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The Effects of an Observation and Interpretation Intervention (COI/PALS) on Teachers' Productive and Nonproductive Conversations with Preschool Children

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by

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ABSTRACT

The Effects of an Observation and Interpretation Intervention (COI/PALS) on Teachers' Productive and Nonproductive Conversations with Preschool Children

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This multiple baseline single-case design study explored the influence that training in observation and interpretation had on teachers' meaningful conversations with children. Three preschool teachers (1 from public school and 2 from Head Start) were trained using the Cycle of Inquiry System (Broderick & Hong, 2011) that informs of ways to observe and interpret children's thinking to facilitate developmentally appropriate conversations.

Teachers documented and interpreted observations of children engaged in small group play. Teachers were surveyed pre-training and post-training about observation, interpretation, curriculum, the teacher's role, and the purpose of teacher interactions with children. Teachers were interviewed to clarify researcher questions and videotaped before the training to establish a baseline on their use of productive conversations with children. Videotaped observations after the training showed the effect of training on teachers' conversations. Field notes from mentoring and videos were collected to provide insight into the influence of the training. A social validity questionnaire was used to determine if participants found value in the process learned.

Data were evaluated for the 3 participants using graphs to show evidence for the rate of change. The Cycle of Inquiry Intervention increased teachers' productive conversations with children. Pre-surveys and post-surveys indicated that teacher's perceptions were positively affected. Teachers perceived productive conversation as important to documenting and interpreting

children's thinking. Their beliefs about children's theory development and awareness about the role of conversation in the process changed after the intervention. They value observations and documentation to learn about children's thinking as a way to engage in conversations.

Social validity was used to determine if the goals of training were acceptable, if the training was valued, and if it would influence participants' teaching. Participants indicated that the Documentation Record (DR) and recording observations was worthwhile and that they would use what was learned during training to increase productive conversations. Two of the 3 participants were concerned about consistency regarding the DR form, indicated it was worthwhile to complete the Interpretation of Children's Knowledge and Thinking (ICKT) form, but were not sure of their consistency. Curriculum constraints and lack of support could influence their consistency concerns.

DEDICATION

This dissertation is dedicated to the memory of Madeline Marshall, my fourth grade teacher; to Ray Spenilla, my high school physical education teacher, life coach, and friend; to my two children, George Frank and Katlin, who are the inspiration for all I do; and to all of the many other children who have affected my life throughout my educational career. It is when we view children as our teachers that we find our true strength as educators.

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Next, I would like to send a tremendous thank you to my committee. Each of them – Dr. Evanshen, Dr. Malkus, and Dr. Trivette – played an important role in this process and I have valued the contributions you made to me professionally and personally.

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As this journey comes to an end, I am ready to put my efforts into action in my new role as superintendent of Norton City Schools. I would like to acknowledge the school division for trusting me first as a principal where I was able to build the pre-k program, and now as superintendent to lead the Division. I turned 50 years *young* in May of 2017 and all of my career goals have been met! Time for a new list.

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CHAPTER 1

INTRODUCTION

Lewin-Benham (2006) emphasized the process of teachers listening to children's conversations and focusing on their interests to continue discussing these interests. Providing opportunities for meaningful conversations with children is part of an emergent curriculum whereby the learning is organized around strong child and teacher interactions. When children have opportunities to engage in conversations with teachers, peers, and materials, they develop a sense of autonomy related to their learning (Cadwell & Fyfe, 1997). Observing and documenting observations of children focuses teachers' thoughts on the thinking and the theories children create. Reflecting on the meaning of children's observed interactions helps teachers interpret theories children develop and plan the provocations needed for the learning to emerge and expand. Teachers should engage children in conversations to help make children's development of ideas more visible for interpretation. Conversations help teachers determine what children understand and where they have misconceptions (Cadwell & Fyfe, 1997).

Statement of the Problem

Observing for children's thinking and theory development is overlooked in school systems across the country. As early as preschool, teacher planning in public school systems is often narrowly focused on content and based on teaching to the standards that the state has set as guidelines for instruction. Teachers are often so consumed with the management of paperwork, responding to demands by authority figures, and other daily tasks that they fail to make every minute of the day count for children. This underlying problem sets a tone of rigid instructional design and blind conformity to standards that limit the creativity and connections of both the student and teacher (Jones, 1993; Mardell & Carbonara, 2013; Miller & Almon, 2009).

The amount of state-supported monies for preschool programs has continued to rise since 1990. Even with this rise, it is evident that state budgets continue to be strained as the economy continues to struggle. The states are growing in the number of preschool programs, but the monies available to support those programs can vary considerably among states. There are advocates for increasing programs and advocates for ensuring effectiveness. Most policymakers support both but are not able to fund either adequately. For quality programs to be plentiful and effective there should be a systematic approach for professional development based on foundational aspects of early childhood development and developmentally appropriate practices (DAP) (Egertson, 2010).

Powerful interactions with children should happen daily; conversations with children are crucial for development. Interactions are the daily exchange of words and gestures. Powerful interactions are intentional connections with others to extend learning (Hamre et al., 2012; Jablon, Dombro & Dichtelmiller, 2007; Jones, Evans, & Rencken, 2001). It is important for teachers to plan these interactions and realize that the ingredients necessary must be present for children to make connections and extend their learning. Observation is more than just *seeing* what the child is doing. It is observing with intention to interpret what the child is thinking and develop plans to extend their learning (Gandini & Edwards, 2001; Hewett, 2001; Wein, 2006). The art of observing and interpreting children's thinking is often a difficult task for teachers because they lack training in this area from their studies that focus primarily on standards based instruction. Teachers in many states gain certification in pre-k through 6^{th} grade and rarely enter a pre-k classroom as part of the requirements. This study's researcher asked to place a student teacher in a pre-k classroom as part of the student's undergraduate work; the request was denied because the college advisor wanted the student teacher in a standardized testing grade.

Because of high stakes testing in public education, many educators have lost sight of the importance of child development and how to appropriately assess and plan for increasing curiosity, confidence, problem solving skills, conversation, and risk taking abilities with each child at an early age (Copple, 2003; Hernandez, 2015). Teachers are pressured to modify how they teach because their performance evaluations are tied to the performance of their students on high stake tests. Many teachers have become accustomed to teaching test taking strategies and *teaching to the test material* rather than developing conceptual knowledge. There seems to be a *push-down philosophy* in many public schools whereby there is a feeling that kindergarten is now what first grade used to be and so on. Educators have lost sight of developmental stages and placed all students at the same level in order to get the material covered. Many teachers have been reprogrammed to this way of thinking and have pushed aside what they knew to be good strategies and appropriate practices for child development that were organized around documented observations of children's conversations. A study is needed to determine what beliefs are held by teachers regarding documentation and interpretation and the importance of conversations with children to encourage thinking. The study findings would allow teachers to offer trainings with support to encourage DAP and constructivist teaching on a consistent basis.

Purpose of the Study

The purpose of this study was to determine if providing training in the observation and interpretation phases of the Cycle of Inquiry (COI) model (Broderick & Hong, 2011) would affect the conversations that a teacher had with children and shift her beliefs about planning for and engaging children in conversation (Dalton & Smith, 1989; Deason, 2009; DeVries, Zan, Hildebrandt, Edminston, & Sales, 2002; Fisher & Frey, 2014; Martens, 1999). By providing adequate training, teachers can expand upon or shift their belief system so that they value and

use observations as a tool for planning productive conversations with children. When teachers use observations to reflect on children's thinking they are better able to facilitate conversations to develop children's autonomy in learning. (DeVries et al., 2002).

Research Questions

Research studies are defined by the questions to be answered. There were two research questions used in this study that focused on determining a baseline for three participants, providing an intervention using the Cycle of Inquiry Model, and determining if the intervention affected productive conversations with children and their beliefs about observing and interpreting children's thinking.

1. Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' productive conversations with children?
2. Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' beliefs about observation and interpretation related to productive conversations with children?

Statement of Significance

Early childhood programs seem to be at a loss as to which *curriculum* will have the greatest effect on student learning. In a national report from the Preschool Curriculum Evaluation Research Consortium (2008), it was determined that after researching 14 preschool curricula on five student level outcomes and six classroom level outcomes, 10 of the curricula showed no statistically significant influence on the student level measures and five showed an influence on

some measures. Seven curricula showed no significant influence on any of the classroom level measures and eight showed some influence.

Virginia public schools base the curriculum upon Standards of Learning (Virginia Department of Education (VADOE), 2013) set forth by the Department of Education and assessed by a summative evaluation at the end of the school year. Teacher evaluation is tied to the results of the student assessment, which adds tremendous pressure and, in order to cover material for the test, causes teachers to instruct students in a way that may not be in line with their philosophy of teaching and learning. Public preschool teachers often use standards in a way that is not developmentally appropriate; activities should be at the forefront of learning because of the pressure from primary teachers who must prepare children for tests based on the standards. Each grade seems to pressure the grade below to teach skills before children have had a chance to develop the concepts needed to develop those skills. Teachers are not trained sufficiently to draw from standards to design a curriculum that supports students in a developmentally appropriate way (Isenberg & Quisenberry, 2002). Teaching to standards prevents connected thinking across activities and children's play because of prescriptive procedures that focus on mastery of content and do not allow creative thinking (Fuchs & Deno, 1991).

