citing Moustakas (1995), examined the critical nature of researcher positionality through three perspectives. Being in occurs when the researcher assumes to be part of the studied group or environment. Being with occurs when a researcher serves as the voice for the group or individuals they are examining. Being for occurs when the researcher is a vehicle for advocacy for the group or individuals they are studying. In the current study, I strove to find a perfect balance between being in and being with. Consequently, I was able to develop a genuine perspective of how my participants viewed structured observations to improve observational skills and also to reflect on the recommendations of my participants for a more appropriate design for professional development activities. Hence, my background promoted a more insider perspective, while my primary goal was to develop an effective professional development tool that is not only useful to teachers, but also meaningful. It was necessary to remain as neutral as possible and although I am invested in the SOG as the developer, I sought to thoroughly probe into difficulties and issues associated with my participants implementing the SOG. Ensuring that I was able to gather unbiased
responses from my participants was paramount, so I focused on keeping my line of questioning neutral and gave my participants several opportunities to discuss the utility of the SOG, as well as limitations or aspects they would want to change.

Lastly, the use of video recording during interviews assisted in documenting and analyzing potential researcher bias, resulting from my past experience and role as a researcher. Not only was I analyzing responses from my participants, but I was also examining my line of questioning, use of probes and conversational dynamic through insertion of observer comments during a reflection process immediately following each interview. Patton (2002) viewed the period immediately following an interview “as a time to consider what has been revealed or birthed” (pg. 384). I used this period of time to reflect on components of the interview, including a critical examination of my methods and thoughts during the interview process.

Quality Indicators. Lincoln and Guba (1985) coined vocabulary differing from that of positivist research, which was tailored more to qualitative work in naturalistic settings. Four of these qualitative keywords served as criteria to measure the validation of studies within this approach to research: credibility, transferability, dependability and confirmability. To quiet the criticism from other fields claiming to use more rigorous methods, these researchers developed validation techniques for each of the criteria to establish the trustworthiness of a qualitative study.

In qualitative research, the term credibility (Lincoln & Guba, 1985) has a primary goal “to feel confident about our observations, interpretations and conclusions” (Eisner, 1991, p. 110). Methods implemented to accomplish this include: triangulation, peer debriefing, and member checking. For the current study, I used triangulation, member checking, systematic coding and peer debriefing to ensure that my data, analysis and
results were trustworthy. I integrated triangulation of methods through my collection of five data points in two separate meetings, incorporating interviews, observations and a think aloud procedure. Observation of my participants during the think aloud and their implementation of the SOG served to either support or disprove the data collected through the interview process. For example, during the think-aloud process Louise became visibly upset about the target student’s frustration. She discussed this wave of emotion and attributed it to “being able to feel anything” during the unstructured video observation. Conversely, during my observation of Louise during the SOG, it was obvious that she was not feeling that same emotion and eventually reflected on how the SOG made her “put her emotions at bay”. The use of observation and interview assisted in corroborating this data, making it more credible. This credibility was further established during my follow-up interview with participants, where I presented my themes/conceptual codes, as a form of member checking for accuracy. Through the application of Strauss and Corbin’s (1998) grounded theory approach to coding and analysis, I was able to follow a systematic framework for coding, which increases the credibility of findings. Lastly, I participated in ongoing peer debriefing; I had two different coders review and compare concepts and codes, in order to achieve congruency.

Transferability is the extent to which the current findings can be applied with relevance to other similar settings (Lincoln & Guba, 1985). To encourage transferability of findings, researchers can use overlap methods, which are considered a type of triangulation. These techniques are also used to promote dependability, which is directly related to the reliability of the findings. Dependability is sought through replicating the same findings in a similar research setting (Lincoln & Guba, 1985). In the current study I integrated overlap methods, by using two interviews and two observations during my first
meeting with participants and a follow-up interview with member checking for the second meeting. The multiple data points allowed participants to show evidence of their perceptions in several time points, through both observational and interview approaches. Additionally, participants were given the opportunity to further explain or clarify their responses, after being presented with the conceptual codes and themes resulting from analysis. Through participant confirmation of their perceptions and agreeing on the conceptual codes and themes, I was able to support the dependability of my findings.

Lastly, confirmability is another form of reliability, which affirms that there is evidence available to support the findings from my research (Lincoln and Guba, 1985). Confirmability can be supported through an audit trail in qualitative research, to serve as justification for the conclusions made. For the present study, I have video recordings of four data points in the first meeting and audio recording of both the member checks and the follow-up interview during the second meeting. The video/audio recordings, transcriptions, and diagrams indicating specific steps of coding, condensing and analysis provide substantial evidence for reference and corroboration of my findings.
Chapter 4: Findings

I initiated this research with an aim to examine the perceived utility of the SOG for professional development of increasing teachers’ skills for observing social responsiveness in preschool students with ASD. After further development of my purpose and methodology, I expanded my scope to include a comparison of teachers’ thinking during unstructured and structured video observation of preschool students with ASD. Ultimately, I had three research questions guiding the design of my study. The research questions were:

1. What thoughts do participants express during unstructured video observation of preschool students with ASD during classroom work time?

2. How do participants perceive the utility of a structured observation guide for professional development and increasing skills for observing social responsiveness in preschool students with ASD?

3. How do the perceptions of utility and researcher analysis of observational data compare between structured and unstructured observations of student videos?

The current chapter will report my findings from this research. For organizational purposes I will present the findings for each research question separately, along with the various themes that are associated with the individual questions. My intent is to address each research question with clarity and to avoid redundancy. Following Cobb and Whitnack’s (1996) design for analysis of video data, I will first answer the research questions for my participants as a collective entity, in the “initial analysis” (p. 217). The themes developed in this section are representative of sentiments reflected by the majority. Second, I will move forward to discussing participant profiles reflecting
individual differences in respect to research, during the participant-by-participant component of my analysis.

**Research question 1: What thoughts do participants express during unstructured video observation of preschool students with ASD during classroom work time?**

The data answering my first research question resulted exclusively from my first data point: participants conducting an unstructured video observation of a student with ASD during classroom work time. Participants were instructed to engage in a think-aloud to document what they were noticing and thinking about during the observation. The analysis resulted in 74 open codes, which were eventually condensed to 48. These 48 codes were then sorted into five conceptual categories (Strauss & Corbin, 1998) displayed in Table 5, along with a selection of open codes, which will be further discussed. The categories *immediate thoughts/reactions about student* and *immediate thoughts/reactions about teacher* reflect direct and instant video observations. Statements related to their own students, their past experiences teaching, suggestions for teaching practice, and their personal reactions were all sorted into the conceptual code *relating/reflecting on personal experience*. Statements made about the teacher or student, which were not directly observed on an immediate basis and were considered more of a general statement were categorized as *generalization of student* and *generalization of teacher*. After returning to the transcriptions and carefully rereading, it was evident that the majority of immediate thoughts/reactions led to generalizations about the teacher and student. Hence, a relationship between the conceptual categories began to emerge, forming the sole theme for this research question.
Theme 1: Immediate thoughts/reactions combined with personal experience leading to generalization. As demonstrated below in Figure 3 and Table 5, I have displayed the data associated with this theme in two graphic approaches. Figure 3 demonstrates the relationship between the conceptual categories; specifically, immediate thoughts/reactions are reflected in terms of personal experience, which leads to participants making either positive or negative generalizations about the student or teacher. Table 5 examines in more detail the data supporting this theme, documenting the conceptual categories, and examples of open codes that belong to each concept. Above the theme is a summative explanation of the nature of the relationship between conceptual codes, which helps to further explain how the theme relates to answering my first research question. In this section, I will explain this theme by providing a rich description (Lincoln & Guba, 1985) of participant think-aloud statements during the unstructured video observation that contributed to each individual conceptual code belonging to this theme.

Immediate thoughts and reactions about student. One event in the video that evoked quite different participant comments was the student’s transition from computer to block area. Participants had a range of immediate thoughts and reactions about the student, including: student attentive abilities, student preference, verbal abilities, lack of peer interaction, and peer comparison. All the utterances described in this section were followed by both reflection of personal experience and a generalization about the student.

Participant statements had a tendency to focus on student attentive abilities. Rebecca stated, “so, that was easy” when she started the video observation addressing how the student looked as if he was not ready to transition from the computer to the block
area and how he responded favorably to teacher redirection. This was followed with frequent comments on the student’s observed attentive behavior, which Rebecca associated with student preference. Seemingly, Rebecca’s immediate thoughts of the student were guided by conceptions of typical student behavior for preschool, which will be later explained when examining her interjection of personal experience. Sue’s immediate thoughts also focused on the student’s attentive ability and familiarity with classroom expectations when observing student transition from computer to block area. Sue said “she (the para) is directing him hand over hand, even though he isn’t looking, he’s moving in the right direction.” This comment was made after the student was asked to clean up and was assisted by the teacher before beginning to clean up on his own. Sue made the distinction that despite the lack of student eye contact; he seemed to be aware of classroom expectations enough to comply with teacher requests. Sue’s comment reflects a traditional view of student attention indicators, such as eye contact. Her observation alluded to the fact that although he did not exhibit that indicator, he was actually paying attention to teacher requests.

When focusing on student transition, many participants made inferences about student preferences and actions. Louise said, “he was like releasing his frustration like aw man, I have to do this, but forget these blocks and then dumped them on the floor.” Additionally, Louise inferred that the student was aware of the classroom routine and despite being frustrated, he still followed directions and vented his frustration in the required area. She made an observation about the student not being ready to transition, which led to his perceived frustration and attributed his release with dumping over a bin of blocks. Although thoughts on student transition reflected diverse foci, each participant made
Figure 3. Relationship between conceptual categories for RQ1.
### Table 5
Chart containing research question, summative statement, themes, conceptual categories and a selection of open codes

| RQ 1: What do new/future teachers of ECSE think about during unstructured video observation of preschool students with ASD during classroom work time? |
| Summative Statement: During unstructured video observation, participants were inclined to think about immediate thoughts/reactions to teacher/student behavior and interactions, which generally led to a reflection of personal experiences and eventually resulting in the formation of a generalization about student or teacher. |
| Theme: Thoughts/reactions combined with reflection of personal experience leading to generalization. |

<p>| Conceptual Category: Immediate thoughts and reactions about student | Conceptual Category: Immediate thoughts and reactions about teacher | Conceptual Category: Relating to personal experience | Conceptual Category: Generalization about student | Conceptual Category: Generalization about teacher |</p>
<table>
<thead>
<tr>
<th>Open Codes:</th>
<th>Open Codes:</th>
<th>Open Codes:</th>
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</tr>
</thead>
</table>
| • Positive reaction to prompt  
• Student attention  
• Familiarity with expectations  
• Inference behind student actions/preference/interpretation  
• Verbal abilities  
• No urge for peer interaction  
• Peer comparison | • Teacher redirection  
• Suggestion of teacher practices-facilitation  
• Suggestion of teacher practices-transition | • Relate to personal  
• Comparison to own classroom  
• Suggestion of practices from experience  
• Reflection of current curriculum | • Cute child behavior  
• Student abilities  
• Positive and negative aspects of student behavior  
• Student demeanor  
• Peer comparison | • Teacher practices  
• Need for scaffolding  
• Teacher practices for control  
• Lack of understanding |
several comments about the student’s preference for working at the computer and how he was not ready to transition to the next area, based on his body language.

**Immediate thoughts and reactions about teacher.** Although instructions required participants to observe student social behavior, four of my participants had responses belonging to the conceptual category of immediate thoughts and reactions about teacher, as illustrated by Table 5. Seemingly, these participants began the think aloud focusing on the student and then incorporated the teacher, once she entered the play area as a facilitator. Participants’ immediate thoughts about the teacher included: redirection, play facilitation, engagement, and transition. Each of these utterances will be later connected to participant reflection of personal experiences and then result in a generalization about the student.

Several statements were made concerning the teacher’s efforts for redirection. Rebecca stated, “if they choose an area not completely to control what the kids are doing, but just be nearby. I know she was quick to come get him from that computer.” When the student left his play area to return to the computer, Rebecca discussed how it was necessary for teacher proximity to redirect students who may not be accustomed to this type of structured environment.

Other comments placed more emphasis on the necessary role of the teacher as the sole facilitator. When describing her thoughts on what is needed for the student to engage Mari said:

Now he seems to get engaged, even if it’s just for a couple seconds, but she had to get involved. It seems that when everything was given to him, he didn’t really know what to do. But now that she is giving him fewer materials in a purposeful manner, he is engaged.
Mari suggested that it was the teacher’s careful consideration that encouraged the student to engage and remain in the designated area. Sue followed suit by focusing on engagement. However, she discussed the teacher’s efforts to call student attention to his peer playing with the train, with the aim of inciting interest with materials. Sue stated, “she told him to look at what the other child is doing and hopefully he will be able to pick up on what the other child is doing…she’s trying to get him engaged.”

Many participants immediately addressed the teacher’s practices concerning transition. Louise started her unstructured observation responding to teacher practices during transition, which eventually led to her own reflection of her own classroom model, resulting in a generalization about teacher and the TEACCH classroom model. After observing student transition from computer to the block area, Louise stated:

The para (professional) was just like, let’s go, let’s go now. Was there a warning before the bell went off? He didn’t have enough time to transition, the proper transition. He was abruptly removed from the activity and he was like why? And there really wasn’t a connection to what he did, like what were you working with? Did you enjoy it? No dialogue.

Louise became noticeably upset when responding to teacher practices for student transition. She believed the teachers were very disconnected from the student and did not provide any warning for a more gentle transition. Once Louise began reflecting on her own teaching experience, these immediate thoughts resulted in the display of increased negative emotion towards the teacher and the classroom model.

**Reflecting on personal experience.** During the think aloud, most participants related the observation to personal experiences. These reflections were typically followed by generalizations aimed at the student or the teacher. As referenced in Table 5, personal reflections varied amongst participants, including relating practices in the
observed classroom to those of their own, suggestions for teacher practices based on past classroom successes and discussion of curriculum implemented in participant classrooms.

First, participants were inclined to discuss the similarities and differences between what they were observing and their own classrooms. When referring to the teacher’s incessant prompts for students clean up materials to no avail, Julie smiled saying, “it’s so funny, I feel like this is my life, sitting on the floor and redirecting. Asking them to clean up and then cleaning it all up myself”. Rebecca was seemingly shocked at how effortless it was to redirect the student from the computer and back to the block area. She stated, “wow that’s impressive, because in pre-k, in my classroom just to get a kid to move on from something like that. It’s a fight, it’s a struggle. So, that was easy.” Both of these examples of relating the observation to personal experience were immediately followed by at least one generalization, presenting the possibility of participant experiences shaping what they tend to think about during unstructured observations.

Second, other comments focused on suggesting practices deemed successful by prior experience. Mari defended the teacher missing specific cues of student frustration by explaining the difficulty of seeing everything during a live observation while teaching by saying, “sometimes even those little cues are so hard to pick up, unless you are doing it, like I would never have picked up on that.” Mari attributed the teacher missing indicators of student frustration to the many responsibilities of a classroom teacher, which she herself had experienced. She continued by suggesting specific instructional practices in the form of hypothetical questions, possibly to appear less critical of teacher practices. Mari said, “I wonder if she, when she has the block center with the kids if she tries to build on social interaction between peers or tries to build on those pragmatics for
social skills?” Although this was phrased as a question, Mari was suggesting teacher practices, most likely from past experiences of successful strategies targeting peer interaction. Similarly, Sue used the same type of hypothetical phrasing to suggest an instructional practice that has been effective in her own experiences when she stated, “I wonder if since he isn’t really getting engaged with the other child if she needs to be more hands on with him, get down and get involved more.” Both Mari and Sue’s suggestions implied a critical evaluation of the teacher’s practices, which led to more overt generalizations about teacher.

Third, some participants approached their teacher recommendations through a reflection on the current curriculum used in their classrooms. Rebecca discussed her use of Conscious Discipline to assist in engaging students, following student interest, and reducing noncompliance. “It’s hard to have a conversation and verbalize. I see you want to do this. We use Conscious Discipline in my classroom…a lot of I see you want to do this. Lets do this or lets do that.” This statement serves as a suggestion for teacher practices, as well as a critical evaluation of teacher-student communication.