Head Start programs in a rural town in Virginia where this study takes place, use the High/Scope Curriculum and receive training for its implementation. Key experiences with children are used as the basis for organizing and interpreting observations. There is an element of team planning for small group experiences and interactions with children. Teachers are quick to intervene and guide students during play. Vygotsky (1981) and Bruner (2003) wrote about how learning and problem solving evolve when children are able to engage in exploration in a social setting. Whereas there is value to this approach, the researcher expects that this study, by training in observation and

interpretation using the Cycle of Inquiry model and system (Broderick & Hong, 2011; Broderick, Hong, & Garrett, 2015), will provide a way for teachers to use observations to learn more about children and to have conversations with children that promote their autonomy in learning. When children are responsible for their learning, they gain a deeper understanding of the content (DeVries et al., 2002; Jones, 2012; Lewin-Benham, 2006). The researcher, as a public school administrator, realizes the need for instructional leaders who can guide teachers in a direction that develops strong early childhood programs that promote cognitive competence (Egertson, 2010).

Early childhood programs are especially important for children from low income families where their language exposure in the home may be deficient (Hart & Risley, 2003) and there may be a lack of conversation strategies (Dangel & Hooper, 2010). Hart and Risley (2003) found that children's vocabulary consisted primarily of similar words and number of words as what their parents used. By age 4, the average child from a welfare family had heard 13 million fewer words, utterances or grammar than the average child from a working-class family. Teachers who implement a constructivist approach – like emergent curriculum – are more likely to encourage discussion and questioning with children, which increases vocabulary development (Dangel & Hooper, 2010).

Definitions of Terms

In order to clarify meaning, there were several terms used in this study that should be defined. The definitions may be specific to how the terms are used in this study.

Cycle of Inquiry (COI): The Cycle of Inquiry model is a system of forms Broderick and Hong (2011) designed to organize emergent curricula observation and planning practices. The forms allow teachers to document (writing and photographs) observations of children,

interpretation of children's thinking and knowledge, and ideas that structure the ways teachers intervene in children's play (Broderick, 2012). For this study, two practices that will be the focus of the training are observation and interpretation.

Documentation Records: Documentation Records are the teachers' written observation record of children's interactions with peers, teachers, and materials using photographs and the COI Documentation Record form (DR). These include verbatim accounts of dialogue and actions observed as well as the teacher's initial instant wonderings about what children think and know and the teacher's questions regarding the meaning of children's actions (Broderick & Hong, 2011; Broderick et al., 2015).

Interpretation of Children's Knowledge and Thinking: These records capture, in writing, teachers' interpretations based on deeper reflection. The reflections occur while in conversation with a peer about what they believe children know and think, the reasoning behind children's actions, and ideas about the observed play from the child's perspective (Broderick & Hong, 2011; Broderick et al., 2015).

Mentoring: In order for feedback and reflection to become a habit for ongoing practice, adult learners need support when learning to implement any new process (Dunst & Trivette, 2009). Based on this need, the researcher served as the mentor to study participants by meeting with them bi-weekly to review observation and interpretation data and using a COI checklist (Broderick & Hong, 2011) as a protocol for guiding a reflective conversation. The protocol was meant to assure that each mentor and teacher was organized in a structure that was consistent, that guided the teacher to use a checklist to look back on the process, and generate personal conversation around the process. As questions arose, the mentor provided support centered on the tasks.

Observation: Observation is the process of listening to and watching children's interactions with peers, teachers, and materials (Broderick 2013).

Productive Conversations: For the purpose of this study, productive conversations refer to conversations where teacher behaviors have been found beneficial for supporting children's learning. There are many teacher behaviors for productive conversations. Some of the most common teacher behaviors include allowing children choices as to when and who to speak with (DeVries et al, 2002); allowing child initiated conversation; using application questions (Dalton & Smith, 1989; DeVries et al., 2002); using and responding to questions that focus children's thinking (Dalton & Smith, 1989; DeVries et al., 2002); and using *think aloud* to model the processes (Deason, 2009; Fisher & Frey, 2014).

Small Group: Small groups consist of five or six students. Teachers concerned with skill development plan for small group time in order to present structured activities. Teachers in developmentally appropriate classrooms permit small groups of children to choose play centers, which allows teachers to move around the classroom to interact with children, support their learning, and observe. For the purpose of this study, small group refers to a group of five or six children the teacher selected to interact with during the study.

Teacher Beliefs: The personal constructs of teachers, including their ideas, theories, and schema, which have strong implications for the way they teach and make decisions for practices in the classroom (Sakellariou & Rentzou, 2012).

Limitations and Delimitations

There are several limitations to consider in this single case design. Choosing this design limited the sample size. The findings from the study of three participants cannot be generalized, yet they can add to the literature base (Gast & Ledford, 2014). Additionally, a characteristic of the single-case design is that the structure provides the ability to replicate the study and add to the sample size over time.

The choice of a convenience sample limited the study to teachers with great variation in years of experience in the preschool classroom. In future replications of this study, choosing participants with similar years of experience would reduce this limitation.

The two teachers in the Head Start programs were provided training in the Classroom Assessment Scoring System (CLASS), which may have influenced their baseline. A lack of information about CLASS that these participants had received limited the researcher's ability to know whether trainings related to CLASS affected participant's conversations with children. Future replications should consider that participant inclusion criteria include that all participants either have or have not received CLASS related assessment training.

Timing is complex in single case designs where professional development is involved. Teachers' schedules are affected by many distractions that include weather, school events, and illness. The limitations regarding schedules are the distance between mentoring meetings and videotaping sessions that may influence the teacher's mindset and focus. Interruptions in the school setting can prevent the teacher from using the COI tools within proximity to the training or mentoring sessions. This limitation will exist in every school setting. The need to change videographers was another factor related to schedule changes. Limitations of this study were scheduling issues based on school calendars and special events planned over the course of the

study that prevented the videotaping from being on a strict schedule. Staffing issues affected the teacher's ability to work consistently with the same group of children. Teacher attendance, weather delays, and closures occurred during the study, along with curriculum directives from the public school and head start sectors that interfered with the research schedule.

Overview of the Study

This study is organized in five chapters. Chapter 1 is the introduction of the study, which provides the statement of the problem, the purpose of the study, the research questions, and the significance of the study. Definitions of terms are provided that are specific to the study.

Chapter 2 is a literature review specific to the study, which details theorists who have influenced the study, developmentally appropriate practices and other curricula that are important to the study, and conversation strategies. The focus for the intervention of the study has been discussed as observation and interpretation. The Cycle of Inquiry Model and System is detailed in this chapter as an intervention that can guide teachers to learn to observe children and interpret with intention. Literature on teachers' beliefs and practices has been reviewed through several research studies in this chapter. Literature from a synthesis of adult learning and mentoring demonstrate their importance for this study.

Chapter 3 explains the methodology used to answer the research questions. The participants, setting, and tools used in the study are also explained as well as a description of the data analysis. Chapter 4 provides the results of the research study, which includes the needs, difficulties, and limitations of the study. Chapter 5 summarizes the study while providing conclusions and recommendations. An analysis of the findings in relation to the research questions and recommendations for practice and further research are discussed in Chapter 5.

CHAPTER 2

LITERATURE REVIEW

Theorists Influencing Preschool Observation, Planning, and Assessment

There are theorists and foundational practices that influence many aspects of education. Constructivism and developmentally appropriate practices (DAP) are often recognized as the groundwork for preschool development. Bruner, Piaget and Vygotsky are theorists who have influenced preschool learning and offer insight for the observation, planning, and assessing of preschool children.

Constructivist Theory and Practice

Constructivism is a theory about learning. It is not a teaching style. Constructivist educators develop practices based on the principles of the theory. They allow for the natural process of learning to occur based on children's interest and act as a facilitator in the process. The teacher establishes within the classroom a socio-moral atmosphere and environment with mutual respect that enhances the development of thinking through conversations and interactions with materials. The teacher provides the social context through interactions with peers and materials that challenge children intellectually, emotionally, and physiologically, and encourages children to acquire knowledge by recognizing other's viewpoints and perceptions (Al-Hooli & Al-Shammari, 2009; DeVries, 1998).

Jean Piaget (1896-1980)

Many associate Piaget's theory of cognitive development with ages and stages. It can be said that children go through stages of intellectual development known as the sensorimotor, preoperational, concrete operational, and formal operational stages. Piaget wrote that intelligence

developed in stages with the first 2 years focused on motor and sensory information (Piaget, Tomlinson, & Tomlinson, 2015). Children form mental representations about what things are and how to deal with them in the sensorimotor stage. Piaget said that a child's behavior is influenced by information he or she receives from the senses in processes such as learning to use muscles and limbs for movement. Knowledge about objects and ways they can be manipulated is acquired during the sensorimotor stage (Crain, 2017). The age from 2 to 7 is known as the preoperational stage where logic has not yet developed. The child's thought processes and vocabulary expand during this stage when they are egocentric, which means they consider things from their own viewpoint and believe that everyone has the same view (Crain, 2017). The concrete operational period, age 7 to 12, is when logical and rational thought becomes more permanent. In this stage, children may still rely heavily on experiences with concrete objects to think things through logically (Crain, 2017). Children have the ability to develop a logical thought about an object if they are able to manipulate it, as when children work with a group of blocks and there seem to be more blocks when they are spread out than when there is a small pile. As this stage develops, children gradually learn that objects are not always as they seem. During this development, children can formulate various scenarios about objects because their thoughts are becoming operational. The formal operational period, from 12 and on is the stage when thought is no longer tied to the concrete. Abstract thought develops and children can reason beyond concrete reality (Fosnot, 2015; Van Hoorn, Scales, Nourot, & Alward, 2015). During this stage, children develop problem-solving skills and can speculate what will happen in situations. They do not have to refer to objects and events that are associated in the real world. Piaget et al. (2015) wrote that children are *little scientists* who develop their intelligence through mental and physical activities (Hendrick, 1997; Thornton & Brunton, 2009; Tinker, 1997).