Louise was far more explicit of her critical evaluation of the classroom model and teaching practices, when she compared the observation to her current curriculum. She said:

I guess because I’m so used to the Highscope curriculum and how the children get a chance to plan and mentally think about what they are going to do, instead of just going without planning, but they can think before they do anything…I’ve seen children grow from using that model and I’ve seen their language develop and work on problem solving skills. It looks like he’s missing out.

With the immediate thoughts made about the student’s verbal abilities and preference, Louise obviously feels that he would benefit from a more interest-driven, communication-rich environment.
Generalization about student. Five out of seven participants made generalizations about students following immediate thoughts and reflection on personal experiences. The other two participants did not reflect on personal experience. In Rosie’s case, when I asked why she was laughing at the video, she responded “how he’s just standing on the blocks and like just does little cute things and he’s just focused on the blocks that he’s looking at and not paying attention to what is under his feet.” Within a minute, Rosie had determined the student “was just a cute little kid” and she continued to smile at his mannerisms throughout the video observation. This is considered a generalization because after the immediate reaction to the student’s behavior, she had made her mind up. For the rest of the observation, she seemed to smile at the “cute” behavior and ignore other ASD–related behaviors that the other participants mainly focused on.

Caro did not assume such a positive approach as Rosie demonstrated. Rather, she made several immediate comments about student behavior that were not directly related to the student generalizations that followed. Within the first minute, after discussing the child looked unsure of what he was doing, Caro made the statement, “he doesn’t form sentences or words, he can’t speak well.” Although this may seem like an immediate thought, the student had not yet spoken in the video and the statement was communicated as a general assumption towards student abilities not yet observed. In another example, Caro was talking about how the student was not using materials correctly and shows no interest in engaging with his peers. This immediate thought was followed by the generalization of “he seems to have a very short attention span.” Lastly, after I noticed Caro shaking her head and sighing from the video, I probed as to what she was thinking. Caro’s response was:
She (teacher) pointed at the farm this way over here. Go to the farm, he went the other way, step on the blue he picked it up. So, she’s trying to get him to do something, but he isn’t listening to any instruction.

Although Caro’s response seems to integrate her immediate reaction to student behavior, this was uttered long after it was observed. Further, it was communicated in a manner of providing substantiation behind her generalization of the student not listening to any instructions.

The other five participants presented a range of student generalizations following immediate thoughts and reflections on personal experiences. Generalizations reflected both positive and negative aspects of student behavior and addressed student abilities and student demeanor. These examples are the last segment in the highlighted relationship between immediate observations, personal reflection and student generalization.

Generalizations frequently addressed student demeanor following their reflections of their personal experience. After noticing that the student did not react to being pushed by his peer and suggesting that the teacher integrate some type of social curriculum focusing on pragmatics, Mari believed that although the student had no interest in social interaction with peers he “seemed somewhat calm and not aggressive”. This is the first instance of Mari mentioning the student’s demeanor, although it seems likely that her immediate observations of the student’s lack of affect when being pushed would lead her to this assertion. Additionally, Mari said twice that the student “has no urge for peer interaction”, which may have encouraged her to suggest specific strategies for social interaction. Further, after reflecting that the student needed assistance with pragmatics, this generalization may be an attempt to showcase that he would be a good candidate for social skills curriculum because he will not harm others.
In similar fashion, Louise made a generalization about the student’s demeanor. However, she directly associated it with her immediate thoughts and personal experience reflection.

He looks like a typical, well let me correct myself, he looks like a non-confrontational boy and he gets frustrated and he feels that his voice isn’t being heard or someone isn’t defending him or he feels injustice in some way, then acts out. That’s the only way, he was acting from what she said.

This statement is referring to the student becoming frustrated because he didn’t have the correct materials for what the teacher was trying to do. When he realized that he couldn’t use the buildings on the train track like a train, he jumped up and started self-stimulating through vocalizations and flapping his arms. Louise referred to this behavior as “acting out” and felt it was a direct result of the teacher being unaware of student frustration, not allowing him to communicate what activity he would like to do and being forced to participate in an activity that he is neither interested in, nor has the correct materials for. Louise’s generalization is directly associated with her immediate reaction to the student being abruptly transitioned to an area he was not interested in and her reflection on how the student would benefit from the more language-intense, student-driven nature of the High scope curriculum.

Generalizations had a tendency to address student abilities. Rebecca’s comments reflected a more positive outlook when she said, “once he attends to a task, he really stays at it” concerning the student’s prolonged engagement with the task of cleaning up. After originally discussing the student’s positive reaction to redirection in her immediate thoughts and then reflecting on how difficult her students are to redirect without a struggle, Rebecca seemed to assert that the student’s eventual positive engagement with cleaning up was a result of the teacher redirection. Julie felt that the student “struggles with following directions” after she observed that he was not cleaning up when being
prompted by the teacher, she then reflected on how this was very similar to her own experiences as a teacher. Lastly, Sue was compelled to make a comparison of student/peer abilities after she noticed the student did not want peer interaction, she then suggested that the teacher be more hands on to promote social interaction. Sue stated, “so, obviously you can tell the difference in level between those two. The other one was more typical, typically engaged and with language and sound effects, you know, correctly saying them.” Sue was making the claim that the student’s social skills were less developed than his peer in parallel play, which can be a result of her initial immediate observations and her reflection of the need for more specific social skill instruction.

**Generalization about teacher.** Generalizations aimed at the teacher were evident in four out of the seven participant think-alouds. As previously mentioned, participants were instructed to observe student social tendencies, not teacher practices. Despite these instructions, participants made generalizations about the teacher after they discussed immediate thoughts about the teacher and reflected on their personal experience, demonstrating a similar pattern found with the student. As illustrated in Table 5, all generalizations were aimed at teacher practices, but they differed in focus. The content included: the need for teacher scaffolding, instructional practices aimed at controlling student, and lack of understanding. Each of these examples can be related to immediate thoughts about the teacher, as well as reflection of personal experience.

Some generalizations addressed the need for more scaffolding towards independence and facilitation of student engagement. Mari expressed “the teacher needed to give him some other directions instead of just pointing to the farm and saying go get it” prior to making the generalization “she needs to facilitate every step.” Further, Mari
supplied suggestions for the teacher staged as hypothetical questions when reflecting on her past knowledge of effective teaching strategies. These factors have the potential to influence Mari’s generalization that the teacher must consistently facilitate social interaction with people and objects, in order for it to occur. Sue believed the teacher needed to apply more hands-on scaffolding, in order for the student to engage in interaction independently. Immediately following her reflection of personal experiences in the form of strategy suggestion, Sue made the generalization: “Get down with him and get involved more. Obviously she wants him to do it independently, but that’s not happening.” In her immediate thoughts about the student, Sue noticed how he was positively reacting to hand over hand assistance and when she observed the teacher becoming more hands-off, Sue was inclined to make a suggestion based on a strategy deemed successful in her past. Both may be influential factors for the nature of Sue’s generalization towards the teacher.

Other generalizations were aimed at instructional practices that the teacher used to control the student. Rebecca noticed the teacher was touching the student each time she was redirecting him and said, “see, he doesn’t like being touched. She relies on that for control. Its touch, you know, its hard to have a conversation and verbalize.” Prior to this, Rebecca discussed how redirection and transitions are very difficult in her class and she uses Conscious Discipline, which focuses more on positive encouragement instead of using touch to control behavior. Rebecca may have believed the teacher’s strategy was effective because there was not a struggle, as she mentioned in her reflection of personal experience. Further, Rebecca mentioning the difficulty of having a conversation with students with ASD who may have language impairments suggests that the teacher using
touch as control was not necessarily negative, but maybe an accommodation for those with less language development.

Louise made teacher generalizations aimed at a lack of understanding of student frustration and how to allow him to effectively release it. After the student became frustrated from not having the correct materials to play as he was prompted to, Louise stated:

She doesn’t even understand he’s frustrated because he doesn’t have the toy and she’s just, her main focus is making sure he stays in block area…when I see he is obviously frustrated but he’s not able to verbalize it, she doesn’t give him that outlet to express his concerns or frustrations because when that child is able to express those frustrations...you eliminate the problems at the beginning and teach the child to verbalize their issues.

Louise’s generalization of the teacher directly relates to both her immediate thoughts about the teacher and her reflection of personal experience, which were both focusing on a lack of dialogue in the classroom. The generalization towards the teacher takes this sentiment further with the claim that the teacher did not notice student frustration, due to her number one concern being keeping the student in their designated areas. Louise suggested through this generalization that the teacher is missing valuable teaching opportunities and the potential for facilitating social interaction to resolve student frustration.

**Conclusion.** When examining what the participants think about during an unstructured video observation of a preschool student with ASD, think-aloud data suggested a combination of immediate thoughts aimed at the student/teacher, reflection of personal experience, and generalizations about student/teacher. The content of thoughts varied, based on the specific events capturing participant attention and their individual interpretation of what was observed. The diverse nature of participants’ personal
experience was noted as a potential influential factor of observation interpretation. Instead of attempting to explain why participants thought about specific content during the observation, I focused on the pattern exhibited between immediate thoughts, personal experience and generalization. All but two participants exhibited a pattern of voicing immediate thoughts/reactions to student behavior, following with a reflection of personal experience and eventually a generalization about the student. The remaining two participants were found to discuss immediate thoughts and generalizations about the student, without reflecting from personal experience. Further, these two participants had the least amount of teaching experience, which is a potential explanation for the lack of personal reflection. Although the instructions required them to observe student social behavior, four participants expanded their focus to include the teacher. Similarly to the student observations, participants discussed a combination of immediate thoughts/reactions to teacher, reflection of personal experience and generalization about the teacher.

**Research question 2: How do participants perceive the utility of a structured observation guide for professional development and increasing skills for observing social responsiveness in preschool students with ASD?**

The second research question was addressed by data collected through my fourth and fifth data point, which included the interview following the application of the SOG and the follow-up interview a month after the video observation session. After analyzing the data from my seven participants for the two data points, I had a total of 132 open codes, eventually condensed into 70 codes. As illustrated by Table 6, the codes were
sorted into seven conceptual categories, based on their dimensions and properties (Strauss & Corbin, 1998).

Because this research question is examining the utility of the SOG, I included both positive and negative perceptions of utility, as well as suggestions for changes to increase the utility of the SOG. Participant perceptions were organized into seven conceptual categories and through analysis of the relationship between categories, I was able to formulate four themes, as follows: 1) worthwhile and relevant approach to professional development, 2) guidance and depth, 3) change in thought and practice, and 4) complications with process. In the following section, I will explain each theme and associated conceptual categories and will illustrate with examples gleaned from the interview data.

As exhibited below, Table 6 displays the four levels of analysis. The table is organized to illustrate the inductive analysis beginning with the open codes at the bottom, followed by conceptual codes and resulting themes. Lastly, the summative statement explains the relationship between the conceptual codes and themes. In this section, I will explain each theme by examining the corresponding conceptual categories and providing a rich description (Lincoln & Guba, 1985) of participant responses during the interviews.

**Theme 1: Worthwhile and relevant approach to PD.** The sentiment represented in this theme was demonstrated by each of the seven participants through differing angles. All participants perceived the SOG to be a useful professional development tool for both new and current ECSE teachers. However, the reasons provided for why it was useful varied based on what appealed to each individual participant. As illustrated in Table 6, I will examine the conceptual categories *Worthwhile*
and relevant PD and Ease of process and use participant responses to explain why they supported the SOG as professional development.

**Worthwhile and relevant PD.** During the second interview, participants were asked about their views of using the SOG for professional development tool for teachers. Each individual discussed why they felt the tool was useful for professional development and their responses included: mentorship for new teachers, strengthening observation skills, ability to better know students on an individual level, and the SOG reflecting a diverse approach to professional development. Each section will be examined in further detail.

First, several participants discussed the benefits of using the SOG for professional development with new ECSE teachers. Sue and Caro agreed that the SOG would assist new teachers with “what to look for” regarding social responsiveness of preschool students with ASD. Rebecca expanded on this when saying,

I think its great. A lot of people go into teaching not really thinking about all the crazy details there is to teaching. In undergrad they don’t really tell you that this kid is going to have this going on in and outside of school and his behavior will be a certain way.

Rebecca viewed the SOG as an approach to prepare new teachers for working with students with ASD to gather a “sense of it” and Caro felt the tool was a great “visual heads up” for aspects of social behavior she was not prepared for. Sue believed that new teachers needed practice with looking for specific details, as the first year can be overwhelming, causing these details to be sacrificed to larger responsibilities. Rosie, a first year teacher, echoed this impression:

As a new teacher you are just 100% just learning new things all the time, you are in no way comfortable yet. Like when you are sitting in your (undergrad) class watching another teacher and you’re like, oh I can do that in school and I’m
gonna do that and do it great, but once its your responsibility it gets tougher and um, with a tool like that you could probably see what made it tough, like we are having negative communication

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Participants perceived the SOG to be a good resource for supporting new teachers by helping them examine specific instances of student social responsiveness; an area that may not have been taught in prior teacher training and which may be ignored by new teachers overwhelmed by new responsibilities.
Second, in addition to being useful for new teachers, participants expressed that the SOG would help all teachers strengthen their observation skills. Each participant reflected on increased observational focus during the SOG session, with several commenting on noticing a change in observation skills during the follow-up interview. Rebecca mentioned, “I find myself looking for more of the motivating factors and my students cognition or interpretation of what they are paying attention to”. Further, Rebecca even suggested the SOG to colleagues who “couldn’t stop talking about how terrible this one kid was. I told her she should use the tool and focus on specifics, like what could motivate him without her screaming and going crazy.” Rebecca felt the SOG would help her colleagues focus their observations and gain perspective on alternative problem solving. Julie found the SOG especially helpful with bringing awareness to diverse interpretations and communication styles through observation. Specifically, Julie stated, “it’s beneficial, like I said especially children with Autism, some of their stimming and stuff doesn’t get looked at as communication with object or person.” As Julie felt the SOG would help teachers become more aware through observations, Mari believed this increased focus would inevitably assist teachers in perspective taking and reflection:

It gives them a different perspective… some awareness that these are some areas we really want to look at for an ASD child…there is something keeping me from reaching this child, is it an academic problem, communicative. Maybe it’s a motivation issue, maybe there are things happening in the home.

Along with the encouragement of observing specifics in the classroom, Mari viewed the SOG as an opportunity to have teachers reflect on their observations, as a form of problem solving and gaining understanding.
Third, expanding on the notion of gaining more understanding, Louise and Rebecca felt the SOG would be a beneficial professional development tool for teachers to get to know their students on a more individual level, as illustrated in the following statement by Rebecca:

Get to know each one of your students on a more personal level, really seeing their behaviors and how they act and react. Whereas in the classroom it’s overwhelming there are so many kids. I remember my first day ever teaching … I need to get to know these students but there is just so much going on … when I don’t have the time to, so its better to step back and observe each child individually.

Where Rebecca felt the SOG would help new teachers get to know their students better without classroom distractions, Louise believed the tool can help all teachers know specific social tendencies for students, comparing them to an intricate puzzle.

It would give them better understanding of everything that comes with, everything you need or every piece to a puzzle. You know the puzzle…it’s a beautiful picture but then there are different pieces that connect and allow the picture to look beautiful. Its chaos if there is a missing piece, yeah so it brings a greater understanding of, of what is going on.

Lastly, some participants felt the SOG incited a change in perspective regarding observation and professional development, due to a diverse approach that “isn’t like the typical PD that you have to go to.” Rebecca appreciated the individual nature of the SOG as professional development and she stated:

It’s relaxed and on a personal level with the person you are doing it with and you aren’t influenced by what other people are saying. And yeah, I think it um definitely it kind of makes me feel empowered. Like it’s about me and my teaching experience. It’s not a group of people who are all talking about themselves and I can’t get a word in edgewise.

Although Louise appreciated the different approach to professional development, she focused on the benefits of the SOG reflecting more of a task-oriented professional development, rather than a lecture format. Louise felt the process of coding with the SOG
brought more focus on the goal and less on her critical views of the classroom model and teacher, “I knew that when I was watching I needed to produce something…my feelings, they are important but my feelings didn’t dominate what I needed to do…I could feel the change”.

**Ease of process.** Although all participants expressed how they enjoyed the process of using the SOG to observe social responsiveness, two individuals discussed specific aspects of the SOG that made the process seem easy. Rebecca explained how she felt no pressure when using the SOG because “its kind of laid back, it’s your own observation and you are in control of what you are seeing and taking note of.” This echoed Rebecca’s previous feeling of empowerment; she appreciated how this experience was tailored to her own interpretation during the observation.

Sue concentrated more on the technical benefits, which made the SOG process seem easier than assessment currently administered in her classroom. Foremost, Sue felt the SOG was beneficial because it computes observations without requiring the user to tally, she stated, “because it would keep a tally. You know, when you observe unless you have a checklist and are making your own tallies, so now its another way of making tallies.” Rosie felt similarly by saying the SOG process was easier than her current observation practices because she “didn’t have to chart anything, just click and its all done for you.” Seemingly, both Sue and Rosie were comparing the SOG to their other classroom practices for progress monitoring and weighing the costs and benefits of each you are seeing and taking note of.”

**Theme 2: Guidance and depth.** The second theme addresses participant perceptions of what was learned through using the SOG for video observation of a preschool student
with ASD. All participants commented on what they learned through the observation process, mainly discussing how the SOG helped them focus on specific aspects of social responsiveness, enabling them to notice more about the student. Further this in-depth analysis of student social tendencies facilitated the identification of specific areas of need, as reported by participant responses. The following section will examine the conceptual category *focused learning/individualized analysis* and substantiating claims of participant learning with examples from the interview.

**Focused learning and individualized analysis.** This conceptual category is organized into two sections, based on participant responses reflecting what they learned through using the SOG. First, participant perceptions noted the SOG provided guidance for observing specific aspects of social responsiveness. Each individual discussed how the SOG facilitated and increased a sense of awareness and participants were more focused on observing student social tendencies. Second, participants commented on this newfound awareness of specific social behavior enabling them to construct a more in-depth analysis of student needs. This conceptual category explores the awareness facilitated by the SOG and the deeper analysis of social tendencies, as a result of noticing specific social tendencies.

Each of the seven participants expressed how the SOG promoted their awareness of specific aspects of social responsiveness and enhanced their “noticing” abilities. Julie seemed surprised at how much she was able to notice with student communication, as much of what she was coding went unnoticed during her unstructured observation.

> I think a lot of times we don’t see what he was using as communication, as communication…it kind of gets unnoticed a bit. Looking at it this way, I see that he was communicating by using the object and by responding and you know, the motivation to flip the bucket so he could use those materials.”
Julie felt the SOG helped her develop more awareness towards diverse communication styles, which many teachers are not trained to observe. Rebecca felt the SOG “gears your focus”, following with “I’m more focused like what is motivating him, what he is communicating with or not communicating with”. Rebecca found that the SOG assisted in guiding observer focus towards specific aspects that may be overlooked in an unstructured observation. Mari reiterated this belief when saying the SOG, “brings awareness too, and teaches you to look at these particular areas that are so important for the development of the child.

Some perceptions suggested the SOG assisted in building familiarity with vocabulary associated with social responsiveness. Caro felt the tool helped provide a definition of these content-specific terms through video examples. When reflecting on this being her first video observation Caro stated:

It prepares me more visually and in an intellectual way. It helps me understand what cognition is, what communication can be with a child with Autism. What awareness I should be looking for, what they are aware of and how they communicate and just looking at this makes me more prepared for the actual field.

Although the SOG was suggested to increase observational focus, it was assumed that participants would know how to define the observational components in a general sense. As indicated by Caro, not only did the tool help increase her sense of noticing, but it also helped provide clear definitions of the field-specific academic terms being used.

Other participants believed the SOG reduced observational bias resulting in a more positive observation. Sue expressed how she felt the SOG promoted less observational bias, due to the immediate nature of the tool procedures. She believed the
Table 6
Chart containing research question, summative statement, themes, conceptual categories and open codes for RQ2

| RQ 2: How do participants perceive the utility of a structured observation guide for professional development and increasing skills for observing social responsiveness in preschool students with ASD? |
| Summative Statement: Participants found the SOG to be promising in the areas of PD for new/inexperienced teachers expected to teach students with ASD. All participants found the SOG to promote several evidenced based practices, including data based instructional decision making, progress monitoring and parent collaboration. Participants experienced apprehension because the SOG process was new and they expressed concern at the number of cognitive processes required when using the guide. Despite these concerns, participants believed the SOG encouraged a change in thinking. Specifically, participants perceived a change in knowing more about the individual nature of their students and the guidance to remain focused on certain areas of social development. Time constraint was noted as the largest perceived barrier to implementing the SOG in the classroom. |
| Theme 1: | Theme 2: |
| Worthwhile and relevant approach to PD | Guidance and depth |
| Conceptual Category: | Conceptual Category: |
| Worthwhile and relevant PD | Ease of process |
| Conceptual Category: | Focused learning and individualized analysis |
| Open Codes: | Open Codes: |
| Mentorship | Laid-back, your own observation |
| Strengthen skills in observation | Keeps a tally |
| Know your students | Didn’t have to chart |
| Diverse approach to PD | |
| Open Codes: | Open Codes: |
| Mentorship | Enhanced noticing of diverse communication and learning style |
| Strengthen skills in observation | Helped define content specific terms |
| Know your students | Less observational bias |
| Diverse approach to PD | More accurate |
| | Analyze motivators |
| | Focus on areas of need |
| | Analyze patterns |
RQ 2: How do participants perceive the utility of a structured observation guide for professional development and increasing skills for observing social responsiveness in preschool students with ASD?

Summative Statement: Participants found the SOG to be promising in the areas of PD for new/inexperienced teachers expected to teach students with ASD. All participants found the SOG to promote several evidenced based practices, including data based instructional decision making, progress monitoring and parent collaboration. Participants experienced apprehension because the SOG process was new and they expressed concern at the number of cognitive processes required when using the guide. Despite these concerns, participants believed the SOG encouraged a change in thinking. Specifically, participants perceived a change in knowing more about the individual nature of their students and the guidance to remain focused on certain areas of social development. Time constraint was noted as the largest perceived barrier to implementing the SOG in the classroom.

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<th>Theme 3: Change in thought and practice</th>
<th>Theme 4: Complications with process</th>
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<td><strong>Conceptual Category:</strong></td>
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<tr>
<td>Alters thinking</td>
<td>Promotes thoughts of evidence based practices</td>
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<td><strong>Open Codes:</strong></td>
<td><strong>Open Codes:</strong></td>
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<tr>
<td>• More reflection of student and teacher</td>
<td>• Using video data to guide instruction</td>
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<td>• Reflection alters views of instruction</td>
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tool encouraged her to be “more unbiased because literally you are looking and right away, versus thinking he said this many things today and I would say that is positive.” Further, Sue felt the SOG increased the observation accuracy because she was not required to rely on her memory for all details, saying “you know versus thinking back and having to remember throughout the day, what you saw or heard. I think this way would be more accurate. More accurate and more unbiased and you can really see and fill in where the gaps are.” Louise discussed how the SOG facilitated a more positive observation and said, “I was able to notice some, more positive interactions instead of noticing the big picture like, oh my god she’s really not talking to him.” Expanding on that, Louise also felt the SOG was helpful in what was specifically noticed in the observation producing a more focused analysis of student and teacher needs. Louise stated, “it helps notice a lot of what the teacher is doing and what she can do better. What the child is doing and what she needs to do to help him to redirect him.” This statement helps to bridge the two components within the conceptual category; the SOG promotes focused learning and furthers the depth of analysis of student needs.

Several participants discussed how the SOG not only assisted them in noticing more specific aspects of social responsiveness, but also facilitated a deeper analysis of student social behavior. Rebecca described how the SOG encouraged her to notice with the purpose of constructing a better understanding of the student through observational analysis:

You see what it is that makes them change what they are doing and what distracts them and you can take that and find what works to keep them engaged in something. Like, I feel I know this kid and I know I’ll be able to get him to clean
up, you know? That is going to engage him in something, like I know he likes to clean up.

Mari expressed how the SOG not only helped her focus on particular aspects of social behavior, but also to shift focus to the areas of need within this scope.

The structured adds the component of being more specific and pinpointing the areas. That is what we really want to do, we want to hit the mark, what are those areas we really have to target and how can I as an educator learn more about them.

Rosie believed the SOG helped the most with focusing her observation so she could analyze student social patterns during classroom work time. Further, Rosie wanted to use the SOG data to analyze antecedents to classroom activities and see if the student changed his social habits prior to specific events. Rosie said:

When was he specifically motivated? What was motivating him? If you are being observers of your own classroom and your own student, like I said, you can have this data and you can have the ways of knowing like this is what happened in this specific moment and this is what my student was doing. Eventually that can help with um like um, like if you have a troubled student that can help with antecedents to behavior. Like from this data I know that right before computer time he is on his best behavior.

The SOG acting as a facilitator for participants to gain more depth in analysis of student social behavior helps to segue to the next theme, which addresses how participant perceptions noted the SOG promoted a change in thought and an integration of observation data into instructional decision making.

**Theme 3: Change in thought and practice.** The third theme addresses perceptions of how this tool would influence both a change in thought and guide instructional decision-making. The two conceptual categories found in this theme are: *alters thinking* and *promotes thoughts of evidence-based practices*, as illustrated in Table
6. This section will discuss these categories in detail, using examples from the participants’ own words.

**Alters thinking.** This conceptual category focuses on how participants perceived a change in their thought process as a result of using the SOG. The data included in this category can be organized into two components. First, I will examine participant perceptions of an increase in reflection of teacher practices and how students are observed. Second, I will discuss participant perceptions of repeated video viewing altered their perspectives of both teacher and student.

Several participants expressed how the tool encouraged their self-reflection of teacher practices and how this reflection can alter their views on classroom instruction. Mari stated,

> I like the self-evaluating and looking at video…it’s a plus because we don’t know half the stuff we do, whether positive or negative. You know some of the things you can be like, wow he was able to do this and it’s a teaching moment. Or I can think, I cant believe I said that or did that, so with those things I think this would be a better tool with me as an educator.

Although the SOG focuses on student social responsiveness, Mari believed the repeated viewings and coding would indirectly help her be a more reflective teacher. Similarly, Louise found the SOG especially effective in reflecting on how students react to teacher instruction when she said, “it helps the teacher be more proactive, to think of different ways to do some things. It could have been better here, it allows the teacher to reflect, reflect more on their action and the child’s action or interaction.” Both participants anticipated other teachers would have similar responses when using the SOG with videos of their own students.

Rosie noted a shift in her thinking about how to reflect on student social responsiveness in terms of specific goal attainment. She said:
Like what is the goal, do I want him motivated with blocks? How many times
does he have to be directed? Like how is he communicating with the teacher? Is
he communicating with her? Is he communicating well? When is it happening the
most? If that thing can give you a graph or something, like show his peaks of
motivation.

Rosie noted during the follow-up that this was a stark contrast to what she had been
thinking during the unstructured think aloud, because “I was specifically reflecting on
how he was reacting to her (teacher) and then thinking what I could do for this individual
child.” Further, Rosie considered the potential of the SOG in assisting with post-
instructional reflection as well. After a lesson does not go as planned, Rosie routinely
engages in self-deprecating reflection. She said, “I don’t know if this is how I was
trained or what but I always blame myself for everything they do wrong, like oh I
should’ve not presented the lesson in this way because it made them upset.” She
identified a student of her own with whom she would use the SOG, because his negative
responses made Rosie critical of her own instructional practices. While using the SOG,
Rosie felt that perhaps she could explore deeper into the roots of student social tendencies
by focusing her observation on the contextual factors that might contribute to student
behavior.

But then I think about it like what if there is something more and it’s not
something that I am doing. Like what are the students doing that might cause
them to behave that way. Like for example the communication, say I was that
para…maybe he paid attention to her, but not really…kind of how does he
interact with others besides me.

More than half of the participants commented on how repeated viewings helped
shape their perceptions of the teacher and what was noticed in classroom interactions.
For example, Mari was forthcoming with how her perception toward the teacher shifted
as she watched the video again.
I just thought of something that is interesting, the second time I saw this video and I’ve never done this, but the second time you see it then you are more sympathetic with the teacher for some reason. I see her more engaged with the other student and at first I was so focused on what she wasn’t doing before. I don’t know it seems like you can kind of be like, oh, I see why she would do that because she was busy with other student and I didn’t pick up on that the first time.

Similarly, Louise stated, “I was a little calmer now because I noticed different aspects, instead of just thinking why didn’t she do this or that. The last time I would just look and react.” Although both Mari and Louise perceived a change in perspective, it is unclear if this change was a direct result of the application of the SOG, or of the combination of unstructured and structured observations with repeated viewings of the video.

**Promotes thoughts of evidence-based practices.** The majority of participants conveyed how the SOG could promote integrating EBP in the classroom, with specific reference to two areas: using student data to guide instruction, and collaboration with parents and other educational professionals. This section will explore participant responses addressing the utility of the SOG in promoting EBP in the classroom.

Although interview questions did not focus on using SOG data to adjust instruction in the classroom, several participants discussed the impact of student videos on individualizing instruction based on specific needs. Rebecca commented, “you are focusing on behaviors and that’s gonna help you manage those behaviors when you are back in the classroom with the child…I can gear my instruction based on that.” She continued by addressing the benefit of having a video you can return to and rewatch consistently, “use the assessment to guide my instruction”. Rosie discussed how she would like to use the SOG to create a graph and “like show his peaks of motivation are at this time”, so she would be able to establish what the major motivators are and incorporate them into instruction.
Sue and Louise incorporated specific examples of how they would integrate the SOG data into their instruction, if they were teaching the student from the video. Sue identified several strategies she would use to increase his engagement and communication with people, suggesting “definitely try to do things in pairs with him. Eye to eye contact, definitely more of the communicating thing, using puppets and those kinds of things.” Sue determined through using the SOG that she was “clicking object a lot”, so she wanted to recommend strategies that may promote more peer and adult interaction.

Louise commented on how using the SOG with her own students would “drive instruction”. She suggested taking independent activities that are observed to motivate the student and integrating aspects of them into collaborative grouping, to promote more peer interaction and foster engagement.

Based on whatever the child’s main focus is on, and its definitely on the computer, maybe for the small group activity the teacher will notice through this observation that the child is constantly on the computer, well what program is he on and what activities was he more focused on? You can take that activity and make it into a small group activity with peers. That way he wont stay focused on computer, but he’ll notice that those same activities that draws him to the computer we can incorporate into other parts of the day and draw him more into those. Then we can expand on it. That actually helps teachers think outside the box.

These participant responses indicated that the SOG encouraged teachers to reflect on how they would use the data gleaned to alter instruction.

Participants wanted to share the SOG data with parents, facilitating collaboration and promoting a better understanding of student social tendencies. Mari and Sue both expressed how this would be a useful data report, with Mari saying, “I think this is ideal, you can use that with administration, principals, parents and show them…that I can see it here.” Mari added that visual examples would promote a better partnership with parents.
and professionals, while also increasing understanding by removing some of the more academic terminology.

You have the subject, you have the components and its very clear. Especially if the data says awareness, communication and motivation. Where maybe with the bell curve there is some terminology there with testing that would be difficult to translate, you know. Especially if you don’t know it. You need to give them Layman’s terms and express it in a way that they can understand.

Similarly, Sue believed the SOG would help show parents visual examples of their child’s social responsiveness in the classroom. Sue expressed how this would be “good data to present for parents and for our assessments, to see how often they do engage and why we need to direct them to be engaged with people more, because obviously they are not getting that content.”

**Theme 4: Complications with the SOG process.** The last theme addressing the second research question examined the perceived complications associated with using the SOG. Participant beliefs assigned to this theme were mainly garnered through interview questions directly asking about difficulties and limitations perceived. Further, participants were asked to provide suggestions for tool improvement, which are reflective of the issues they experienced using the SOG. Two conceptual categories, narrow focus and **requires several cognitive processes** and **time constraint** will be explained through examples from participant responses.