Children bring a set of knowledge to the learning process (DeVries et al., 2002; Forman & Hill, 1984). Piaget's theory of intelligence developed through a process he referred to as accommodation, in which children could change their way of thinking after exposure to new experiences. His theory also suggested that a process called assimilation allowed the child to use what they already knew to make sense of new experiences (DeVries et al., 2002; Fosnot, 1993). An example of this is a child playing with clay. When a child is exposed to a new substance that is similar, such as a substance made from cornstarch and water, and the experience is different, then the child can incorporate this experience into his or her mind, which is assimilation. If the experience does not fit into a category that the child is already familiar with, the child has to accommodate for the new knowledge and develop new theories surrounding the new information (Van Hoorn et al., 2015). Piaget considered the structure of learning as a reorganization of the child's mental structure.

Piaget's theory led many educators to believe that a project approach, in which children could manipulate objects, reflect on the relationships of the materials, and have social interactions, were all means to constructing knowledge and suitable for children. It is the teacher's responsibility to match the child's educational experiences to the child's stage of cognitive development (Beilin, 1992; Chapman, 1999; Flavall, 2011; Van Hoorn et al., 2015).

Lev Vygotsky (1896-1934)

Vygotsky's theory of cognitive development was centered on the premise that children learned and developed in social interactions with one another. He held the viewpoint of nurture over nature for learning. He wrote that children advance learning with the help of a competent person in a cooperative learning environment (Vygotsky, 1981). If instructional strategies were provided supporting children's learning, then this support, which is referred to as scaffolding,

could encourage higher-level learning. He theorized a *Zone of Proximal Development* as the distance between a child's independent learning and his or her potential level of performance, which offered an idea of where a teacher could provide support. Support could be in the form of teacher – interacting with the child, providing materials, or planning grouping in which peers with varying cognitive levels and competencies could support one another. Thus, his theory of learning emphasized a strong socio-cultural aspect where interpersonal relationships were important for social and cognitive development (Edwards, Gandini, & Forman, 1998).

Vygotsky placed emphasis on inner speech – the conversion of speech into inward thoughts – as providing deeper meaning for learning. He observed children talking through tasks to themselves as a precursor to incorporating conversations about those processes with others. Vygotsky said this internal talk or inner speech was a necessary component for the learner to shift cognitively, mentally testing ideas in order to construct new understanding and new knowledge (Daniels, 2017; Holzman, 2016; Kozulin, 1990; Vygotsky, 1981; Wertsch, 1997).

Jerome Bruner (1915-2016)

Bruner was a theorist who believed that learning is an active social process in which children construct new ideas that build on their existing knowledge. Bruner wrote that all children have natural curiosities and the teacher should encourage children to discover concepts on their own. He was an advocate for active dialogue between the teacher and child and said that if materials were presented in the proper environment the children could learn the subject matter at any stage of development (Bruner, 1996).

Bruner later revisited the stance he had taken and stated that the social aspect of learning has greater value than he originally thought (Bruner, 2003). He developed the viewpoint that culture shapes the child's mind in aspects of learning, remembering, talking, and imagining. He

determined that there was a strong connection to children imitating what they see others do in their environments; children will try to imitate what they observe without prompting (Bruner, 2003).

Piaget, Vygotsky, and Bruner: Implications for Practice

Piaget moved away from the idea that the mind was a blank slate in infancy to the theory that the mind was made of complex structures with cognition moving through stages. Piaget (2013) explained that his new idea of knowledge development did not rely solely on experiences with objects or only social interactions, but from the interactions of the child's ideas in many environments with many avenues of socialization. Vygotsky said that the social environment plays a major role on development (Vygotsky, 1981). These theorists increased the knowledge of how children learn saying that children were capable of learning things much earlier in life than once thought. Children develop strategies and knowledge for learning that lead to developing theories in their own right (DeVries et al., 2002).

Teachers who follow Piaget's and Vygotsky's theories will facilitate a child's learning by providing provocations and plan curricula based on their observations and interpretations of what the child is thinking and theorizing as they interact with materials, other children, teachers, and their environment (Fosnot, 1993). Like Vygotsky, Bruner said that effective teachers provide assistance and guidance to children through scaffolding (Wood, Bruner, & Ross, 1976).

There is a shared belief among many theorists whose research builds upon Piaget, Vygotsky, and Bruner, that there should be an emphasis on all children as active learners. Children are problem creators and problem solvers. They have the ability to build on prior knowledge and their successes from previous learning experiences as they persist and continue to learn new concepts (DeVries et al., 2002; Fosnot, 1993).

It is important to remember that dialog in the child's learning environment is a vital element for further thinking to occur. When a child faces disequilibrium, learning takes place (DeVries & Kohlberg, 1992; National Association of Elementary School Principals, 2014). Children begin to ask questions and can defend, prove, justify, and communicate their ideas to the classroom community as they solve problems in a social environment. It is the teacher's role to stay close to the child's thinking when using dialogic strategies. Using observation and interpreting children's play guides teachers to prepare, build, and confound children's theories while initiating new provocations and preparing strategies for conversations with children (Fosnot,2015; Kim & Darling, 2009). The social constructivist theory is the combining of several perspectives from Piaget, Vygotsky, and Bruner for developing deeper conceptual understanding in the early learner.

Developmentally Appropriate Practice (DAP)

The National Association for Education of Young Children (NAEYC) is clear in their position paper about addressing the creation of a caring community of learners, recognizing the significance of the role of the teacher in enhancing development and learning, constructing appropriate curriculum, assessing children's development, and learning and establishing relationships with families (Gestwicki, 2014). Of the principles of Developmentally Appropriate Practices (DAP), the two that are central to this study are 1) focusing on the child's development and needs and 2) observation, documentation, and assessing. These principles represent what we want to see in early childhood classrooms that the researcher of this study finds lacking.

DAP on Child Development and Needs

The child's needs in a school setting are important for development. Children need an environment that is safe and welcoming. They need materials and a variety of activities that are

available throughout the day and presented as opportunities for *play*. Play is valued as the way children learn (Van Hoorn et al., 2015). Children need opportunities for positive interactions with adults and peers so they can socialize in ways that are parallel to real world experiences. Individual learning opportunities are important elements of DAP. Each child's experiences vary. For example, some seek individual time to problem solve, work through ideas using inner speech or other representational forms (drawing, constructing, etc.), questioning, and sometimes children will require more directed guidance from the teacher than others (Gestwicki, 2014).

DAP on Observing, Documenting, and Assessing

Children's learning emerges from their interests and what they wonder. Their learning also develops in relation to the type of environment the teacher provides. Plans are developed based on the child's needs in relation to space, time, materials, and social interactions. The teacher acts as a guide in this environment, developing plans that center on observations from children's play to organizing the learning in a schedule adjusted to the range of children's development. There is not a single way to teach a concept to a group of diverse children. Therefore, a prescribed curriculum that the teacher directs to the whole group may not be effective for everyone. Schools typically label children as being high achievers if they can demonstrate learning through oral and written communication, which is a limited view, as children may approach learning and take in information in many ways based on their interests and learning skills. Some children need concrete materials, some will initiate conversations, and some will learn by listening to and observing others. Many will try out several options while problem solving to make sense of the learning that is occurring. Individual learning needs are better met when children have autonomy for the ways they experience and learn. The teacher is a

catalyst for learning by providing provocations and questioning students (Bickart, Jablon, Dodge, & Kohn, 2004; DeVries et al., 2002; Gestwicki, 2014).

In developmentally appropriate classrooms, teacher's observations are relied upon as the main method of assessment. Teachers should spend time observing children as they develop an understanding of how each child learns best and how children move through the learning process (Boehm & Weinberg, 1979; Jablon et al., 2007). Teachers are sensitive to children's language, questions, material selection, and interactions with others and the child's environment as a means of assessing construction of knowledge. There may be some predictable patterns in a child's development, but teachers must acknowledge that all children develop at their own pace and identify patterns of growth and change in each child (Bickart et al., 2004; Gestwicki, 2014).

Fuchs and Deno (1991) addressed the importance of combining traditional and contemporary assessment paradigms as an innovative approach for instructional planning. The need for a general outcome measurement came into play when the specific sub-skill mastery measurement, used frequently in the 1960s, proved to be only a short-term assessment and did not allow teachers to answer questions about student growth or allow the flexibility to determine other methods to reach the child with alternative instructional strategies. According to Fuchs and Deno (1991) assessing and instructing children in the same way, through standardization, limits the ability to plan for procedures to reach children with the consistency they need and that more individualized support could provide.

DAP Implementation in Public Preschool Classrooms

In 2013, a comprehensive report on the State of Early Childhood Education was conducted in Virginia. The findings showed that long-term investments yielded high returns from a cost-benefit perspective for children and society overall. Funding for the Virginia

Preschool Initiative has not been able to keep up the pace with enrollment. While enrollment was on a rise, spending per pupil in public education in Virginia steadily decreased. It is critical that Virginia, as well as many other states, focus on what quality programming means for early childhood education. The report showed that a comprehensive early childhood system that included the elements of leadership, financing, alignment with developmental needs of children, recruiting and engaging stakeholders, and, focusing on the child's social, emotional, and cognitive growth should have been at the forefront in informing lawmakers to seek support for an equitable programmatic approach for young children (Old Dominion University, 2013). Based on these goals, quality preschool programming could lower the achievement gap by 30% to 50% in the US. As of 2013, it had not been successful; the gap was only closing by about 5%.