**Narrow focus and requires several cognitive processes.** This category contains perceptions describing issues associated with using the SOG. Although responses varied, there was largely a consensus that some of the tool components were difficult to differentiate. In addition to this shared belief, participants discussed issues related to cognitive processing, apprehension due to expectations, and narrow scope.
Of the seven participants, six expressed difficulties differentiating certain components of the SOG. Three participants described the *Awareness* and *Cognition* components as “intertwined and overlapping”, because in order for the student to interpret/respond (*Cognition*) they must also be paying attention (*Awareness*) to either the person or object. Louise commented on the process saying,

> The difficulties were with cognition and then I had to go back to, so it was between cognition and awareness. So I had to click, ok, its *Cognition*, but its also *Awareness* and so its positive and now its negative

Hence *Awareness* and *Cognition* were believed to occur simultaneously, proving difficult for participants to continuously code between components.

Other participants had issues with correctly defining and identifying the aspect of social responsiveness that they observed. Julie discussed how the *Motivation* component was difficult to identify, when compared to the motivation strategies used in her class. She explained,

> *Motivation* was tough because I knew in our room we use the first/then boards, so it is very clear that we say first glue and then skittle, the motivation is a skittle. Whereas here it wasn’t clear what the motivation was

Although the component was explained in detail prior to using the SOG, Julie’s prior schema of student motivation presented a conflict, which made the task difficult. Caro’s issue stemmed from unfamiliarity with the terminology used, which furthered her uncertainty with the *Cognition* component. She stated, “at some points it would get a little confusing and I think like, I don’t, like maybe the definition of what the cognitive one was to object, like if the definition that I thought in my head wasn’t what you were looking for.” Caro’s confusion and Julie’s competing schema resulted in both
participants making more inferences when coding for these components, which certainly threatens the utility of the SOG.

Julie expressed her concern with the narrow scope of the SOG, potentially preventing the observation of other areas critical to student learning. She explained, “I feel like if you just used the tool you would just focus on those and block out anything else. But because I did the unstructured first, I could just interpret what I needed. And I wasn’t just focused on answering.” Julie found that after experiencing the freedom of the unstructured observation, the SOG was a bit too limiting on what she should be focusing on. Further, Julie felt the SOG “answering” or coding was preventing her from observing more in the video.

Two participants expressed concern with the cognitive process required when applying the SOG to video data. Caro described how she needed to perform several cognitive processes performing simultaneously, in order to use the SOG.

Eh, it’s a little more, not difficult, but its just a little more to pay attention to. I need to pay attention to what the kid is doing and then which is which and what answers to what. And to I guess familiarize the action to the actual verbal actions that go along with it.

Caro’s difficulty stemmed from first visually identifying the student indicator of social responsiveness and then coordinating the behavior with the corresponding SOG component, specifying whether it belongs with person or object. Although Rosie also voiced concern with the cognitive processes, she focused mainly on the amount of time required to identify student indicators and then classify with the SOG. She stated, “I wanna, like through the little program I want my thoughts to be processed, like what I think he is doing.”
As a result of these difficulties, two participants expressed apprehension with using the SOG, mainly due to expectations associated with the task. Mari felt pressure from executing the SOG to satisfy researcher expectations, saying “it was definitely challenging because you were looking for particular, you know, its like did I hit enough or did I say enough to show that what I’m observing is really identifying the particular area.” This sentiment persisted after it was explained that participants were not being evaluated based on “how they clicked”, but I was more interested in their perceptions of the process. When asked to describe any difficulties encountered with the SOG, Caro responded, “I guess just the nervousness of clicking the right thing.” Caro is the participant with the least teaching experience and also had the most difficulty with educational terminology; both factors may have influenced her belief.

Along with limitations to the SOG, participants also provided suggestions to increase the usefulness and usability. One suggestion differing from that of the group consensus was the addition of pictures of symbols to the SOG buttons, in order to increase the automatic clicking of components. Louise explained, “like maybe have words and pictures. That way it helps to connect that and you’re thinking ok his cognition and there’s positive adult interaction and negative adult interaction.” Louise was looking for a symbolic connection between student indicators and the SOG components, to increase clarity. The other six participants suggested separating the Awareness and Cognition components, so they would not be required to click them both at the same time. Separating the components would differentiate between what the student was actually interpreting through response and what they were solely paying attention to, with no response.
**Time constraint.** The suggestion of separating two components of the SOG leads to another perceived issue: time constraint. Mari reflected on her suggestion to separate SOG components:

But that requires a lot of time, you know. Because you are having to watch something and focus and repeat it four times. That would be a lot of time for a teacher, especially if you aren’t just looking at one student. You are talking twenty minutes each. You know, for each area.

Mari was not alone with her concerns about how much time the SOG would require.

When asked what her feelings would be if the SOG was required by her district, Julie said:

I guess it would be all time dependent. It would depend on how long you have to do observations on all your kids as well as how long the observations needed to be. Because like you said, to have all four of those at once would be outrageously hard. But to do an observation on each child and watch it three times and you have ten kids, you’re going to be sitting there all day.

Both Julie and Mari expressed their concerns of the time-consuming nature of splitting the components of the SOG. However, it must be noted that time was not identified as an issue with the SOG in the current form, which lasted a total of 20 minutes for two sessions containing two SOG components each. These examples were reflecting potential issues of having implementing the SOG as a professional development tool.

**Conclusion.** The aforementioned four themes address the second research question exploring participant perceptions of utility of the SOG for professional development and increasing skills for observing social responsiveness in preschool students with ASD. In summary, all participants supported the SOG as a worthwhile and useful tool that is relevant to their immediate classroom practices. Further, responses indicated the SOG was appealing to participants because it varied from the typical approach to professional development by using individual video analysis. Participants
expressed having more focused observation skills, being more analytical and reflecting more of a positive perspective when using the SOG. Lastly, participants promoted using SOG data for guiding instructional decision-making and collaboration with parents, both considered EBP. Despite participants experiencing difficulty with overlapping SOG components, simultaneous cognitive processes and time constraint, perceptions of utility were largely positive.

**Research question 3: How do the perceptions of utility and researcher analysis of observational data compare between structured and unstructured observations of student videos?**

The purpose of this question is to compare participants’ stated perceptions of the utility of the SOG and my own (researcher) analysis of its utility, as demonstrated in the structured and unstructured observational data. Thus, there are two comparisons: 1) my interpretation of the observation data gathered during both structured and unstructured video observations, and 2) participant perceptions as stated in interviews, of the utility of both the structured and unstructured approaches to video observation. This comparison will be explained in terms of similarities and differences, using examples from observational and interview data. The first component to research question three discusses participants’ shared perceptions of utility, followed by differences in their perceptions utility, which were gathered through individual interviews immediately following both the unstructured observation and the application of the SOG. The last component will compare my analysis of observational data gathered through both the structured and unstructured video observation. Originally, my total amount of open
codes for this two-pronged comparison was 273, which was subsequently condensed into 170 codes for analysis.

Table 7 displays my interpretation of data related to the third research question. Table 7 serves as a chart to assist in visualizing the process of categorization and analysis. As modeled by qualitative researchers such as Harry, Sturges, and Klinger (2003), this figure contains the research question, summative statement, themes, conceptual categories and a selection of open codes. In the following section, I will explain each theme by examining the corresponding conceptual categories and providing a rich description (Lincoln & Guba, 1985) of participant responses and observational data.

**Shared conceptual categories for the SOG and unstructured video observation.** This section will be organized by first addressing the conceptual categories that are shared between the SOG and the unstructured video observation.

**Shared perceptions of utility.** When comparing perceptions of SOG and unstructured observation utility, three conceptual categories emerged that were shared by both approaches. The following section will focus on these three categories, explaining them through examples from the data. The shared conceptual categories include: video observation promotes reflection, video observation is more beneficial than live observation, and know the child.

**Video observation promotes reflection.** Participants alluded frequently to personal reflection during both video observation approaches. As indicated in the findings for research question two, the SOG was perceived to encourage a change in participant thought through specific reflection of how the data collected can be used to adjust
instruction. Responses indicated participants reflected on student goal attainment, altering instructional practices and using observed motivators to strengthen areas of need. Similarly to the findings for the SOG, all participants acknowledged the presence of personal reflection while they were completing the unstructured video observation. However, this reflection assumed a more broad focus of establishing similarities or highlighting differences between the observation and personal classroom experiences.

When asked to comment on what they thought about that was not directly observed in the video, all participants indicated reflecting on commonalities between what they were watching and their own classroom experiences. Sometimes these shared experiences reflected recent classroom practices like when Julie was thinking, “back to my classroom, stuff we did today like our schedule. The stuff we did today, like everything those teachers were saying we say, like check schedule and redirection.” Where Julie was found to simply report on similarities between her day and the video, Rebecca traveled beyond identification to reflect on student abilities and classroom practices. When comparing the video to her students Rebecca found, “a lot of the same behaviors, so I found myself thinking of my kids and saying so and so does this and its funny because I know he isn’t diagnosed, but maybe that is telling of something.”

Participants also reflected on the differences between the video observation and their own classroom, which encouraged hypothetical thoughts of different practices to apply. Rebecca discussed her brief period of working with young student with ASD:

I worked with the inclusion group last year and like 80% of the children had Autism. I remembered when so and so did that and then I took myself back to what I did with that child so that’s what I could do with this one. Remembering how it worked for him and I wonder if that would work for this child also.

Similarly, Sue found herself reflecting on her own experience and considered how she
would incorporate different strategies to promote development. Sue was “thinking what I would do if that was me and what I would do to encourage him to be more successful and to be learning, experiencing and touching, definitely more sensory things.” Louise found herself reflecting on the difference between her own classroom model and the TEACCH model observed, fearing that a lack of student choice and dialogue would result in student meltdown.

I was concerned that he can blow up at any time, there could be an altercation, that he could break something. Then the teachers would focus on reactive mode instead of proactive mode. And so, that’s where the dialogue, I was concerned the dialogue didn’t take place to be proactive. They were gonna focus on what he did instead of actually why he did it, or trying to allow him to speak or talk out emotions and give him ideas of how to move from place to place.

Two participants discussed reflections that went beyond their classroom experiences during their unstructured observation. Mari revealed a belief of societal reliance on technology when she was asked about her thoughts during the observation and responded “ugh technology.”

I think we lose sight of other things. So we focus on the technology and the visual and interaction, but there is no language. How do you build language if there is no interaction? I don’t want a computer to tell me good job. I want a person; I want them to hear tones and expression, because that helps with social cues. Although Mari’s reflection was initiated by a classroom observation, her response focused on a scope that extended beyond classroom practices towards her belief of potential detriments of a changing society.

Rosie also differed from the patterns of reflection observed in the collective group, when she was comparing student behavior to typical child behavior outside of the classroom.
He wasn’t doing anything out of this world extraordinary that other kids wouldn’t do. I picture little kids at doctor’s offices waiting rooms that they are just kind of lingering around and just bored. Like they don’t want to be in this situation. Like when he was asked to pick up, he does. Like a little kid would probably do that, like maybe if I do one at a time it’ll take longer. I like how he does kid things, you know.

Although Rosie acknowledged a similarity between the observed student’s behavior and her own experiences, she was the only participant to notice a similarity between observed classroom behavior and typical child behavior. This reflection was noted as a negative case, which does not conform to the content focus of classroom practices as the other participants demonstrated.

*Video is more beneficial than live observation.* Another conceptual category shared by both the SOG and the unstructured observation is that video observation is more beneficial than live observation. When participants were asked to respond to the differences between video observation and live in-class observation, they all acknowledged similar perceptions concerning how classroom responsibilities prevent a focused observation. Louise explained her distractibility when she’s teaching and how she must attend to several tasks at the same time.

The video would definitely be beneficial…I can’t see everything and I would be able to see the whole picture with the video. Because when I’m in the classroom with the assistant and our volunteer grandma, my eyes aren’t 100% on him so I don’t see every little thing he does or when someone does something to him, which would cause him to do something else…there are certain things I would miss when I’m watching a child in person.

Rebecca provided a similar example detailing her specific responsibilities preventing any type of quality observation, “so much (going on). I have twelve two year olds! I’m changing a diaper, this one is crying, I’m blowing this one’s nose, this one is dumping out blocks. Its nuts.” Rebecca further supported her belief with an example from the video, “so, see in this classroom, she’s turned away from him and missing all of this
data. If I was watching a video, I would be able to catch all that, what I’ve missed.” The sentiment of missing data because of multiple classroom responsibilities was shared by all participants and supported perceptions of the benefits of video observation.

Several participants extended this argument by expressing the benefits of video observation providing an outside perspective of the whole class, promoting reflecting and change in instruction. Rebecca commented that video observation could enable her to problem solve by helping her notice small details.

You know, like little things. Like what we were saying before like what sets them off. This I might not see when I’m with them. Maybe it was something that I did, a video will show me that…and the video you get to see an outside perspective. At this perspective, I see the class as a whole. It’s seeing every element of what he’s doing and what is happening and why it is happening.

Rebecca affirmed that video could assist teachers in looking at specific antecedents to behavior, in order to learn more about student tendencies. Conversely, Mari viewed video observation as a way to critique her own practices as a teacher so she can adjust her instruction accordingly. She said, “so there was an opportunity I missed out on…when you are seeing it from a video perspective you know, I missed out but next time this happens I’ll make sure that I’ll give him more eye contact.” It was evident that video assisted both teachers in developing a better critical eye for teacher-student interaction for the purposes of adjusting instruction.
Research question 3: How do the perceptions of utility and my analysis of data gathered through observation compare between structured and unstructured observations of student videos?

Summative statement: Through observation and Studicode analysis, there was a noticeable shift in participant analysis of the student from a focus on noticing ASD characteristics and poor teaching, to noticing and reflecting on specific aspects of student social tendencies. Although the unstructured observation was found to be a more holistic view of the student, it was also found to lack focus allowing participants to reflect more negatively on student and teacher. SOG was noted have more potential for EBP, to be a useful PD, and to alter thinking, despite perceptions of narrow scope and complicated processing. Both observations were perceived as more beneficial than live in-class observations, because teacher responsibilities present distractions. Both observations were also noted to encourage teacher reflection and serve as an effective method of getting to know the students.

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<tr>
<th>Theme 1 SOG Utility: Focused view that promotes student analysis and EBP. Useful PD, but perceived as complicated task</th>
<th>Theme 3 SOG Observational Data: Focused on specific student social tendencies and reflection.</th>
<th>Theme 4 Unstructured Observational Data: Focus on ASD characteristics and critiquing teaching practices</th>
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<td>Theme 2 Unstructured Utility: Holistic view, but lacks focus. Perceived as just watching.</td>
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<td>Composite Conceptual Category:</td>
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<td>worthwhile/useful PD, promotes EBP, alters thinking, focused learning/individualized analysis, narrow focus/simultaneous cognitive processes, know the child, more beneficial than live observation</td>
<td>Identification of specific student social tendencies</td>
<td>Reflection of student specific social tendencies</td>
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**Open Codes (Shared first):**  
- Reflection on goal attainment  
- Reflection on adjusting instruction  
- Reflection on

**Open Codes:**  
- Negative communication  
- Positive awareness  
- Negative awareness

**Open Codes:**  
- Expanding on identification  
- Explaining behavior  
- Student response

**Open Codes (Shared first):**  
- Reflection on similarities  
- Reflection on differences  
- ‘Ugh technology’  
- typical child

**Open Codes:**  
- verbal ability  
- stimming  
- social disconnect  
- peer compariso

**Open Codes:**  
- need for more student choice  
- need for more directions  
- thinking of
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<th>areas of need</th>
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<td>• Increase in focus</td>
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Julie was divided in her beliefs concerning the comparison of video observation to live observation, referring to it as a “catch-22.” Although Julie supported that video observation would pick up on specific details missed by teachers during the day, she could not quite support that video overall is more beneficial than live observation. She remarked several times on how any type of video observation is “just a glimpse” and limits scope based on where the camera is directed, saying “its different because you don’t know what else is going on around you. You only have a view of the camera’s direction.” Further, Julie felt that having an individual video recording would create unwanted camera effects and change the dynamic of the classroom. She favored the worth of live in-class observations by saying that you have wider scope for observation and instruction can be altered as soon as it is needed, as opposed to a video observation, where Julie believed you must watch and wait until the next class meeting to adjust instruction. It should be noted that Julie’s perceptions did not correspond with those represented by the collective findings and were identified as a negative case.

Know the child. The last shared conceptual category of both the SOG and the unstructured observation is the notion of knowing the child. Both observational approaches were regarded as beneficial ways for teachers to get to know their students better. Rebecca discussed how difficult it is for new teachers to get to know their students when they have so many other new responsibilities. Regarding video observation, Rebecca stated, “it’s a good way to get to know each one of your students on a more personal level; really seeing how they act and react, whereas in the classroom it’s overwhelming there are so many kids.” Following the SOG video observation Rebecca said, “like I feel I know this kid and I’ll be able to get him to clean up. That is
going to engage him in something, like I know he likes to clean up.” Although she had never met the target child before, Rebecca believed that she was able to gain more insight about him through the video observations.

Julie supported video observation in helping to expedite the process of getting to know students, which takes longer due to other teacher responsibilities in class.

There is a lot that goes unseen throughout the day because even if there are three of us, there is a lot that is missed and they need a lot of attention. So just little things that we notice it took us awhile to figure that out. Like one kid likes trains, we may have picked up on that earlier if we could go back and observe it on video. Even like, honestly, during free play, what they choose sensory-wise, like do they like to go to the beanbag?

Mari agreed discussing how knowing these details better can promote more individualized and appropriate instruction, stating, “it could definitely help teachers work with that child like work with his awareness or cognition or the motivation, I see that they are motivated in this particular area, but we want to develop more motivating in other areas” to facilitate teacher’s familiarity with students.

**Conclusion.** The aforementioned three themes, video is more beneficial than live, video promotes reflection, and know the child, were instrumental in highlighting the similarities when comparing the perceptions of utility of the SOG and unstructured video observation. However, other perceptions of the video observation methods differed immensely, which will now be examined.

**Theme 1 SOG utility: Focused view that promotes student analysis and EBP.** Useless PD, but perceived as complicated task. Because the perceived utility of the SOG was discussed at length in the findings explaining my second research question, I will provide a brief summary to avoid redundancy. The following section refers to participant perceptions of utility that are unique to only the SOG.
**Unique perceptions of SOG utility.** As explained in findings for research question two, participant responses highlighted several perceptions concerning the utility of the SOG for professional development and increasing skills for observing social responsiveness in preschool students with ASD. The most saturated codes regarding perceptions of utility addressed: 1) an increase in observational focus, 2) more depth in analysis of specific student areas of need, 3) usefulness and appeal for PD, and 4) promotes thoughts of using data to guide instruction. Additionally, participants expressed negative perceptions of utility, such as narrow focus, simultaneous cognitive processes and difficult differentiating SOG components.

One area not discussed in the findings of research question two was the perception of the SOG as a task. Although this does not relate directly to utility, this is a large point of contrast with the perceptions of the unstructured observation. Several participants referred to the SOG as a “task,” “work” or even said, “in this one I have a job to do”. Caro elaborated on her view of the SOG by stating, “for the next type, I was doing everything and I was doing the learning, instead of the watching. She continued by saying, “I had to do the actual observation of what he is doing and not doing, so it was more work.” Similarly, Louise reflected on her application of the SOG as, “I was more focused on, I had a goal. I had a task with the structured, I knew that when I was watching I needed to produce something and I needed to do something.” Although it is unclear whether this view of “work” was perceived as positive or negative utility, this is a notable difference between the SOG and the unstructured video observation.

**Theme 2 unstructured utility: Holistic view, lacks focus. Perceived as just watching.** This theme will be explained in terms of participant perceptions of positive
and negative utility of the unstructured video observation. Findings discussed in this section reflect perceptions that are unique to only the unstructured video observation.

**Unique perceptions of unstructured utility.** This section explores participant perceptions related to the utility of the unstructured video observation, focusing on the main concepts discussed by participants. In the following section, I will examine the perceptions unique to only the unstructured video observation, including: holistic and specific views, lacking focus and “just watching”.

Several participants believed the unstructured video observation provided a necessary holistic perspective of the student. Rebecca expressed that, “getting the whole sense and having an overall view helps at first”, suggesting an unstructured observation prior to a more targeted observation would be beneficial. Mari echoed this sentiment by stressing the need for “focusing perhaps on more the overall, the classroom setting, the teacher, dynamic, rapport, all these other factors.” Indicating her preference for the unstructured approach, Mari acknowledged that she “wants more of a whole, looking at all domains” and continued by mentioning her appeal for “more freedom with the unstructured.” It must be noted that Mari was the only participant who favored the unstructured approach as opposed to the SOG, which contradicted a collective perception and reflected a negative case for the current study.

In contrast to perceiving the unstructured observation as holistic, three participants viewed this approach as an opportunity to focus on specific areas of interest. Because there was no required focal point, Sue discussed how she was concentrating on teacher-student interaction and thinking about her own classroom. Louise decided to target both interaction and behavior, supporting this choice by saying, “I was just watching an
observing and you can just focus on anything you want to comment on.” Caro was especially interested in noticing speech and how the student reacted to his surroundings. She expressed how she was watching “the way he functions with the objects around him” in order to gain more exposure to students with ASD and ASD characteristics. Of the three participants mentioned, Caro was the only individual who gave a reason for what she was concentrating on during the unstructured observation.

As some participants selected their own focus for observation, others perceived that the unstructured approach lacked focus and contributed to negative views of utility. Rosie mentioned how “kind of looking at the whole picture and paying attention to everything” prevented her observation from reaching a desired amount of depth. Similarly, Louise felt the lack of focus in the unstructured observation allowed her to “react to anything”, which resulted in being distracted from critical observations due to her emotions. When discussing her preference for the SOG, Sue made her argument by articulating, “the unstructured you can talk about a lot of things, but you might miss a lot of things too.” Although Mari preferred the freedom in determining her own perspective through the unstructured approach, she admitted, “my perspective may not be what I need to look at.” Despite the varying participant responses in this section, it is evident that each resulted in the perception of missing crucial observation data due to a lack of focus.

In contrast, the acknowledgement of participants “just watching” during the unstructured observation was not perceived as either positive or negative utility. Three participants commented on the unstructured approach as an opportunity for them to simply watch the student video and absorb what they were viewing. Caro elaborated by
saying, “I’m just listening and seeing, just being entertained.” When asked to explain this further in the follow-up interview, Caro viewed the unstructured observation as an opportunity to incite her interest and gain exposure to the field she will soon be entering. The perception of “just watching” during the unstructured observation is a distinct comparison to participant perceptions of the SOG being viewed as “a task”.

**Conclusion.** The SOG was viewed as a method encouraging focused learning, detailed student analysis and EBP, although it was also perceived as a complicated task with too narrow a focus at times. On the other hand, the unstructured approach was noted to encourage both holistic and individualized perspectives, despite lacking focus and promoting a more negative student focus.

**Theme 3 researcher analysis of SOG observational data: Focus on specific student tendencies and reflection.** During the application of the SOG, participants frequently verbalized what they were noticing and coding during the session. Although they were not asked to, participants also reflected on how they were coding, expanding their identification to a more detailed explanation of student social responsiveness. Two trends emerged through analysis of these verbalizations: participants frequently identified specific social tendencies while they were coding, and they also reflected on these tendencies by providing further analysis of what they were observing. The following section will provide examples of participant vocalization during the application of the SOG, focusing on the identification and reflection of specific student social tendencies.
Identification on specific student social tendencies. As the SOG required participants to identify specific aspects of social responsiveness, their verbalizations reflected the task they were completing. Each participant was observed verbally identifying specific student social tendencies and using the vocabulary designated by the SOG. Typical examples included: “that was negative communication”, “positive awareness with an object”, and “motivated by an object.” Participants elaborated on what they were identifying as well, such as: “he isn’t paying attention to her, negative awareness”,”he isn’t looking at her, but followed directions positive cognition”, “awareness with a person, but negative cognition because he didn’t comply”, and “there he goes back to the computer, motivation with an object.” Due to the nature of the task, it is not atypical that participant observation data reflected their processing during the application of the SOG and incorporated key terms used by the SOG.

Reflection of specific student social tendencies. Aside from simply identifying student behaviors and how they were being coded with the SOG, participants were observed expanding their verbalizations to reflect further analysis and explanation of specific student tendencies. Five participants were observed reflecting on aspects of student social responsiveness during the application of the SOG.

Although Julie expressed difficulty differentiating awareness and cognition in the SOG, she frequently vocalized about instances where she coded using both, explaining why she interpreted the behavior in the manner she did. Julie said, “yeah he’s not doing what she is asking at all, just paying attention to her, but negative interpretation.” Julie admitted that student social tendencies were not quite as black and white as she noted during her unstructured interview. She supported this statement in her interview saying,
“look (ing) for these things in your observation. It makes you actually think how certain actions can be interpreted.” Sue made similar reflections regarding the presence of positive and negative aspects of social responsiveness occurring simultaneously, “and now he’s back at the computer and he’s not really paying attention to her, but then follows her, so he’s interpreting her redirection well.” Sue continued by reflecting on student social tendencies for the entire observation, providing a summative statement focused on student engagement. She stated, “now that I know the sequence this is the most engaged I’ve seen him. He’s motivated with the object here and with the teacher a bit too, but not with the other peer.”

In contrast, other participants chose to reflect specifically on how the student responds to the teacher, based on their observations using the SOG. Rebecca was identifying the student’s negative motivation when she observed a change in behavior and wanted to elaborate on it. She said, “he stopped for a minute and she kind of brought him back into engagement. But she said lets put it away now and he wants to do it because he clearly likes cleaning up.” Rebecca was interpreting student actions based on the observational data she had collected indicating student preference. Louise differed in her reflection; she focused on student interpretation of teacher actions saying, “ah, so he is compliant and following directions, meaning that his interpretation of what she is asking is positive and he’s ok with it.”

**Theme 4 researcher analysis of unstructured observational data:**

**Concentration on ASD characteristics and critiquing teacher practices.** When examining participant think-aloud data during the unstructured observation, content varied based on the individual. However, upon careful analysis of both think-aloud data
and interview data when probed about what was noticed during the observation, two different trends emerged. First, participants were found to frequently concentrate on ASD characteristics when observing the student, as indicated by my interpretation of think-aloud and interview data. Second, participants often critiqued teacher practices observed, as evidenced through think-aloud and interview data. The following section will examine my interpretation of the data gathered through the unstructured observation process.

Focus on ASD characteristics. Think aloud data exhibited a trend of participant comments repeatedly focusing on ASD characteristics, either directly exhibited or resulting from a conclusion formed through the observation. Data from four participants reflected this trend, with two participants corroborating my interpretation during their post-unstructured interview. Julie made several comments concerning self-stimulation, high-pitched verbalizations, no interest in social interaction and sensory input. During the think aloud Julie said, “he’s actually very verbal without being (motions with her hand to her mouth and out with a sweeping motion) he makes a lot of verbalizations.” When asked to expand on this, Julie described how she was focused on the student’s high-pitched verbalizations, which she viewed as communication without words. Julie also concentrated on how it seemed the student had no interest in interacting with peers saying, “definitely not looking for social interaction.” During the post-unstructured interview, I asked Julie what she noticed herself thinking about while observing. She responded, “knowing ahead of time that we were looking at kids with Autism, I was looking for certain things: the behaviors, the hand flapping and stimming, the
vocalizations.” It is unclear if this trend would have been observed if Julie had no prior knowledge of the current research focus.

Similarly, Mari’s think-aloud and interview data reflected the same trend of focusing on ASD characteristics. Mari frequently commented on the student’s social disconnect, verbal abilities, and a potential fixation with working on the computer. Mari focused on social interaction from the very beginning of the observation when saying, “I see a lot of disconnect with the caregiver and the student.” She followed with addressing a similar observation with peer interaction concluding, “it’s not in his interest, he is not connecting. He might not even know how to connect.” Mari’s target shifted towards student interest after observing the student returning back to the computer for a third time suggesting, “he likes that computer. I wonder if he’s not obsessed, but has some kind of compulsion with that.” Mari’s observations led her to make two separate conclusions: the student has no interest in peer interaction or may not know how to initiate interaction, and the potential of obsessive behavior with the student’s perseverance of returning to the computer. When asked during the post-unstructured interview what she found herself thinking about Mari responded:

I thought of isolation. Somewhat, isolation for him. He was kind of in his own little world, not even connecting with the other little guy. Like not even connecting with the teacher. You know, wasn’t affectionate. You would think about two months they would have built that rapport. I know that these are some of the characteristics of ASD, you know, can’t have that more affectionate, so more like isolation is what I thought.

Although Mari did not admit to looking for certain characteristics of ASD because of her background knowledge of the research, she did admit to focusing on the student’s social abilities, making several conclusions about student demeanor as a result of her observation.
Two other participants exhibited a trend of focusing on ASD characteristics during their think aloud, although this interpretation was not corroborated through interview. Sue did not directly target the observed student’s ASD characteristics, but instead highlighted social and verbal differences through peer comparison. Sue stated, “so obviously you can tell the difference between these two. The other was more typical, typically engaged and with the language and sound effects, you know, correctly saying them.” Through her comparison, Sue was able to pinpoint certain ASD characteristics, without overtly identifying them. In contrast, Caro did not have any issue with focusing her comments on ASD characteristics in a direct manner. Caro frequently traveled from observations such as “he doesn’t form complete sentences or words” to such conclusions as “he can’t speak well”. Caro ended the think-aloud with a series of conclusions, for example: “he seems to have a very short attention span”, “he isn’t listening to any instruction”, and “he doesn’t know what to do with the toys.” Because neither Sue nor Caro discussed these observations during their interview, it is difficult to support the validity of my interpretation.

**Focus on critiquing teaching practices.** Think aloud data supported a trend in participants frequently critiquing teacher practices observed in the video. Five participants exhibited this trend in focus, with four of them substantiating my interpretation through interview data. Three participants critiqued the teacher through suggesting strategies that might promote greater student success. Rebecca stated, “she is telling him what to do rather than asking what he would like to do with it giving him the power to decide. Kids just want to feel important and like they are in charge.” In similar
fashion, Mari suggested “the teacher needed to give him some other directions instead of just pointing to the farm and saying go get it.” Sue often commented on teacher practices and felt, “she needs to be more hands on with him. Get down and get involved more.” Each of these participants made critical comments on teacher practices during their interview, alluding to thoughts of what they would do in that situation. In her interview Rebecca stated,

I see myself kind of critiquing the other teachers, by no means am I a professional. I know I’m still learning and I shouldn’t be telling other people what to do but I still find myself saying I would take this differently and a different approach.

Sue admitted during her interview, “I was watching him and her through interaction and I was thinking what I would do if that was me and what I would do to encourage him to be more successful and to be learning.” Each of these three participants reflected the trend of critiquing teacher practices through providing suggestions they believed to be more successful, which was confirmed through interview responses.

In contrast, Louise critiqued the teacher by identifying what she perceived to be poor teaching practices and then providing an explanation to support her statement. In one example of this Louise explained:

He’s obviously frustrated but he’s not able to verbalize it but the teacher doesn’t allow him, she doesn’t give him that outlet to express his concerns or frustrations because when the child is able to express those frustrations…you eliminate problems at the beginning and teach the child to verbalize their issues instead of getting frustrated.

Louise expressed her frustration with the teaching practices she was observing. This was further exemplified in her interview:

I was very frustrated. Because it was a different method, a different curriculum, a different teaching style, and I was very not at ease with the minimum communication between the adult and child interaction. Not asking questions,
especially when you are working with a particular group, we know that they have a lot of frustrations and struggle with a lot of things. I didn’t see a lot of strategies to encourage them to vent out their frustration or to process. And that bothered me.

Through both the think aloud and interview data, it is evident that Louise was comfortable critiquing the observed teacher’s practices and classroom model, because it did not reflect certain qualities that she deemed to be necessary in a class serving students with ASD.