In a report from the US Alliance for Childhood (Miller & Almon, 2009), changes in kindergarten programming were noted and concerns for the lack of play and developmentally appropriate activities were of importance. More focus had been put on teaching literacy and math skills with a prescriptive curriculum that excluded play, exploration, physical activity for learning, and problem-solving. The report (Miller & Almon, 2009) indicated that studies showed a decline in people who believed that play was important in the school setting. Many felt that play was to be performed in the home environment. Many teachers in the US indicated that children often do not know what to do when given the opportunity to engage in creative play due to media and organized activities, or on the opposite end of the spectrum, due to poverty and the lack of resources, materials, and support in the home environment (Lacour & Tissington, 2011).

Findings from the Miller and Almon (2009) report showed that Finland, China, Japan, and Germany put a great emphasis on play-based kindergarten and early childhood programs and that these countries had seen the results where the children excelled in creativity, intelligence,

and oral expression. China and Japan even extended the playful kindergarten until age 7 when children enter first grade (Miller & Almon, 2009).

Our world is developing so quickly and the next generation of leaders must be creative, imaginative, and able to take risks. Miller and Almon (2009) examined nine studies and found that radical changes in standardized testing, accountability, academics, and the disappearance of play have put kindergarten in a crisis. If this crisis in kindergarten continues and filters down to preschool and early learning, there could be devastating effects on the economy. Politicians, policymakers, and business corporations should come together and work to develop a balanced educational system for child-initiated play and experiential learning to develop citizens of the future who can lead the country. The balance for child-initiated play with guided learning from teachers has intellectual benefits that outweigh standardized testing and scripted curriculum. Miller and Almon's (2009) report called for everyone in the educational arena to consider the decades of research and evidence for classrooms rich in child initiated play with focused learning guided by active teachers.

The Miller and Almon (2009) report was a call for action to encourage policy makers, professionals, and parents to restore and assess appropriate practices for kindergarten. There is an important need to prove that DAP have long lasting benefits for the learner. Teachers should have programs and professional development opportunities that prepare them to support learning and play in all early childhood programs (Miller & Almon, 2009).

The way a teacher plans is indicative of his or her philosophical beliefs. In the public-school system, teachers experience constraints from a standard-based curriculum. The pressure for accountability has brought standardized testing into the preschool classroom (Gestwicki, 2014). The demand to prepare preschool children for kindergarten is at the forefront of state

standards. Virginia administrators view the state standards as age appropriate and expect all preschool children to be able to meet the standards as the determining factor for kindergarten readiness. A reliance on standards for measuring children's progress does not align with DAP because children are asked to accomplish tasks without consideration for individual and cultural variations in development (Gestwicki, 2014).

Curriculum is defined as the *what* in an educational setting. Curriculum is usually prescribed at the elementary level in public-school settings; it includes public preschool. Some leeway for principals and teachers to guide the curriculum toward a developmentally appropriate approach is embedded. The Virginia Foundation Blocks for Early Learning (VADOE, 2013) are the content that the Virginia Department of Education determines should be taught. These standards are presented to be followed by preschool teachers in developmentally appropriate ways, yet there is an adherence to a more rigid structure because of the emphasis on standards as opposed to development in the state professional development training.

Preschool Curricula

DAP can be implemented in many preschool curricula used in the United States, such as State Curricula, High/Scope, Creative Curriculum, Project Approach, and Emergent Curriculum. Content concepts are integrated into play-based activities in these approaches. Teachers plan activities that are meaningful and relevant to children based on observations. It is the desire of all early childhood programs to improve school readiness among low income children, although minimal benefits can be documented in studies of different programs (Preschool Curriculum Evaluation Research Consortium, 2008).

Virginia Foundation Blocks of Early Learning

In Virginia, the Foundation Blocks of Early Learning are endorsed by the Department of Education as a basis for a curriculum for pre-kindergarten (pre-k) programs. The program focuses on eight blocks: 1) literacy, 2) math, 3) science, 4) history, 5) physical development, 6) personal and social development, 7) music, and 8) visual arts. Each area has key elements that make up the *learning block*. For example, the literacy block focuses on oral language development as a key to literacy development (VADOE, 2013).

Listening, speaking, reading, and writing are viewed as necessary elements for a child to become a successful reader in this comprehensive curriculum. Children develop listening skills as they make connections and interact with the environment. It is through conversations that connections and interactions occur naturally, which requires teachers to develop strategies to facilitate children's conversations with peers and teachers for learning and overall language development (DeVries et al., 2002; Jones, 2012; VADOE, 2013).

The Virginia Department of Education (VADOE, 2013) guidelines are based on research and focus on speaking and listening as the significant components of a conversation. The guidelines reveal a value for conversations in daily tasks, in consistent routines, and in asking open-ended questions. Children should be encouraged to ask questions and lead conversations as part of the process of building oral language skills within this curriculum. The guidelines and standards for oral language are stated in the Foundation Blocks of Early Learning (VADOE, 2013).

Virginia Foundation Blocks of Learning

Guidelines

Children gain language and vocabulary skills by having multiple and frequent opportunities to talk, as well as listen to, adults and peers. These opportunities must occur frequently throughout the day as children begin to read and write.

Standards

- Listen with increasing attention to spoken language, conversations, and texts read aloud.
- Correctly identify characters, objects, and actions in a text with or without pictures and begin to comment about each.
- Make predictions about what might happen in a story.
- Use complete sentences to ask and answer questions about experiences or about what has been read.
- Use appropriate and expanding language for a variety of purposes, e.g., ask questions, express needs, and get information.
- Engage in turn taking exchanges and rules of polite conversation with adults and peers, understanding that conversation is interactive.
- Listen attentively to stories in a whole class setting.
- Follow simple one- and two-step oral directions.

Sample Activities

- Engage children in conversation frequently throughout the day. Model the etiquette of conversation by using complete sentences, correct grammar, and responding accordingly in both the speaker and listener roles.
- Respond to children's communication and allow them to take the conversational lead while encouraging them to speak audibly in complete sentences, expressing thoughts, feelings, and ideas clearly.
- Model asking who, what, where, when, why, and how questions to obtain information, seek help, or clarify something not understood.
- Engage in interactive activities or games with children to focus on listening comprehension, e.g., "Simon Says."
- Consistently support rules of good listening and speaking on a daily basis.
- When reading aloud, provide opportunities for children to predict what will happen next, to comment on the story, and to connect the story to personal experiences. Model questioning and visualizations for students. (VADOE, 2013, p. 4)

The problem is that these guidelines are isolated into the oral language section of the curriculum. Therefore, they may not be incorporated into the planning or implementation of other content areas like math, science, or history. Additionally, teachers are given limited

guidance on how to implement these processes other than through receiving the written document that outlines these foundational learning guidelines. Helping teachers develop effective strategies for children to learn these skills is necessary. For teachers to be able to facilitate conversations among children they should understand what children know and think (Boehm & Weinberg, 1979; Broderick & Hong, 2011; Forman & Hall, 2005). Teachers need training in documenting their observations and interpreting their observation data if they are to determine the meaning of children's play, their goals and strategies, and what children know. During the process of reflecting on observation data to interpret children's knowledge and development, teachers can also identify where children's development is aligned with the Virginia and Head Start Standards. Therefore, this study focused on training teachers to develop skills with observation and interpretation as a means for improving their skills to facilitate conversations with children.

High/Scope

High/Scope's curricular guidelines (Hohmann, Weikart, & Epstein, 2008) provide limited opportunity for children or teachers to engage in experiences and practices because of limited choice in learning versus child centered provocations. Children in High/Scope classrooms have conversations with peers and adults and are encouraged to plan a schedule for the day that is reviewed at the close of the day. Based on the researcher's experiences and observations of peers in a Virginia public school system, conversation is often close-ended with children during the review at the close of the day, with little open-ended questioning or opportunities for child initiated conversation.

Teachers' organization is to link daily materials and observations to key experiences, which are just another version of a typical standard-based skill mastery checklist. Problem

solving is recognized in only one key experience-initiative and social relations, which could be considered a substitute for the social development domain of early learning standards. The recommendation for teachers to engage in conversations with children is merely a standard. There is no suggestion that the conversations provide opportunities for children to ask questions, define problems, plan and carry out investigations, argue based on evidence, or to take children's ideas seriously for the purpose of framing curriculum around children's questions, all of which are stated as necessary skills for 21st century Next Generation Science Standards (National Research Council (NRC), 2012).

Teachers typically document observations with work samples and a brief summary of what the child did during play. The documentation is used more for sharing with parents about the child's interests than for teacher's planning for supporting the child's theory development. Whereas the High/Scope manual (Hohmann et al., 2008) encourages DAP, many programs using the approach rely on the manual rather than professional development training in the approach. In the researcher's experience as a teacher in a school that used High/Scope, the manual is what guided the practices within the school. During this time, High/Scope was the recommended curriculum by the Virginia Department of Education and limited training was provided.

The researcher reported that the tool used for documentation within the High/Scope curriculum was the Child Observation Record (COR). The methods that many public schools use for documentation are portfolios, checklists, notes, or a combination of these methods (Hohmann et al., 2008). Teachers record information on children over time and assess the child's achievement on a variety of skills. This type of documentation is used to interpret skill sets and provide ratings, which is said to guide activities and instruction and then is provided to families as a checklist of skills achieved, much like a report card for public schools.

Creative Curriculum

The Creative Curriculum uses an observation-based assessment for planning and implementing a curriculum based program. Creative Curriculum focuses heavily on reporting the mastery of skills outlined in a checklist of developmental learning standards. The curriculum is based on 38 objectives in the areas of physical, language, cognitive, literacy, and mathematics that are connected to predictors of school success by early learning standards (Center for Education Measurement and Evaluation, 2013). The curriculum is based on the child's interests within the content areas. The Creative Curriculum provides a set of activities for teachers to implement that do not recommend ways to facilitate intellectual conversations with children. Thus, teachers relying on these pre-packaged activities tend to offer minimal opportunities for children to ask questions and define problems. The conversations are assessed by teachers as a *fact*, that a conversation has occurred, but not as a means for encouraging children's critical thinking and problem-solving skills (Dodge, Burts, Berke, & Bickart, 2010).