**Conclusion.** The observation data collected had a large amount of variation between the unstructured observation and the application of the SOG. During the SOG, participants frequently identified specific aspects of social responsiveness using the vocabulary from the SOG and continued by expanding these identifications into reflections providing explanations or analysis of student interpretations. Conversely, think-aloud data obtained during the unstructured observation generally reflected a focus on student ASD characteristics and critically evaluating teacher practices, based on personal reflection and suggestion of more effective strategies.

**Summary of the Findings**

The aforementioned findings explain each research question through relevant observation and interview data. As the three research questions are answered using three different thematic models, it is necessary to summarize the findings for comprehensibility. The following summative statements recapitulate the themes examined for each research question.

1) During unstructured video observation, participants were inclined to think about immediate thoughts/reactions to teacher/student behavior and interactions, which generally led to a reflection of personal experiences and eventually
resulting in the formation of generalizations about student or teacher.

2) Participants found the SOG to be promising in the areas of PD for new/inexperienced teachers expected to teach students with ASD. All participants found the SOG to have the potential to promote several EBP; including data based instructional decision-making, and parent collaboration. Participants experienced apprehension because the SOG process was new and they expressed concern at the number of cognitive processes simultaneously required when using the guide. Despite these concerns, participants believed the SOG encouraged a change in thinking. Specifically, there was a perceived change in increased focus on specific areas of social responsivity and more in-depth analysis of student areas of need. Time constraint, narrow scope and simultaneous cognitive processing were all perceived barriers to implementing the SOG as a professional development program.

3) Through observational data and Studicode analysis, there was a noticeable shift in participant analysis of the student from a focus on ASD characteristics and critiquing teaching practices, to identifying and reflecting on specific aspects of student social tendencies. Although the unstructured observation was found to be a more holistic view of the student, its lack of focus allowed participants to reflect more negatively on student and teacher. The SOG was found to encourage EBP, to be a useful professional development tool, and to alter thinking, despite perceptions of narrow scope and complicated cognitive processing. Both observations were perceived as more beneficial than live in-class observations, due to teacher responsibilities providing distractions. Both
observations were also noted to encourage teacher reflection and serve as an effective method to know the students.

In the following chapter, I will discuss my findings and how they relate to previous research. Further, I will examine the relevance of my findings to the field of early childhood special education and the implications they might have on professional development for teachers of students with ASD.

Table 8  
*Presentation of themes organized by corresponding data component*

<table>
<thead>
<tr>
<th>Unstructured Observational Data</th>
<th>SOG Observation Data</th>
<th>Perceptions of SOG (Interview Data)</th>
<th>Perceptions of Unstructured (Interview Data)</th>
<th>Shared Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Themes:</td>
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<td>Themes:</td>
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Chapter 5: Discussion

As a result of legislation calling for high-quality teachers implementing EBP (NCLB, 2002) and a documented surge in the prevalence of ASD (CDC, 2014), there is a push from educational stakeholders and the autism community for more effective professional development programs enabling teachers to meet the individual needs of their students. The influx of ASD cases is not being met with the level of skill required by teachers, as indicated in the dramatic increase of ASD-related litigation (Hill & Kearley, 2013). The mismatch of adequate training for teachers in implementing EBP and the presence of more students with ASD in the education system creates an urgent need for effective professional development for in-service teachers who are either inexperienced or did not anticipate serving students with ASD (Downs & Downs, 2010; NRC, 2001). Although the legislation requires the integration of EBP and the education community has outlined specific practices deemed to be effective in improving student outcomes (Simpson, 2005), research suggests a lack of continuity with teachers implementing EBP in preschool classrooms serving students with ASD (Barnill, Polloway, & Sumutka, 2011).

The impetus of this study came from several trends in the field: a push by the NRC (2001) for an increase in teacher training, research discussing professional development as the primary barrier preventing teachers from using data to inform instruction (Buzhardt et al., 2011), the trend toward incorporating naturalistic observation into the classroom for data collection (Bagnato et al., 2011), and the promise of various learning outcomes for teachers when participating in targeted video observation (Schwartz & Hartman,
2007; van Es & Sherrin, 2008). My goal was to develop a tool to increase observational skills and encourage the use of data to adjust instruction, particularly related to social impairment, which is one of the primary characteristics of ASD (CDC, 2014). I decided to create the SOG from the Social Responsiveness Scale (Constantino & Gruber, 2005) to create an observational guide to prepare teachers to observe social responsiveness.

The purpose of the present study speaks to the call for professional development aimed at better preparing preschool teachers of students with ASD in several ways. First, this study examined teacher’s perceptions of the SOG as a professional development tool for increasing observation skills in the area of social responsiveness. Second, interview data compared the utility of the SOG and an unstructured video observation. Third, observational data was compared across both video analysis approaches, exploring content and potential patterns within teacher observations. Essentially, two video observational approaches were investigated for aspects of “noticing”, cognition during the observation, and participant perceptions of utility.

Through the examination of both interview and observational data of the SOG and unstructured observation, several major findings emerged. Among the major findings, both the SOG and the unstructured observations had three common perceptions. Each approach to video observation was found to: a) encourage participant reflection, b) promote teacher’s ability to know their students better, and c) to be more beneficial than live in-class observations, which present several opportunities for distraction. For the unstructured observation, participants’ think-aloud data demonstrated a pattern of immediate thoughts/reactions followed by a reflection of personal experience, leading to a generalization about the teacher or student. Additionally, this data revealed a large
focus on ASD characteristics and teacher critique. Interview data alluded to the unstructured observation presenting a holistic perspective that lacks focus, frequently resulting in missing significant video aspects. Further, participants believed this approach allows for more emotional response and personal bias.

In contrast, findings resulting from the application of the SOG present differing perspectives. Through my interpretation of think-aloud data, participants were observed identifying and reflecting on specific social tendencies. This was supported by interview data, which included: increased focus, promoted more in-depth student analysis, and encouraged data-based instructional change. Several participants noted difficulty with employing simultaneous cognitive processes and distinguishing SOG components. The non-traditional approach to professional development promoted participant buy-in and the SOG was overall viewed as a useful tool. Although participants discussed the potential barrier of time constraint, the SOG was regarded as a worthwhile tool for professional development.

In discussing the importance of these findings, I will use Schwartz and Hartman’s (2007) model of video learning outcomes, which include: seeing, engaging, doing, and saying. As illustrated by Table 9, this approach aims to synthesize the data and accurately discuss trends that cut across observational and interview data for both the unstructured video observation and SOG. Table 9 highlights Schwartz and Hartman’s (2007) model through identifying the components, providing a description from the researchers and listing corresponding guiding principles from the data. The following sections will explain the findings in light of current research.
Seeing

Schwartz and Hartman (2007) assert that video observation can assist individuals in seeing aspects of the classroom they have not seen prior, either through gaining familiarity to the unknown or by discerning details that may often be overlooked. Seeing is relatively synonymous with the practice of “noticing” (van Es & Sherin, 2002), which is prominent throughout this research, and relates to aspects of both the observational and interview data for each video analysis approach.

Table 9

Application of Schwartz and Hartman's (2007) model of video learning outcomes to organize discussion section.

<table>
<thead>
<tr>
<th>Seeing</th>
<th>Engaging</th>
<th>Doing</th>
<th>Saying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defined by:</td>
<td>Defined by:</td>
<td>Defined by:</td>
<td>Defined by:</td>
</tr>
<tr>
<td>• familiarity</td>
<td>• interest</td>
<td>• attitude</td>
<td>• facts</td>
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<td>• discernment</td>
<td>• contextualize</td>
<td>• skills</td>
<td>• recall</td>
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<td>• preferences</td>
<td>• manner</td>
<td>• explanation</td>
</tr>
<tr>
<td>• noticing</td>
<td>• future-learning</td>
<td>• performance</td>
<td>• verbal knowledge</td>
</tr>
<tr>
<td>Guiding principles:</td>
<td>Guiding principles:</td>
<td>Guiding principles:</td>
<td>Guiding principles:</td>
</tr>
<tr>
<td>• More beneficial than live observation</td>
<td>• Being entertained</td>
<td>• SOG as a task</td>
<td>• Shift in reflection from evaluation to interpretation</td>
</tr>
<tr>
<td>• Know the child</td>
<td>• Observing from safe distance</td>
<td>• Guidance and depth</td>
<td>• Worthwhile and useful PD</td>
</tr>
<tr>
<td>• Unstructured pattern of immediate thoughts, reflection and generalization</td>
<td>• Innovative approach to PD</td>
<td>• Complications with SOG</td>
<td>• Worthwhile and useful PD</td>
</tr>
<tr>
<td>• Unstructured focus on ASD and teacher</td>
<td>• Worthwhile and useful PD</td>
<td>• Worthwhile and useful PD</td>
<td></td>
</tr>
</tbody>
</table>
Unstructured observational and interview data. The two themes that emerged from unstructured think-aloud and interview data were: a) participants moved from immediate thoughts followed by reflection of personal experience resulting in generalizations about teacher and student, and b) tended to focus on ASD characteristics and critiquing teacher practices. Both the trend and the content focus found will now be explained through the lens of seeing and with relevant past research.

The works of van Es and Sherin’s (2002) and Frederiksen (1992) shed light on the perceived pattern. The pattern evidenced through think-aloud data supports van Es and Sherin’s (2002) framework on teacher noticing for video observation. At first glance, participants may have been simply following think-aloud instructions by vocalizing what they are thinking. However, Frederiksen (1992) espoused the first step to “noticing” are “call-outs”, which are important video aspects targeted for observation within a complex setting. Although the video presented an array of events participants could attend to, the call-outs assisted their cognition in discriminating significant focal points for future reflection. Following the participants’ immediate thoughts, each individual reflected on their personal experience, which typically correlated with the video aspect they had just attended to. One possible explanation for the related reflection suggests that teachers will
“use knowledge about their context to reason about the events they analyze” (van Es & Sherin, 2008, p. 246). As the participants were observing the video they made sense of their observations, by recalling personal examples of related context. Van Es and Sherin (2008) presented this pattern as a necessary component to noticing, which clarifies observer cognition and assists in forming conclusions to an analysis. Thus, the data indicated how a call-out is followed by reflection of context, and results in the formation of teacher interpretation of the classroom event (van Es & Sherin, 2002).

With respect to the tendency to focus on ASD characteristics and a critique of teacher practices, several interpretations must be considered. One potential explanation is the content may be attributed to participant awareness of the research focus, as exemplified by Julie, “knowing ahead of time that we were looking at kids with Autism, I was looking for certain things: the behaviors, the hand flapping, and stimming, the vocalizations.” Although the other participants frequently made comments concerning ASD characteristics, Julie was the only individual to provide a clear connection between this content and the research focus. Several participants were noted as often critiquing teacher practices, typically in the form of reflection or suggestions. Van Es and Sherin (2002) present a differing rationalization of the potential role of context: this content might be viewed as an indirect product of individuals using relevant context to make sense of their observation during the noticing process. As participants situated their video observations within their known personal experiences, they also provided suggestions of other successful instructional practices based on their past experiences. It should be noted that the three participants with the least teacher experience did not incorporate personal reflection of teacher experiences and did not critique teacher
practices, suggesting a possible link between experience and how individuals use familiar context to make sense of their observations.

Another potential explanation for an observational focus on ASD behaviors and critiquing the teacher relates to Ross’ (1977) notion of the “fundamental attribution error”, which suggests individuals tend to overly attribute behavior to dispositional factors, rather than environmental factors. Hence “not ever listening to instruction”, “having no attention span”, or “being obsessed with the computer”, all reflect internal causes for behavior and ignore possible environmental explanations. Similarly, when Louise commented on the teacher “not realizing the student is frustrated” or “not engaging in dialogue”, she was reflecting on personal characteristics causing teacher behavior. A study by Miller, Zhou, Sims, Perry, and Fang (2007) suggested a cultural interpretation when they compared video observations of American and Chinese teachers, finding differences in “noticing” across the cultures. American teachers were more likely to focus on teacher personality, pedagogical issues, and interpersonal factors, whereas Chinese teachers tended to highlight content, lesson tools, and classroom structure. Results from Miller et al. (2007) support the present study’s findings of participants’ tendency to focus on more personal characteristics, neglecting to acknowledge the potential impact of situational factors, reflecting the fundamental attribution error (Ross, 1977).

When asked about their perceptions of the unstructured video observation, participants did not realize they were progressing through the various steps of “noticing” (van Es & Sherin, 2002). Instead they frequently referred to the video observation as a holistic view of the classroom, where they had the ability to concentrate on specific
points of interest at will. The freedom of having the ability to attend to anything proved comfortable for some, nonetheless other participants mentioned the feeling of missing important video aspects or even being overwhelmed from the lack of focus. This supports Star and Strickland’s (2008) finding that preservice teachers need assistance in attending to significant video events to avoid the feeling of being overwhelmed and missing too much. In a study comparing unstructured to scaffolding video observation, Brunvand and Fishman (2006) espoused that although teachers enjoyed the freedom of focusing on any classroom event, their observation did not result in noticing as many significant events as those who used scaffolds. The feeling of important classroom events going unnoticed may have been a contributing factor to participants in the current study choosing to focus on specific aspects of interest. Observational and interview data both revealed that each participant had an independent focus during the unstructured video observation, reflecting high variability among individuals.

Results from Miller et al. (2007) speak to the wide range of observational focus. Moreover, the high variability amongst immediate thoughts pertaining to the video can be attributed to what Roschelle (2000) described as a multitude of individual factors affecting what viewers notice. Cultural background, educational expertise, and individual experiences were indicated to affect what viewers attended to during video observation (Miller & Zhou, 2007). Findings from the current study cannot speak to the source of content variation, albeit there was evidence of the reflections of personal experience following a similar range amongst individuals.

Despite the range of content focus among participants, immediate thoughts, reflections and generalizations seemed to sustain a shared thread within individual data.
Data suggested that participants retained similar focus throughout the unstructured observational pattern. For example, Louise said, “ah he doesn’t have any trains, she’s saying choo-choo and he doesn’t have the materials he needs” as one of her immediate reactions. Following this, Louise reflected on the lack of dialogue to allow the student an avenue to express his frustration, resulting in a generalization of the teacher not understanding the student’s feelings of frustration. This continuity may be explained in terms of Ambady and Rosenthal’s (1993) “thin slice” research, suggesting viewers quickly develop judgments that recur typically unchanged throughout their observations. Zhou, Miller, Sims, & Perry (2007) backed the thin slice argument when examining college students’ impressions of videotaped elementary school math lessons. The video was paused at six instances during a 20-minute viewing and college students were surveyed on teacher personality and instructional practices. Findings suggested that impressions of teacher personality remained relatively constant over time, some formulating evaluations as soon as 10 seconds into the video. Although the current study did not intentionally poll participants at various points during the video, the similar focus throughout individual observations suggest the possibility of early judgments being sustained for the duration of the observation. Zhou, Miller, Sims, & Perry (2007) advocated for the application of observation criteria to guide viewers’ attention away from noticing teacher personality, which supports the relevance of the SOG.

**SOG observational and interview data.** Through the analysis of SOG observational data and participant perceptions, it was evident that the tool assisted in *seeing* in two ways: introducing unfamiliar observational targets and recognizing video
details that often go unnoticed. Participants were observed both identifying and reflecting on student social responsiveness, suggesting two steps of the noticing process: recognizing the target, and making sense of visual input through cognition (van Es & Sherin, 2002). During the post SOG interview, participants discussed how the SOG provided guidance to observe aspects of social behavior that they were not aware of. Further, participants’ noted a newfound awareness for diverse approaches to communication as evidenced by the response, “I think a lot of time we don’t see what he was using as communication…or it kind of gets unnoticed a bit.” As suggested by the findings, the SOG provided the participants with observational guidance to help target “noticing” skills, which resulted in increased exposure and familiarity to focusing on social responsiveness in preschool students with ASD.