Project Approach

The Project Approach is not a curriculum and does not indicate the full realm of learning that takes place in the classroom. The Project Approach is a way of teaching and learning that is responsive to children in groups and individual settings. Projects are often drawn from the community around the children (Helm & Katz, 2011). The projects are used to help children answer questions and guide them to represent their findings. It is more informal than most curricula because it is not completely pre-planned by the teacher, even though a final product or outcome is expected. Planning documents are provided in the following way: The teacher is guided to organize an outcome idea at the start of the project, which may or may not influence the opportunity for children to have meaningful conversations and may lead to more teacher

directed segments in the curricular process (Katz & Chard, 2014). The projects emerge from children with teacher persuasion, whereby teacher persuasion might look like a top down teacher directed approach in which children enjoy the activities provided but do not experience as much authority in the curricular process as they might if the teacher were trained in the nuances of facilitating conversations and emergent learning processes. The projects in this approach culminate in a product or set of products presented or shared in a celebration that is viewed as the application of curriculum in a community setting.

Emergent Curriculum

Emergent Curriculum is an approach in which teachers plan for learning to emerge from the child's interest and what he or she wonders about. The theoretical base of an Emergent Curriculum is social constructivist theory. It is an approach to teaching where curriculum activities that are considered purposeful by the children are embedded for rich learning, thus it is a sensible approach for them. In an Emergent Curriculum classroom, children engage in conversations around materials and ideas (Jones & Nimmo, 1998). They have the freedom to experiment with materials that are available to them. The teacher observes how children interact with the materials and develops plans to extend the play around her interpretation of the children's thinking and developing theories (Lewin-Benham, 2006; Wein, 2008b).

Teachers plan Emergent Curricula using cycle of inquiry practices (Broderick & Hong, 2011; Wein, 2008a) that include careful observation of children's play and interpretations of the play to determine what children are thinking about, so teachers can plan ways to guide children's thinking to the next level of development and learning. Teachers work collaboratively as they revisit observation data to brainstorm possibilities for guiding children's learning, drawing from

those many ideas a next step curricular plan that is innovative and as closely linked to children's thinking as possible (Broderick & Hong, 2011; Edwards et al., 1998; Hendrick, 1997).

Observation in the Cycle of Inquiry (COI) model is intentional. Teachers document their observations with written records, audio, video, and photographs. These tools come with some limitations, but when combined they offer insight into the child's world when teachers interpret data. Teachers go beyond the obvious observation of assessing developmental milestones. They choose to observe children who are focused and intentional in their play. Documentation of what children do in the learning environment is a valuable tool for the teacher. It can be used as a means for authentic assessment, but more importantly, Emergent Curriculum teachers reflect on documentation of their observations as a means of interpreting to understand the purposes of children's play. When teachers take time to consider children's intentions and the meaning of their actions, teachers are better equipped to plan for extending thinking and encouraging creativity (Boehm & Weinberg, 1979; Broderick & Hong, 2011; Jones & Nimmo, 1998).

Anecdotal information on Emergent Curriculum shows that teachers are inspired by this approach because it heightens their awareness of children's thinking and purposes, their ability to be better observers, and better co-learners with children (Edwards et al., 1998; Forman & Hall, 2005; Hendrick, 1997). Learning with children is much more interesting to teachers than following a rote curriculum day-to-day for years. The process of planning based on observations is more challenging and intentional and meets children's developmental needs. For these reasons, Emergent Curriculum was chosen as the model to train teachers to improve their observation and interpretation skills in this study.

Conversation

Conversation is the exchange of words between two or more individuals. Conversation can be productive or non-productive. When it is stimulating and interactive it is viewed as productive. In the context of this study, conversation is important to children's learning and thinking. Teachers should be encouraged to have productive conversations with children. They should observe and interpret the meaning of children's play to plan provocations that allow for productive conversations.

Conversation as Integral to the Development of Language and Understanding of Concepts

Conversation is at the heart of language development for school readiness (Denton, 2015; Forman & Hall, 2005). Teacher-child interactions are viewed as the foundation of developmental learning (Edwards et al., 1998). Many children from low-income families enter early childhood programs with a deficiency in language exposure at home (Hart & Risley, 2003). Activities provide opportunities for teacher-child interactions that can guide conversations in a social setting (Gandini, 1997; Hendrick, 1997; Wertsch, 1997). Scaffolding from teacher-to-child and peer-to-peer during conversation leads to greater language development and higher level thinking.

The domains of academic language include reading, listening, writing, and speaking. Early learners easily represent learning through play and communication. Conversations initiated by the teacher usually reflect on what the teacher knows about the ability of the student, the relationship the teacher has with the student, and moves in the direction of understanding and increasing the child's ability level. It is the responsibility of the teacher as a guide to provide opportunities for children to engage in conversation with peers. Communication meets the needs of self-expression and gathering insight. It is important for teachers to have dialogue with

students in authentic talk as well as for teachers to be listeners and know when to provide the *right* questions for greater achievement. It is the teacher's role to model conversation and grant opportunities for children's thinking through questioning. Conversation has much to offer to the learning environment (Martens, 1999; Nichols, 2014).

Chen and Kim (2014) conducted a study that examined the quality of preschool teachers' conversations with 3- and 4-year-olds in a Head Start setting that serves children from low-income families. The social settings in the classroom provided opportunities for conversation. Teachers used interaction-promoting strategies and were observed during circle time, playtime, and breakfast time. These occasions were analyzed because of the high teacher-child interaction. The most used strategy was being face-to-face during conversation. This strategy was the highest during circle time and the lowest during breakfast time. Teachers were seldom available to children during the meal and missed an opportunity for meaningful conversations. It was noted that verbal interactions focused on routine matters and short answer questioning for factual information. Little time was devoted to engaging in conversations for meaningful and challenging talk. The study indicated that the quality of teacher-child interactions varied across small group and large group contexts. This study indicated a need for teachers to scaffold language acquisition in cognitively challenging conversations. The data in this study indicated that teacher-initiated questions that only expected short, predetermined responses from children were not sustaining productive conversations that extended the children's thinking.

A lack of effective conversation practices was also noted in a study by Dangel and Hooper (2010). The study was used to examine conversations in two preschool settings between teachers and children and found that the teacher directed most conversation by using simple

questioning techniques that only required remembering and recall answers that were of low cognitive demand.

A study conducted by Bonawitz et al. (2011), implemented five experiments looking at predictions with children's actions. One of the experiments focused on three language conditions to determine whether adults using causal language facilitated causal reasoning in children. There were 20 toddlers with a mean age of 24.5 months in the identical causal language condition, 21 toddlers with a mean age of 23.6 in the different causal language condition, and 19 toddlers with a mean average age of 23.6 months in the non-causal condition. When the adult gave children added information about the relationship between objects and used causal language, both identical and different, there was a general tendency for the children to perform the target action. The researcher used the same language repeatedly with children, "The block makes the toy go, you can make the block go" (identical causal) or "The block makes the toy go, can you turn it on?" (different causal). In other experiments, the language "watch my show, see the block go" (non-causal) was used for producing the targeted action. When non-causal language was used with the children, it did not create the same effect. The findings suggested that language can play a crucial role in bringing unrelated representations together and language can encourage new concept development in children.

For children to understand a concept, they have to be the ones doing the talking. It was indicated in a study that correlated the amount of talking that students' do in relation to achievement and was noted that teachers spend up to 80% of the time in a classroom doing the talking (Fisher & Frey, 2014). Teachers who used a whole group or an individual teaching model produced students with lower achieving scores than teachers who interacted with small groups. Teacher responses with children should provoke engagement and be motivating to peak their

interest and spark conversation. When teachers are evaluative in their interactions with children they tend to use close-ended questioning and probing that halts conversation (Deason, 2009).

The ability to listen, watch, and talk with children about their investigations requires observation. When children work together, teachers can learn about their thinking as they converse with one another and recognize children's understandings and misunderstandings, strengths and weaknesses, and depth of children's knowledge (Bickart et al., 2004; Martalock, 2012). Talking to listen is the skill of provoking children's conversations and then stepping back so children carry on the conversation independently. It differs from an interaction where a teacher tells children what to do, answers children's questions, and uses conversation to guide children toward right or wrong answers (Walsh & Sattes, 2017). When listening is used as part of conversation development, it requires teachers to be open to learn from the children and about the children.

Organizing Conversations for Higher-Order Thinking to Occur

It is important to provide the framework to develop higher-order thinking experiences for children at an early age. Using questioning and having meaningful conversations with students can help a teacher set up provocations that will move children through the six levels of thought identified in Bloom's Taxonomy of Learning: 1) remembering, 2) understanding, 3) applying, 4) analyzing, 5) evaluating, and 6) creating (Dalton & Smith, 1989). Questioning in the context of processes at each level of the taxonomy can help children develop critical-thinking skills. Using the taxonomy as a guide for observing conversations and other performance tasks, teachers can determine ways to support children in their development toward higher levels.

Questions that the teacher asks help children develop dialog. They move classroom conversations from teacher-directed to child-directed when teachers use strategies that focus on

what the child has to say. Constructing language with teacher support helps organize children's thinking. Open-ended questions can help children generate ideas and goals, help them reflect on their learning experiences, and actively explore, experiment, and problem-solve as conversation evolves (Denton, 2015; Elstgeest, 2001; Forman & Hall, 2005).