These findings are echoed in relevant research using structured approaches to video observation for teacher learning. The VAST (van Es & Sherin, 2002) is a software tool used to support teacher noticing of their own classroom events through the guidance of drop down menus calling attention to student thinking, teacher’s role and discourse. Following the initial development of the VAST, van Es and Sherin (2002) used this observational tool in several studies of teacher learning, all producing similar results of increasing teacher “noticing” (Sherin & van Es, 2003; Sherin & van Es, 2005; van Es & Sherin, 2006; van Es & Sherin, 2008). Additionally, this body of work suggested retention of long-term “noticing” skills (van Es & Sherin, 2002), strengthening the “noticing” of student perspective (Sherin & van Es, 2005), and ability to identify specific aspects of classroom events (van Es & Sherin, 2008). Although the SOG differs from the VAST in both content and requiring teachers to use the software for coding, the previous
research supports the current findings and is especially significant in expanding the scope of video learning to teachers of preschool students with ASD.

Participants in the current study were able to recognize specific aspects of social responsiveness with accuracy, through the use of the SOG. Supporting this finding, Bruvand and Fishman (2006) recommended the use of video scaffolding for increasing awareness of specific teacher strategies and misconceptions. Researchers found that through video edits calling attention to specific content, preservice teachers were able to recognize and retain more when tested at a later date. In a study comparing the accuracy of structured versus narrative video behavior analysis, researchers suggested the potential of incorporating guiding checklists for identifying problem behavior in children with special needs (Lerman, Hovanetz, Strobel, & Tetreault, 2009). Results indicated that the structured video observation proved to be more accurate in identifying aspects of problem behavior. Additionally, teachers in this study reflected higher levels of preference and acceptability for the guiding checklist, when compared to using unstructured video narrative. These studies are relevant to the present findings in several ways. First, they both expand perceptions and observations of utility for a structured observation tool. Second, Bruvand and Fishman (2006) involved science content, while Lerman et al. (2009) examined behavior of students with special needs, which both widen the scope of utility beyond mathematics education. Third, each of the previous studies support findings from the current research: increased awareness and recognition of specific video events (Brunvard and Fishman, 2006) and increased accuracy, acceptability, and perceived teacher preference for a structured tool (Lerman et al., 2009).

**Shared perceptions of utility.** The categories *know the child* and *more beneficial*
than live observation represent shared perceptions of the SOG and the unstructured video observation and relate to Schwartz and Hartman’s (2007) notion of seeing. Participants referred to both observational approaches as being more beneficial than a live in-class observation and as a favorable method to knowing the child. Each of these themes directly relates to the ability to be more aware and learn about the individual nature of students through noticing.

Each approach to video observation was perceived by participants to have fewer distractions than live-in-class observations. Sandall et al. (2004) found similar findings when exploring interventionists’ perceptions on classroom data collection, with one teacher noting that they can either teach or collect data, but not both. The researchers used this data to support the argument for the likelihood of ECSE teachers to solely use in-class observation and their own intuition for data collection. In the present study, participants discussed the impossibility of a highly focused live student observation, due to numerous teacher responsibilities. When asked to elaborate on what could prevent a high quality live observation in class one participant stated, “so much. I have twelve two year olds. I’m changing a diaper, this one is crying. I’m blowing this one’s nose, this one is dumping blocks…it’s nuts.” Video observation is an option for teachers to collect data with fewer distractions, to rely less on inference, and have the ability to notice more details than an in-class observation will allow.

Several participants from the current study explained how each video observation approach enables them to learn more about their student’s individual tendencies through increased “noticing” abilities. Getting to “know the student” was a direct result of the noticing process, supported through a situated learning experience (Lave & Wagner,
1991). As the participants were observing classroom videos, they were gathering data that paralleled their own experiences, creating a more effective learning environment. Through the use of “pedagogical tools” (Putnam and Borko, 2000), participants were able to strengthen their noticing skills in an environment that is familiar and meaningful to them, furthering their knowledge about the student in the process. Anderson and Herr (1999) stressed the importance of the insider’s perspective of classroom experiences to facilitate teacher learning about student behavior in context. Several participants in the present study commented on “really knowing this kid now” after completing both video observation approaches, demonstrating the significance for situated learning through video in promoting a higher degree of noticing. Despite the previous research focusing on general education settings, there is evidence that gaining an insider’s perspective through situated learning is relevant when training teachers of preschool students with ASD.

Engaging

According to Schwartz and Hartman (2007) video observation promotes engagement through “helping people bring to bear relevant knowledge to raise interest and make sense of subsequent instruction” (p. 339). The act of raising interest creates an intrinsic motivation within the observer, which helps to sustain engagement throughout the video. In the current study, perceptions concerning both the unstructured video observation and the SOG suggested teacher engagement. However, these forms of engagement differed; the SOG was viewed as actively engaging through a task, which will be explained further in the following section. Participant perceptions surrounding the unstructured video observation primarily focused on the teacher’s fascination with video,
which carried over to the belief that incorporating video is an innovative approach to professional development.

While most of the participants viewed the unstructured video observation as “just watching” and even “being entertained”, it was evident through further elaboration that these terms carried more than their typical connotation. During follow-up clarification, all of the participants admitted they found the video intriguing. One participant found the video to spark her interest, providing a “visual heads up” for what she will experience as teacher in ECSE. Most described how they were “visual learners” who needed real life examples in order to sustain engagement and retain the visual data they were receiving. Marshall and Drummond (2006) stressed the importance of video for fully engaging teachers in learning, through the appeal of multi-modal presentations.

Other research suggests this visually stimulated engagement allows the possibility for observers to graduate to higher order processes during video observation. Sherin and Han (2004) believed that teachers completing unstructured observations in a video club were able to perform astutely and further their pedagogical knowledge only because they were so engrossed in the video. Similarly, another study (Lee, Ginsburg, & Preston, 2007) found that the high level of engagement during video observations encouraged deep analysis and evidence based judgments of early childhood teachers.

Two participants discussed their engagement with the unstructured video observation in terms of “watching from the comfort of my own home”, which evidenced an enjoyment of watching the video at a safe distance away from the classroom. Although individuals have been suggested to learn through engaging in new experiences, particularly though situated learning (Putnam & Borko, 2000), video observation has
provided an avenue for gaining this exposure in a more comfortable setting. Wang and Wieseme (2012) found preservice teachers to be more comfortable observing classroom experiences through video conferencing, as opposed to in-class. One of the responses gathered from researchers was “you can literally relax” (p. 354), which was echoed by a participant in the present study, “it was laid back, it was my own observation.”

Seemingly, individuals feel less pressure in giving feedback to teachers or being observed themselves through video, without intruding on a live classroom (Wang & Wieseme, 2012). The increased comfort level during video observation furthers teacher engagement in learning.

Lastly, participants supported the general integration of classroom videos for the purposes of observational analysis as an innovative and engaging approach to professional development. Wilson and Berne (1999) emphasized that effective professional development must make teachers aware of the learning potential through engagement, which can be accomplished through the discussion of student behavior. Participants in the current study found the integration of video combined with the open discussion of student behavior to be an optimal environment to activate their interest and engage them in the learning process.

**Doing**

Based on Schwartz and Hartman’s (2007) framework on learning outcomes resulting from video observation and analysis, **doing** relates directly to the development of attitude and skill. *Doing* is when individuals are asked to perform an action while observing, such as identification, which requires “intentional effort and practice” (p. 341). When the action requires a complex skill set, the authors recommend dividing it
into manageable components to reduce the necessary cognitive load for the observer. 

*Doing* relates directly to the application of the SOG to student video; participants were asked to code the video based on four components of social responsiveness that were divided into two segments to increase manageability. The following section will explain themes emerging from participant perceptions of the SOG and discuss relevant research through the lens of *doing*.

**SOG as a task.** When inquiring about participant perceptions of the SOG several participants referred to the tool as “a task”, as opposed to a view of the unstructured video observation as “just watching”. Participants frequently discussed how completing the task of the SOG gave them a sense of responsibility, which resulted in higher concentration on the observation. One participant described the SOG as “doing the learning, instead of the watching, which made the task seem more productive to her. Where the “entertainment” of the unstructured observation ignited participant interest, the task of the SOG presented teachers with a content-specific job. Two participants explained how this task had indirect results, including limiting their bias and emotional investment. This speaks to the application of both Ross’ (1977) fundamental attribution error and Ambady & Rosenthal’s (1993) thin slice argument. Because participants were given a task that guided their observation, the SOG assisted in preventing a focus on personal attribute and instead turned the concentration toward aspects of social responsiveness. Further, the switch in focus prevented participants from discussing immediate judgments that are resistant to change, as the thin slice argument purports (Ambady & Rosenthal, 1993). Hence, through the perception of the SOG as a task,
participants were able to defer their focus from dispositional factors and avoid bias-laden judgment throughout.

Learning outcomes resulting from task-driven professional development have a research base within mathematics education. Swan (2007) attributed task-based professional development to promoting a shift in teacher beliefs, which have long been suggested as resistant to change. Following a yearlong task-based professional development focused on student problem solving, teachers noted a change in perceptions of how to approach assisting students with problem solving in the classroom. Further, this change in belief was suggested to result in the provision of a higher level of individualized support in assisting problem solving. Moreover, other research refers to the incorporation of practice-based learning tasks into professional development as a method to encourage the application of individualized support for students, as opposed to a scripted solution (Silver, Clark, Ghoussini, Charalambous, & Sealy, 2007). The researchers suggested that the practice-based learning task facilitated the teachers’ ability for perspective taking, for individualized pedagogical decisions, and for how students may respond.

**Guidance and depth.** Participants frequently associated their application of the SOG with focused learning and individualized analysis of student social tendencies. Observational data resulting from the SOG reflected identification and reflection of the social responsiveness components in the tool. Further, participants discussed how these identifications facilitated analysis grounded in the video data, leaving less opportunity for speculation. In SOG observational data, participants demonstrated a trend of using verbal identifications to organize their analysis, frequently integrating tool-specific vocabulary.
Similar findings were evidenced in mathematics and science literature, where structured observation was used for professional development. Two studies indicated this pattern (van Es & Sherin, 2002; Sherin & van Es, 2005) in which the application of the VAST resulted in focused call-outs (Frederickson, 1992) integrating the tool’s components, and analyses organized through the lens of each call-out. Similar to SOG findings, researchers noted teacher analysis was deeply rooted in video evidence. A science education study (Brunvand & Fishman, 2006) also supported increased teacher analysis as a result of structured observation, highlighting a similar increased use of tool specific vocabulary throughout analysis.

All participants discussed how applying the SOG facilitated learning of focused on specific aspects of social responsiveness of preschool students with ASD. In contrast, the unstructured observation did not provide any guidelines, resulting in participant feelings of inadequate familiarity. Two participants provided the disclaimer of “well I have no clue what to look for with ASD” prior to their unstructured observation. Similar views were observed in two previous studies (Keilty et al., 2009; Sandall et al., 2004), where teachers indicated beliefs of inadequate knowledge and skill, affecting their buy-in concerning the integration of observational data collection in the classroom. When applying the SOG, participants favored the explicit guidance and associated this with learning observational indicators of social responsiveness in preschool students with ASD.

Complications with the SOG Although participants supported the utility of the SOG, it is necessary to explain the complications in light of relevant research. Participants discussed both a difficulty with the application of simultaneous cognitive
processes and a challenge with distinguishing between the *Awareness* and *Cognition* components during their SOG session. It is assumed that individuals asked to perform an unfamiliar task will experience a level of difficulty, which will improve through exposure and usage. Despite participants acknowledging a sense of ease during the second SOG application, I am unable to attribute this to increased familiarity due to the second portion of the SOG having diverse components. Participants may have found the SOG section with *Communication* and *Motivation* to be more easily identified, or the ease in process may be the result of a combination. Currently, none of the research applying structured observation to professional development has identified complications with their tools. However, it is suggested that both the necessity of higher order thinking and the difficulty with components are all likely barriers when individuals are asked to perform video analysis (Schwartz & Hartman, 2007). A potential solution supported by participants and research, is to separate each SOG component to increase manageability of identification and reduce the level of necessary cognitive processes. Additionally, further elaboration of directions including provision of clear examples and the opportunity to learn from modeling were presented as necessary to increase comprehension of the task (Brunvand & Fishman, 2006).

The last aspect of *doing* is participants’ mention of the potential issue of time constraint in the implementation of the SOG. The issue of time constraint is not a new barrier to effective professional development (Brawley and Stormont, 2013; Keilty et al., 2009; Ledoux et al., 2010; Sandall et al., 2004). The majority of this research focuses on teachers’ lack of time when using professional development tools to collect student data during school hours. However, the SOG was designed for use after school hours, to avoid
interference with instruction. Further, teachers may potentially view and analyze student videos from home or during their planning time. Any type of individualized professional development will require teachers’ time, however it is a valid argument that the SOG requires multiple video viewings and coding, which inevitably will take at least one hour for each student.

**Saying**

*Saying*, as explained by Schwartz and Hartman (2007), is a learning outcome consisting of gathering and recalling facts aimed at providing a case-specific explanation. Video observation and analysis presents an arena for using data (facts) to explain events in the setting, or even extend this knowledge to a setting not being directly observed. In order to discuss the findings from the current study in terms of *saying*, I will explain a shift in participant reflection from unstructured video observation to the application of the SOG.

**Shift in reflection from evaluation to interpretation.** Video has been described as an opportunity for teachers to “revisit, notice and investigate” (Rosaen, Lundberg, Cooper, Fritzen, & Terpstra, 2008, p. 347), resulting in a higher degree of data-specific reflection, when compared to recalling classroom events from memory. As evidenced by data in the current study, each observational approach promoted participant reflection. However, during each session participants demonstrated a shift in their reflection focus from a personal and evaluative reflection during the unstructured video observation, to an interpretative extension of data with the SOG. Although the majority of relevant research addresses teacher reflection of their own teaching in a general education setting, the findings may still shed light on the shift demonstrated in the current study.
During the unstructured video observation, participants had a tendency to make sense of their noticing by reflecting on their personal experience and also evaluating teacher practices. As suggested by participant responses, many did not feel they had the knowledge or guidance to know what to look for, which affected the content of their reflections. Calandra, Gurvitch and Lund (2008) noted that when observing classroom videos without assistance, preservice teachers have difficulty focusing their reflections on significant events and typically defer to personal reflections of experience, similar to findings in the present study. Other research attests that without observation guidance, teachers have a tendency to critique themselves and other professionals, because this is where their experience lies (Sherin & van Es, 2005; Yerrick, Ross, & Molebash, 2005). Participants in the current study admittedly focused on teacher evaluations, with one explaining, “I found myself critiquing the teachers and by no means am I a professional…but I still find myself saying I would take this differently and a different approach.” Regardless of teaching experience, participants continued to evaluate the teacher because the role is the most similar to their own identity. Results from Calandra, Dias and Dias (2006) found preservice teachers frequently reflecting on their emerging teacher identity, which combined both personal experience and teacher critique. However, due to the difficulty with preservice teachers identifying meaningful events in the video for reflection, the researchers urged teacher educators to integrate an observational guide to further focus teacher thoughts.

There was a noticeable shift from the personal and evaluative reflections of the unstructured video observation to an interpretive extension of data in the SOG. Participants were noted to formulate detailed analyses of student social tendencies and
explain how they adjust their instruction, both rooted in observational data. One participant suggested the incorporation of aspects of the student’s main motivator (the computer) into small group activities, so the student would be motivated to join the group and increase the opportunities for peer interaction. This ability to interpret student thinking and apply that knowledge to data-based instructional planning has been suggested in other video analysis research. Two studies (Sherin & van Es, 2005; Yerrick, et al., 2005) indicate a similar switch from self-reflection and pedagogical critique towards understanding student thinking for the purposes of individualized instruction, when a structured observation is applied. Yerrick et al., (2005) asked preservice science teachers to edit their own videos, after they received guidance on identifying significant events. Sherin & van Es (2005) had teachers apply the VAST to their video observations, followed by a discussion in a collaborative setting. Supporting the findings of the present research, both studies noted an increase in student interpretation and evidence-based comments, while recounting events from the video.