In US public schools, content refers to four core subject areas: math, science, reading, and history. For assessment purposes, teachers should know and understand core content concepts to provide instruction that measures knowledge and skill development in each subject area. Teachers should use observation and interpretation of the children's curiosity and provide provocations that allow background knowledge to develop in ways that children comprehend core subject concepts (Forman & Hall, 2005). Literature on play (DeVries et al., 2002; Van Hoorn et al., 2015) states that foundational knowledge is constructed through play, whereby teachers facilitate the developing language and framework for concept knowledge in children. For example, a child who is grouping blocks may realize that two blocks in one group and two blocks in another group are the same and they can make a larger group of four. The teacher would facilitate by observing, noticing the behavior, stating what the child is recognizing, and provide language for the concept in which the child is working. The teacher could also ask questions to encourage new ways of grouping. This example shows how the teacher helped the child develop an understanding of the concept through child-initiated play rather than teacher directed whole group instruction. The author of this study has found that helping children to understand content in a substantial and meaningful way relies on conversations. Thus, in early childhood settings in Virginia, *content* from this perspective should refer to any concept that a child engages in that can be measured by the Virginia Foundation Blocks of Early Learning (VADOE, 2013).

Conversation Strategies

To guide conceptual development among a group of children, teachers should develop strategies for promoting conversations among children whereby the children experience themselves as leaders of the dialog. The conversations teachers have with children should be deliberate and thoughtful as to the outcome they want to produce. It is good to engage in conversation with children, however, the conversation should be purposeful and an intentional part of the instruction teachers provide for children. The quality of conversation can be tied to problem solving, comprehension, and the performance of children as they engage in the learning environment (Cuny, 2014). There are many conversational strategies recommended by researchers and theorists in early childhood (Deason, 2009; Forman & Hall, 2005; Salmon & Lucas, 2011).

Preparing the environment for intentional opportunities for interaction among peers. Teachers should think ahead to prepare the environment for intentional interactions with children. It is also important to prepare the physical environment so children have many opportunities to interact among peers (Gandini, 2012). When children have opportunities to talk, they think. Social learning is an important part of the preschool environment and often prompts cognitive development (Biermeier, 2015). When the teacher prepares an environment that makes learning meaningful for the child and teacher, everyone benefits and learns together (Gandini, 2011). Providing children with materials that are open-ended and can be transformed allows for creativity, collaboration, and conversation among children (Gandini, 1997). Deason's (2009) study of large group, individual, and small group teaching strategies revealed that teachers should take a deliberate approach to interacting with children and communicating with individual students within the context of a small setting.

Modeling. It is the teacher's responsibility to provide purposeful tasks for children to relate to, monitor verbal and non-verbal conversation cues, and then determine if a child needs guidance to expand upon his or her learning. Keeping conversations moving forward and allowing children to agree to disagree in a positive manner is the teacher's job. The teacher must act as the facilitator to keep talk flowing; he or she often uses questioning techniques such as "Can you tell us more?" "What do you think?" and "Take your time, I can tell you have other thoughts about this" (Fisher & Frey, 2014).

Productive questioning. Productive questions are a means for the teacher to help children build their understanding in the process of scaffolding learning (Martens, 1999). As the teacher observes children during active play, he or she may guide their learning by using attention-focusing, measuring and counting, comparison, action, problem posing, and reasoning questions that provide support as they move forward in their task. When teachers document observations, they can better understand the children's abilities and know which questions to use and at what level to ask the questions. Questioning can help all children develop their understanding of the activities they engage in as they are prompted to converse and think about their understanding of each activity (Elstgeest, 2001; Martens, 1999).

Listening. Children are information seekers by nature; they want to learn from others (Hernandez, 2015). Children begin at an early age to recognize that language serves many purposes. Developing conversational skills is linked to developing social skills (Goodwin, 2014; Helm & Katz, 2011; Nichols, 2014). Children will often model what they hear and see others do. Listening is part of a two-way communication system and children must learn to listen as well as converse. It is the teacher's responsibility to model good listening and speaking practices in front

of the children, which cannot occur unless time is provided for children to engage in authentic conversation (Deason, 2009; DeVries et al., 2002).

Allowing children time to reflect upon their daily routine and learning. Another important aspect of promoting conversation is to provide appropriate wait time for responses. If this time is not allowed, often, only responses from the same children are heard. This approach can be uncomfortable, but generally produces more interactions from students, which will help them rise to higher levels of thinking (DeVries et al., 2002; Goodwin, 2014; Keene, 2014).

Drawing to generate conversations. Salmon and Lucas (2011) studied the idea that teachers should provide social interaction and conversation opportunities for dialogic thinking, scaffolding, and thinking routines on making children's thinking visible. It has been determined that using a drawing-telling strategy in which children were asked "What are you thinking?" provided a close measure for understanding how children think. It is important for children to be able to provide representations of their thinking to guide their responses and conversations with others. The Salmon and Lucas (2011) study concluded that investigations of this nature are necessary to maximize the early years for encouraging creativity and discovery.

Getting at eye level for conversations. Children are better able to make eye contact and develop socialization skills when the teacher gets at eye level with the students for conversation (Deason, 2009). It is difficult for a child to communicate if they must keep looking up. It also reduces the intimation that may be felt by the child when an adult moves to speak at eye level.

Think aloud. Children should be provided opportunities to talk in an environment where oral language is supported in meaningful ways. The teacher should support conversation between students and allow opportunities for talk to happen. Allowing children to think out loud, meaning

they are talking to themselves or others and problem-solve as part of the process helps them develop socially and cognitively (Deason, 2009; Edwards et al., 1998; Vygotsky, 1981).

Asking open-ended questions. Open-ended questions come in many forms that allow children to focus, explore, analyze, problem-solve, and reason depending on how the question is phrased. It is important for teachers to remember to ask children questions in a way that allows thoughtful responses (DeVries et al., 2002; Martens, 1999).

Questions to focus children's thinking. Questions that broaden the conversation and guide students to inquire about their learning are purposeful and allow students to develop a deeper understanding of concepts as their perspective is challenged. In order for questions to focus children's thinking, the conversation must be thoughtful and responsive and teachers must play a supportive role rather than controlling the process (DeVries et al., 2002; Nichols, 2014).

Application questions. Application is at the higher level of Bloom's taxonomy (Forehand, 2012; Walsh & Sattes, 2017). Providing students with questions that cause them to apply prior knowledge will naturally reinforce learning. When teachers ask application questions, children have to work at a deeper level to bring in their background knowledge and use everything they know to develop their theories. These conversations, where explaining theories are part of the process, provide further insight into the theories children develop (Walsh & Sattes, 2017). It is beneficial for teachers to pose application questions to small groups of children so that peers can scaffold one another in response to the questions.

Observation and Interpretation

Observing students during their play and interpreting their thinking can lead to important aspects of conversation with children. As a result, the teacher continues to make sense of their

thinking and provides appropriate experiences for construction of knowledge (DeVries et al., 2002; Forman & Hill, 1984; Fosnot, 2015). An incubation period for allowing children and teachers time to reflect on their projects and play can result in the children's ideas coming together and expanding the learning (Forehand, 2012; Wein, 2008b).

Talking is a way to clarify understanding; it provides a chance for the teacher to document the child's thinking. It allows teachers to scaffold, ask questions, and prompt for additional conversation to further the child's thinking (Fisher & Frey, 2014). Communication and the exchange of ideas, discussion, and debate can be observed and documented to represent important information about the skills of individual children. Observations provide a way for teachers to understand the intentions behind children's social interactions and help children build on relational skills of collaboration, cooperation, and peer learning (Thornton & Brunton, 2009).

Observations should occur during real time activities in the natural learning environment (Gestwicki, 2014). They can occur during independent learning activities, group work, and other experiences in the learning environment. Conversations and individual conferences guide the teacher to understand the child's developmental stage and style of learning. The rate of learning and interest for learning can also be assessed during the process of observation using checklists, anecdotal records, video, running records, and photographs. Documenting observations over time can provide an overall picture of student learning rather than a single assessment that may not be representative of the learner's actual ability (Goldhaber & Smith, 1997). It is important not to compare children to one another, but to evaluate from documented observations noting where each child's development began and how the development has progressed. This type of assessment in early childhood settings will guide planning and instruction (Boehm & Weinberg, 1979; Gestwicki, 2014).

Assessing the development of children should be used as a means to foster their development and use knowledge from the assessments as a formative means to help them achieve appropriate levels in their development. For assessments to be valuable to the process, teachers must accept each child where he or she is, observe behaviors and conversations, and be ready to provide provocations that will challenge the child to new levels of learning (Van Hoorn et al., 2015).

Typically, teachers in Virginia public preschools use checklists and anecdotal records. The checklists are formal screening and assessments such as the Developmental Indicators for the Assessment of Learning (DIAL) and Phonological Awareness Literacy Screening (PALS). Teachers also rely on parent conferences every 6 to 9 weeks to share the assessments of children using checklists. These teachers may not reflect upon the assessments until the sharing time with parents. The overall goal of these assessments is to share progress reports with parents and families. Some preschool programs may use limited documentation records in the form of portfolios that contain student work samples or general notes from teacher observations. While the portfolios keep a record of the work samples and work completed by children, the work is generally worksheet completion or teacher prescribed activities that are designed for assessments. This type of documentation tends to compare children to peers rather than finding strategies for engaging children in conversations about the content of the activity and allowing reflection to develop means for measuring individual development. There is a need to train these teachers in how to document observations of children engaged in conversations with teachers and peers that better focus on the ways children discuss and understand content (Broderick & Hong, 2011; Buldu, 2010).