**Worthwhile and relevant professional development**

It is necessary to highlight one theme, worthwhile and relevant professional development, which cuts across all of the four learning outcome categories. In ECSE, research concerning the integration of data collection and data-informed decision making has urged the incorporation of effectively designed and more targeted professional development programs (Brawley and Stormont, 2013; Keilty et al., 2009; Ledoux et al., 2010; Sandall et al., 2004). Putnam and Borko (2004) highlighted teachers’ tendency to retain consistent patterns of thought and practice, stressing the critical role of introducing new learning experiences to improve pedagogy and break outdated routines.
Overall, participants supported the utility of the SOG for a professional development tool to increase observational skills for social responsiveness in preschool students with ASD. Moreover, through a combination of observational and interview data, the potential of the SOG as a professional development tool contributed to all of Schwartz and Hartman’s (2007) video learning outcomes. Participants demonstrated more targeted noticing skills through the SOG, which was reflected to be a critical component of content-specific learning and data-based analysis. Participants suggested that these outcomes, combined with the increased engagement resulting from the video component, created an innovative professional development tool with a new appeal and high utility. Similar findings supported the use of the VAST for professional development (Sherrin & van Es, 2005; Sherin & van Es, 2008; van Es & Sherin, 2002).

As a result of the increased seeing, engaging, doing, and saying, each participant discussed the high utility of the SOG for professional development, specifically with new or inexperienced ASD teachers. Teachers discussed feeling improvement in their observational skills in the targeted area, a result that has been supported by previous research (Sherrin & van Es, 2005; Sherin & van Es, 2008; van Es & Sherin, 2002). Further, participants’ highlighted a sense of knowing the student on an individual level, resulting in data driven analysis (van Es & Sherin, 2002). Participants frequently referred to the relevance of professional development incorporating situated learning (Putnam & Borko, 2000) encouraging a more meaningful experience. One teacher described a feeling of empowerment due to the individualized nature of the SOG, which research indicates may increase teacher ownership and buy in (Polly & Hanafin, 2011).
Summary of discussion

As evidenced through the discussion, the use of both seeing and doing learning outcomes contained the majority of findings regarding both unstructured video observation and the SOG. Although the SOG and unstructured video observation were both related to increase seeing skills, these skills differed by approach. The unstructured observation data demonstrated a pattern that was reminiscent of van Es and Sherin’s (2002) steps to “noticing”. Seemingly, the SOG circumvented these steps with the provision of a noticing guide, which increased concentration on social responsiveness, reduced the amount of personal reflection, and eliminated generalizations.

Both the observational and interview data from the SOG saturated the outcome category of doing. Despite preventable barriers, participants were noted to increase their content specific knowledge, target their observations, and develop deep analysis rooted in video data.

Although engaging and saying were less represented, the perceptions associated are noteworthy. Participants viewed the integration of video observation to be innovative and engaging, increasing their support for professional development founded on video analysis. Further, the noticeable shift in participant reflection from evaluative towards interpretative attests to the value of the SOG in facilitating forethought of data driven instructional adjustment.

As the theme “worthwhile and useful PD” was indicated to reflect all four video learning outcomes, it speaks to the potential value of integrating a structured observation into professional development programs for teachers of preschool students with ASD. Specifically, the SOG presents the possibility of improving teacher noticing and
increasing student analysis founded on video evidence. The situated nature of individualized learning resulted in the increase of comments surrounding EBP and encouraged participant buy-in, thus suggesting the SOG may help satisfy the legislative mandate while also being viewed as engaging and useful by teachers.

**Limitations**

There were several limitations that warrant consideration when interpreting the findings. These limitations address the participants, the SOG, the professional development session, and qualitative research validity measures.

The first limitation addresses the recruitment of my participants. I recruited through personal contacts in the field, which resulted in participants who currently attend or graduated from the ECSE Master’s program that I am affiliated with. The last participant was completing her undergraduate degree and interning with a former colleague. All participants were recruited on a voluntary basis, indicating an internal motivation for participating in research. Although the exact motivation is difficult to pinpoint, several participants admitted to viewing me as a mentor within the university and were aware that I had taught classes and supervised practica. Further, two participants who graduated from the ECSE Master’s program were my former students. This presents a potential power relationship, which may have impacted participant responses. Although it was clearly communicated that I had no impact on their grades, jobs, or internship placement, the possibility of being viewed in a position of power may have influenced the validity of the results.

Additionally, the varying degree of teaching experience for each participant posed a potential issue. Criteria dictated that participants must be relatively new to ECSE and be
in the process of acquiring a teaching position where they would be serving students with ASD in the future. That being said, I had three participants with close to eight years of teaching experience, and although they had little exposure to ASD, they possessed a wealth of teaching knowledge to integrate into the session. In contrast, the other four participants had less than two years of teaching experience; with two teachers of early childhood general education, one para-professional of self-contained preschool and the last an intern in ECSE. The difference in teaching experience undoubtedly had an effect on the findings, as more experienced teachers have been suggested to possess a better developed sense of noticing, an inclination for deep analysis, and a higher probability to reflect on adjusting classroom practice (Ross & Gibson, 2010). Unfortunately, with the time constraint for this study I was unable to extend my recruitment to seek less experienced teachers.

Another limitation concerns the research and tool design. In theory, the SOG is a tool that teachers should use to observe and code the social responsiveness of their own students. However, due to time, confidentiality, and variable concerns, the model video was used for the SOG. Instead of designing this study as a professional development where each teacher observed their own student, I decided to have them watch the same video to limit the amount of variables. In doing this, I went against the design of the SOG, which resulted in many participant responses being of hypothetical nature. When asking of the utility, I would have to phrase a question as “consider this was your student”, which has the potential of affecting the quality of responses. Further, the design of the data collection presented confounds as well. As all participants first conducted an unstructured video observation prior to the application of the SOG, it was difficult to
differentiate effects that can be attributed to video observation in general, repeated viewings of a video or the SOG. As a portion of this research is comparative, it was necessary to have participants conduct both video observational approaches. However, certain confounds may have been eliminated if the unstructured and structured video observations were split into two sessions.

The last limitation concerns validity measures for qualitative research. Although I was able to corroborate some of my observational data with participant responses, triangulation was not attained. Future steps will aim for triangulation of data sources, which would include observing teachers in the classroom. Further, I did not have prolonged engagement with my participants as Lincoln and Guba (1985) present as crucial for qualitative research. The design of one hour-long session and a short follow-up did not afford me enough time to clarify all of the data necessary. Lastly, I grappled with my role as a researcher at certain points of data collection. It was difficult to remain neutral when a participant is obviously generating a negative schema concerning behavior of students with ASD. Generalizing one observation to an entire population was an indirect result, which I feared during the research design. In this instance, it was necessary for me to step out of my neutrality as a researcher and reiterate that this student is one example out of many, highlighting the individualized nature of ASD.

**Future Directions**

For the next steps of this research, I intend to expand on the current research while also reflecting on the limitations identified. I will recruit teachers in their first two years of teaching ECSE, not allowing previous experience in the early childhood field to exceed three years. Further, I will gain consent from parents of students diagnosed with
ASD to video record for the purposes of SOG analysis. The structure of research design will have two phases: an analysis/researcher observation component and an iterative coaching/feedback component. For the first phase, I will record the student during unstructured work time and conduct the SOG session with the teacher. The SOG will be separated into three components: Awareness, Cognition and Communication/Motivation, to reflect suggested changes for usability. Following the SOG session, I will video record the teacher facilitating unstructured work time. As research indicates a discrepancy between the practices teachers intend to implement and those that are actually enacted (Polly & Hannafin, 2011), I will examine the teacher video for evidence of implementing EBP. For the last phase, I will use the data from the SOG and the teacher video to discuss discrepancies and opportunities for EBP with the teacher. During this coaching phase, I will return weekly to video record unstructured work time and will analyze the videos with the teacher. Throughout this process, I will provide EBP support and detailed feedback. My aim is to assist new ECSE teachers with the application of EBP through an iterative coaching model that integrates the SOG.

**Conclusion**

Despite the presence of several limitations, this study contributes to research in the areas of video observation and teacher preparation. Implications from the overall support of video observation suggest the potential for expanding video analysis research beyond the current content areas of mathematics and science education. Similarities between current results and relevant research indicate video analysis can be a useful approach for all students regardless of diverse background and ability levels, due to the individualized nature of the data collection. Although there were signs of the presence of observational
bias in both observational approaches, the SOG was presented as an option to reduce bias and increase observational focus. The integration of the SOG as a potential professional development tool resulted in all of the video learning outcomes (Schwartz & Hartman, 2007) and appealed to participants through a non-traditional approach; suggesting the tool as a viable option to reflect legislative mandates while also contributing to the new face of teacher preparation.
References


Appendix A

Participant Profiles

As described in the methods section, the analysis will examine both the initial collective findings and the participant-by-participant findings, adapted from Cobb and Whitnack’s (1996) approach to analysis. The following section presents individual participant profiles for the current study. Each profile will be presented in bullet-form, which first provides participant background information. Following, I will include a selection of significant codes and statements. Lastly, I will provide summative statements describing participant perceptions and observation. The qualitative data provided will be supplemented by the Studiocode matrix, which documents how each participant coded the video using the SOG. The unabridged list of codes for each participant can be found in the appendix.

Julie.

Background.

• First year PK special needs para-professional, public school
• Background in student teaching/exposed to special needs through shadowing consult.
• Exposed to one child with Asbergers.
• Plans on teaching PK ASD next year, after finishing Masters degree in ECSE.

Selected codes and quotes.

• “its so funny, I feel that this is my life”
• “there’s a lot of words that you cant really make out, but they are very distinct.
• In-class observation captures a lot of movement, it is more beneficial.
• Can create/change learning opportunities during live observation.
• Video observation is just a glimpse.
• SOG encourages thinking how actions can be interpreted.
• SOG creates more in depth analysis
• Can adjust instruction with SOG data
• Just looking for components and blocking out everything else
• SOG good for mentorship/PD
• Can be time-consuming

**Summative statements.**

• Negative case: found live observation more beneficial than video.
• Critical of any type of video observation, just a glimpse in time.
• Felt unstructured/SOG observed similar aspects.
• Structured encouraged awareness of specific areas.

**Studiocode matrix**

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**Rebecca.**

**Background.**

• Second year teaching general education toddlers, private school.
• Volunteered with young children with special needs
• Background in student teaching in various settings, including inclusion.
• Plans on teaching PK ASD, after finishing Masters degree in ECSE.
Selected codes and quotes.

- “I mean he’s three and a half, it’s hard to grasp on your own.”
- Immediate thoughts of student preference
- Live observations—hard to remember details
- Unstructured observation overwhelming, thoughts all over
- “She misses a lot. This teacher has her back turned and she’s missing all of this.”
- SOG good PD to get to know students
- SOG was empowering, “all about me”
- Knowledge of student can give a better picture—assist with individualized instruction
- “very often I’m thinking I should’ve done this differently, video helps with that.”
- SOG is laid back, your own observation.

Summative statements.

- Get to know students through both SOG and unstructured.
- Video observation is more beneficial than live observation.
- SOG would be a different approach to PD, empowering.
- SOG helps encourage focused observation and concentrate on analysis.
- Some teachers might find SOG overwhelming, with the processing.

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Motivation

Mari.

Background.

- Four years in general education PK, private school, Masters degree in ECSE.
- After altercation with administration over expelling student with special needs, she opened a nonprofit organization for offering pull-out therapy for private schools, grade K-6.
- Works/worked with two students with PDD

Selected codes and quotes.

- Immediate thought of no urge for peer interaction.
- “I see a lot of disconnect with the caregiver and the student.”
- “sometimes even those little cues are hard to pick up on.”
- Repeated viewing brings sympathy for the teacher.
- Unstructured has more freedom, although you may miss out on details from concentrating on teacher practices.
- In-class responsibilities prevent true observation.
- “it would be for the teachers to kind of pinpoint the various areas.”
- SOG promotes deeper analysis, more noticing of specifics
- Hard to differentiate components

Summative statements.

- Negative case, liked unstructured observation more.
- SOG would be helpful for new teachers.
- Stressed many benefits of repeated viewings
• Focused her observation on interaction

**Studiocode matrix**

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Sue.

**Background.**

• Currently at Head Start for two years, Masters degree ECSE.

• One year as PK special needs teacher.

• Previously preschool director.

**Selected codes and quotes.**

• “even though he isn’t looking, he’s moving in the right direction.”

• Student not using materials in correct way.

• “the other one was more typical.”

• SOG beneficial for tallying, presenting to parents.

• SOG more unbiased and positive observation.

• Use SOG data for interventions.

• SOG isn’t full assessment, needs to be consistent.

• In-class observation, hard to remember/reflect.

• Need time to do the SOG, might be time-consuming as a PD.

• SOG would be worthwhile to prepare new teachers.

• Awareness/cognition difficult to differentiate.

**Summative statements.**
• Stressed the benefit of the SOG calculating itself and presenting a matrix.

• SOG ideal for progress monitoring and tailoring interventions.

• Both video observations catch more details than live in-class observation.

• SOG would help those new to ASD know what to look for.

• SOG should corroborate with other assessments.

**Studiocode matrix**

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**Louise.**

**Background.**

• Currently second year as Head Start teacher, enrolled in Masters ECSE.

• Taught grade 3-5 inclusion, 3100 in public school for five years.

• PK special needs para-professional for one year.

• Exposed to one student with ASD.

**Selected codes and quotes.**

• “ah, he doesn’t have any trains and shes telling him to play when he can’t do it.”

• “she doesn’t understand he’s frustrated.”

• Critique of teacher practices/classroom model.

• Unstructured sees the whole picture.

• Unstructured—could react to anything, emotions prevented her from noticing more.
• SOG more focused, more in-depth analysis.
• SOG helps teachers be more proactive, use new strategies.
• SOG gave a task, emotions didn’t dominate.
• SOG can help use data to drive instruction.
• Live in-class observation can be distracting.

**Summative statements.**

• Participant frustrated with unstructured observation and teacher practices.
• SOG created more unbiased observation, did not get emotional.
• “I could feel the change” with SOG, would be great for PD.
• Different approach to PD makes it more attractive
• Unstructured observation- holistic but could react to anything.

**Studio code matrix**

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**Caro.**

**Background.**

• Age 23, Hispanic female.
• currently working in afterschool care for 5 years.
• Completing Bachelor’s degree in special education.
• Wants to work with PK ASD in the future.

**Selected codes and quotes.**

• Student is uninterested, disengaged.
• “like he isn’t listening, go to the farm he walks away. Step on the block and he hands it to her.

• Comparison of student abilities.

• Unstructured-focused on speech, reaction to interaction.

• Repeated viewing brings familiarity.

• SOG is viewed as work, unstructured is viewed as entertainment.

• SOG- noticed diverse types of communication, more details.

• SOG- visual heads up to classroom experience with student with ASD.

• SOG good for new teachers, or before student teaching- helps with exposure.

• SOG- a lot of cognitive processes going on.

**Summative statements.**

• Stressed importance of exposure and preparation for new teachers to ASD.

• SOG would be good PD tool to help teachers prepare for working with ASD.

• SOG required several cognitive processes simultaneously.

• SOG helped introduce child development terms that were unfamiliar.

**Studiocode matrix**

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**Rosie.**

**Background.**

• Age 23, Hispanic female, first year teaching general education first grade.

• Recently graduated with dual-certification Bachelors in general/special
education.

• Current Masters’ student ECSE.

**Selected codes and quotes.**

• “this one is with the whole track and he’s here with the one block.”

• “like before she was asking him to walk around and now shes asking him to walk on top.”

• “cute little kids things.”

• Unstructured looking at whole picture, easier to “watch from above”.

• Repeated viewing brings focus on new elements.

• SOG encouraged more concentration, deeper analysis.

• SOG great for data report, using for instruction.

• SOG would be ideal as PD to help struggling teachers.

• Awareness/cognition components are overlapping.

• Would like more time to process thinking.

**summative statements.**

• Only participant to comment on student behavior being typical for any child who is not interested.

• SOG beneficial tool in focusing observation, depth of analysis and reflection.

• SOG would help teachers use data for instruction and be great to present to parents.

• Believes both video observations are less distracted than live observation.

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