In public pre-k, many policymakers focus on the standardized quantitative child outcomes and miss the importance of the benefits of assessing the whole child. Public schools spend much time on evaluating student achievement, often missing the important learning that is not captured on a standardized test. Creative and critical thinking, socio-emotional growth, and physical development are part of the whole child approach. The whole child approach focuses on a broad array of factors for long-term success rather than short-term achievement. The approach uses family engagement, connection to school and community, and individualized instruction that focuses on the needs and strengths of children from a reflective perspective with engaged learning opportunities (Strand, Barnes-Holmes, & Barnes-Holmes, 2003).

When teachers document children's processes, critical learning is made visible and can be assessed as the child's construction of knowledge (DeVries et al., 2002). Documentation is a way of assuring educators are reflecting upon and valuing the knowledge that the child has and is developing. In preschool programs inspired by the schools of Reggio Emilia, Italy (Edwards et al., 1998; Mardell & Carbonara, 2013; Wein, 2008a), where documentation of observations is the teacher's primary tool used for guiding curriculum, teachers reflect on documentation in groups of teaching teams. In this way, the interpretation process becomes a dialogue among educators. They also collect documentation in the form of video and photographs of children to show their interpretations of the material. When teachers reflect on documentation of their observations, they engage in an internal dialog about the ways they have encouraged the learning of the children and themselves (Mardell & Carbonara, 2013; Thornton & Brunton, 2009).

In a research project by Mardell & Carbonara (2013), several Reggio inspired schools were evaluated. It was determined that the outcomes for all students in those programs, including those from diverse backgrounds and lower income, showed higher rates of growth in 35 of the 47

items assessed on district mandated standardized testing; all students scored proficient or higher. A limitation of the study was that there was not a definition of what Reggio inspired meant among the participating schools (Mardell & Carbonara, 2013), though it was noted that Reggio inspired programs use documentation as a pedagogical tool for curricular planning (Hendrick, 1997; Wein, 2008a).

Observations used for assessment should demonstrate organization and summarize how the child is developing. The documentations of observations are reflections of the child's experiences and should follow a continuum of child interactions in play to properly indicate a child's thinking and learning. The information should be as much for the teacher as for the child in that it assists teachers in their ability to plan according to the thinking of the child. It also informs families of the child's developmental growth (Boehm, & Weinberg, 1979).

Classroom Assessment Scoring System (CLASS)

CLASS is important to this literature review because two participants from the Head Start centers had received training in CLASS. One received training before the study started and the other received training during the time of the study. This was not revealed to the researcher until the post interview discussions.

CLASS is an observational measure that is used to assess teachers in emotional climate, management, and instructional support. All areas are evaluated based on the quality of the interactions with children (La Paro, Pianta, & Stuhlman, 2004). The CLASS scales on emotional climate measure the positive climate of student happiness and feelings of security demonstrated by the child. It also measures the negative climate of anger, hostility, and aggression in child-teacher interactions. The scale on management measures the amount of teacher initiated control, behavior management, and the teacher's ability to establish routines for the children. The scale

for instructional support measures the teacher's ability to develop concepts using higher order thinking techniques, engaging learning opportunities, and the quality of feedback produced by the children (Pianta, LaParo, & Hamre, 2008). The CLASS observational tool can be used as a guide for teacher development and program quality enhancements by focusing on teacher-child interactions (La Paro et al., 2004; Pianta et al., 2008). Studies have found that instructional support scores have been low in preschool classrooms assessed with CLASS (La Paro et al, 2004). The Head Start teachers in this study were assessed with CLASS and had individualized training related to CLASS. Based on the literature regarding the benefits of conversations with children, CLASS instructional support scores may rise if teachers' productive conversation strategies improved. The Cycle of Inquiry model (Broderick & Hong, 2011) can be used to train preschool teachers to intentionally observe and interpret children's conversations, in order to improve teachers' strategies for facilitating productive conversations.

Cycle of Inquiry (COI) Model and System

Broderick and Hong (2011) developed a set of forms in their Cycle of Inquiry (COI) model. The forms are used to guide teachers as to what to document in emergent curricular observation and planning practices. These include the practices of documenting: 1) observations of children, 2) interpretations of the observations, 3) development of diverse possibilities for next steps in learning, 4) organization of a unified next step curricular plan, and 5) reflections on the plan's implementation. These practices emphasize the teacher's role in interpreting children's play for planning curricula that is closely linked to the children's thinking and knowledge. Broderick and Hong (2011) recommended that teachers work in teaching teams to review and interpret their observations, and to complete all phases of planning. The forms associated with

observing and interpreting, and the related training were used in this study to guide teachers to better understand children's play so that they might plan for meaningful conversations.

The Documentation Record (DR) form requires the observer to capture behavior in a running record and to wonder, in memos, about the significance of what they have recorded. Documentation records are used for teachers to record their observations of children. They are necessary for teachers to use in planning so they can reflect on what to offer in the environment that will help children think at a deeper level. If teachers do not record the observed play, they may miss important aspects that could help them interpret the children's thinking and purposes. Observing what a child does helps the teacher know the child better and develop a level of respect for the child and his or her learning. By observing how children learn, the teacher also learns (Broderick, 2013; Broderick & Hong, 2011).

The Interpretation of Children's Knowledge and Thinking (ICKT) form includes areas for teachers to synthesize their observations in a narrative, to annotate descriptions with their thoughts about children's thinking, and to reflect on the child's perspective of the play. Interpreting children's theories of the world to link their play to their minds is a difficult task. Interpreting a child's actions is more than just focusing on their interests. It is important to think about their actions as strategies for learning (Forman & Hall, 2005). When teachers ask questions about the children's reasoning – the what, why, and how of their actions and words – teachers' interpretations become specific to children's thinking. Writing interpretations is complex. A narrative describing events helps teachers record details of play that can be interpreted for deeper understanding (Boehm & Weinberg, 1979; Broderick & Hong, 2011; Jones, 1993).

Many details in the narrative provide speculations about the needs and interests of the child, and the COI model's ICKT form focuses the teacher's thinking on the child's thinking –

the child's ideas and development of theories. With more detailed descriptions and interpretations of the children's play, teachers are better prepared to design curricular plans around the possible lines of thinking or inquiry children have generated (Broderick & Hong, 2011; Gandini & Goldhaber, 2001).

When interpreting observations and documentation it is important to do so in a collaborative setting to gain various perspectives and insights and a better understanding of the child's thinking. Interpretation from collective reflections helps teachers create an environment for the emerging curriculum based on the ideas and interests of the child because the diverse group perspectives offer a more critical evaluation of the child's perspective (Broderick & Hong, 2011). Additionally, the team approach to interpreting follows the recommendation of good research that requires input from more than one observer and interpreter to be valid and reliable. Further documentation and interpretation can add to the child's growth in learning (Gandini & Goldhaber, 2001).

This study used the COI model to train teachers to observe with intention and interpret their observations of children. Additionally, to simplify variables of influence on each participant, teachers in this study did not collaborate with peers for the interpretation processes. Instead, a mentoring protocol was designed to provide a structured format in which participants could reflect on their interpretation processes by using the COI forms (DR and ICKT).

Teacher Beliefs and Practices: Observation, Documentation, and Planning

In a qualitative study by Blay and Ireson (2009), pedagogical practices and beliefs were explored. A sociocultural approach was used based on implications of Vygotsky's view that children learn how to solve problems by interacting with adults and peers. In the Blay and Ireson (2009) study, the nature of adult-child participation was examined in a nursery school setting

using a cooking activity. The study's purpose was to determine not only what the child did, but also what the child and adult did together. The findings of the study indicated that if a child was asked to carry out a task, he or she usually used the same approach as what was modeled during interactions with the adult. This research based its findings on comparing beliefs stated in interviews and observations of teacher interactions to identify if practices matched beliefs. The Blay and Ireson (2009) study has implications for the current research study, which used observations of teacher conversations in combination with pre- and post-intervention surveys to determine teachers' current beliefs and practices and the effect of observation and interpretation training on teacher conversations with children.

In a study by Buchanan, Burts, Bidner, White, and Charlesworth (1998), classroom characteristics and teacher characteristics were examined in relation to the beliefs that teachers had reported in a survey. The findings showed that most teachers use a combination of instructional strategies rather than focusing on one set approach. It was reported that approximately one third of early childhood classrooms use DAP consistently. The results of the Buchanan et al. (1998) study state that teachers who agreed with NAEYC guidelines were found to use more DAP than those who agreed with more traditional classroom practices. The lower the grade level, the more likely teachers were to use DAP than teachers who taught at a higher primary grade level. The Buchanan et al. (1998) research was important to the current research because it confirmed a need for training and support of teachers in the use of DAP to add to their system of attitudes and beliefs.

Buldu (2010) conducted research on the value of pedagogical documentation as formative assessment for kindergarten teachers in the Middle East. Teachers concluded from the findings that learning the process of documentation was informative for how children learn and

for interpreting misconceptions that children develop. Teachers' perspective on the value of documentation was the primary theme that evolved from the study. They viewed documentation as informative for instructional purposes, for adding value to self-reflection and planning purposes, for creating a professional learning community, and for increasing dialog with families. Findings from the study suggested that documentation also serves as a catalyst for communication and dialog with children when teachers share documentation with children (Buldu, 2010). Meaningful conversations were captured during observations of and interactions with children, which influenced the teacher's understanding of the child's theory development through the transparency of the emergent learning in the documentation.

In public education, teacher reflection on student learning with educational peers is limited. The primary means for this to happen is during individual supervision or assigned mentorship programs. Individual supervision is often with the building principal and limited to monthly meetings. In an assigned mentorship program, a teacher is assigned to a peer to discuss areas of educational concern, but most peers are assigned to non-tenured or struggling teachers. Although research indicates the importance, there is little autonomy or emphasis placed on reflective practices in the public school setting (Wesley & Buysse, 2001). There is a need for reflection among peer teachers for identifying gaps, sharing practices, interpreting collaboratively about children's learning, and developing a broader knowledge and skills base by reflecting with others and accepting opposing viewpoints. Wesley and Buysse (2001) suggested creating a community of practice where the traditional view of teachers as recipients of knowledge was shifted to teachers being viewed as co-producers of knowledge through professional development opportunities. Engaging in dialog and exploring embedded meanings

in the concepts of professional development are important to developing practices that better meet the learners' needs.

The literature suggests that teacher education influences the teacher's ability to successfully implement DAP whereby observations of play guides curricular planning and interactions and where conversations demonstrate an important role in learning (Gestwicki, 2014). Additionally, providing support for teachers to document observations and share the documentation with educational peers could support their ability to interpret children's learning and knowledge and guide their planning.

Mentoring

Based on extensive personal experience as a principal or vice-principal in four Virginia public schools, conversations, and professional development experiences with other Virginia principals, the researcher has observed that mentoring and professional development in Virginia does not typically focus on child development. Rather, professional development focuses on teaching to the standards with little attention to differentiation of instruction. When teachers attend training with a focus on meeting the individual needs of each child, they often come back saying they cannot implement the strategies learned because of the constraints by building leaders, an emphasis on tying assessments to teacher evaluations, and a lack of time because they must teach to the standards.

In the public-school setting, teachers are often teaching in isolation with little knowledge of what their peers are doing. Mentoring is often merely assigning a veteran teacher to guide a new teacher through the expectations and routines within the school rather than a collaborative means for guiding, having meaningful conversations about what children are learning, and sharing ideas and strategies for curricular planning (Castle, 2009). Teachers grow professionally

when they are able to discuss and share common goals with a mentor or someone in a leadership role. When the relationship is consistent, teachers are more apt to continue learning and mentor others with the knowledge they have gained. Mentoring is beneficial to both parties as it fosters collaboration, reflection, and sharing mutual interests (Castle, 2009; Wesley & Buysse, 2001).

Wood et al. (1976) described the mentor's role as serving as an aid in the process of skill acquisition. Mentoring offers scaffolding for tasks that may not be in the new teacher's capacity and provides support while he or she problem solves solutions and determines the steps necessary for success. The mentor may act as a *lure* or *verbal prodder* to motivate the new teacher, keep the goal in mind, and help recognize the task. The mentor acts as a confirmer for those completing the task as expected (Wood et al., 1976).

Wood et al. (1976) described the scaffolding process by mentors as recruitment of interest of participants, reducing the degrees of freedom, directing maintenance, marking critical features, frustration control, and demonstration. Mentors have the responsibility to get the participant involved and fill in gaps as the participant problem solves throughout the process (Bruner, 1996; Wood et al., 1976). Mentors are motivators who provide participants with assistance and guidance through scaffolding what participants do and modeling solutions for improving strategies to approach tasks (Vygotsky, 1981; Wood et al., 1976). The task should be less stressful with a mentor than without one. There must be a balance regarding dependency on the mentor so that the participant is an active learner in the progress who develops his or her own pace and strategies in relation to the mentor's guidance.

Dunst and Trivette (2009) completed a meta-analysis of effective adult learning methods focused on the processes of planning, application, deep understanding, and mastery. Their study revealed a strong relationship between active learning engagement and learning and practicing

with new knowledge. The practices studied included introducing new material, illustrating material applicability, practice in using new material or knowledge, evaluating the application, self-reflection of current skill status prior to progressing forward, and mastery. Three areas where effect sizes showed a greater relationship to learning were planning, application, and deep understanding. Based on their findings Dunst and Trivette (2009) developed a 4-phase training model called Participatory Adult Learning Strategies (PALS). The four phases are: 1) introduction, 2) application, 3) informed understanding, and 4) repeat the learning process. Each phase of the model contained the roles for the trainer and trainee as identified in Table 1.

Table 1

PALS Model (adapted from Dunst & Trivette, 2009, p. 172)

Phases	Trainer Roles	Traineee Roles
Introduction	Preview learning topic Describe key elements Provide examples Include trainee input Illustrate application Demonstrate application	Complete pre-training preview Pre-class/workshop exercises Provide input on the learning topic In-class/workshop warm-up exercises
Application	Facilitate application Observe trainee application Provide in vivo feedback/guidance Facilitate learner assessment of options	Provide examples of application Trainee role-playing, games, etc Implement/practice use of the subject matter Evaluate use of the knowledge or practice
Informed Understanding	Establish learning standards Engage learners in self-assessment Provide guidance to learners Provide behavioral suggestions	Standards-based evaluation Conduct self-assessment Trainer-guided learner reflection Journaling Group discussions of understanding
Repeat Learning Process	Joint planning Trainer guidance Trainer/trainee mentoring	Joint planning Identify needed information/experiences Trainer/trainee mentoring

In the PALS model, it is important for trainers to support a learner's knowledge before, during, and after training. The emphasis in PALS is on repeating learning processes, which involves both the trainer and learner, and should be considered a continuous professional development mentoring process. To be effective, training must be nurtured with feedback and guidance (Dunst & Trivette, 2009). The PALS Model was used for the training in this study.

Following the intervention, this researcher has provided mentoring to study participants bi-weekly, as their schedules allowed. A checklist was used as a catalyst for the mentoring process. As described by Wood et al. (1976), mentors have the responsibility of knowing the expectations and performance characteristics of mentees. Participants in the study may have different needs based on their experience and knowledge base. Mentors had the task of helping participants reach their fullest potential while allowing them the autonomy to problem solve.

Chapter Summary

This literature review provides a basis for this study while providing the background of theorists who have influenced preschool observation, planning, and assessment. The constructivist theory was described along with the beliefs and implications for practice from theorist's Piaget, Vygotsky, and Bruner.

Developmentally Appropriate Practice (DAP) was discussed in relation to its effect on child development, observing, documenting, assessing, and on implementation in public preschool classrooms. Other preschool curricula were discussed including Virginia Foundation Blocks of Early Learning, High/Scope, Creative Curriculum, Project Approach, and Emergent Curriculum.

The concept of conversation as crucial to the development of language and strategies teachers can use to prepare the environment for interaction and conversation with peers and

adults was discussed in detail. Observation and interpretation and the Cycle of Inquiry Model and System were explained. The concept of teachers' beliefs and practices within observation, documentation, planning, and the importance of mentoring when introducing a new practice was considered.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this multi- baseline single subject study was to explore the effect of an intervention in training in observation, interpretation, and mentoring on teachers' meaningful conversations with children in rural Virginia Head Start and public preschool classrooms. Education and length of time in the profession have been found to be significant in preschool teachers' implementation of developmentally appropriate practices (DAP) (Blay & Ireson, 2009), which include using observations to better understand children and facilitate extensions of their learning through conversation (Boehm & Weinberg, 1979; Gestwicki, 2014). Many preschool teachers lack strategies for effective conversation that facilitates productive conversations and guides children's thinking (Bonawitz et al., 2011; Dangel & Hooper, 2010). This chapter describes the methodology for implementing the intervention of training in observation and interpretation using the COI model (Broderick & Hong, 2011) with a PALS approach (Dunst & Trivette, 2009). An additional purpose of the study was to explore changes in teacher beliefs about observation and conversation. Mentoring was an important part of the intervention. Teacher beliefs about observation and conversation were explored before and after the intervention. A survey and face-to-face interviews provided information about the value of the intervention to participants.

Research Questions

Research studies are defined by the questions to be answered. There were two research questions used in this study that focused on determining a baseline for three participants, providing an intervention using the Cycle of Inquiry Model, and determining if the intervention

affected productive conversations with children, perceptions of teachers, and their beliefs about observing and interpreting children's thinking.

1. Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' productive conversations with children?
2. Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' beliefs about observation and interpretation related to productive conversations with children?

Research Design

This study used a multiple baseline single-case design whereby a survey and interview were used to assure social validity and to determine beliefs before and after the intervention. Single-case designs were used primarily to evaluate the effect of an intervention – the COI model – on participants. This design involved a repeated systematic measurement of two dependent variables (teachers' productive and non-productive conversations with children) before and during the COI intervention. The intervention consisted of 1 day of COI training on the use of observation and interpretation, the use of COI observation and interpretation forms in the classroom during playtime, and bi-weekly mentoring after the training. Among the various types of single-case design, this study used a non-concurrent (observation of different individuals at different times), multiple baseline method across participants to measure individual differences among a small sample. In multiple baseline designs, three or more tiers (participants) were identified to assure that conditions were functionally similar and provided a basis for

establishing a causal inference (Gast & Ledford, 2014; Kennedy, 2007; USDOE, 2014; Watson & Workman, 1981).

Continuous measurement of the dependent variable (teacher conversations with children) during the baseline phase was required to determine a consistent level of practice for initiating the staggered introduction of the independent variable (intervention) to the three participants across different times (Gast & Ledford, 2014; USDOE, 2010; USDOE, 2014). Videotaped observations and coding teacher behaviors before and after the intervention was used for this continuous measurement until one participant reached a stable baseline level. Then this participant became the first to follow through with the intervention while the remaining two participants continued to be videotaped. Once each of the final two participants met a stable baseline they were videotaped with probing, until it was time to engage in the intervention process.

The inclusion of surveys and interviews were important social validity tools to determine the benefit of the intervention to the participants, as well as the changes in teacher beliefs about observations and conversations with children as identified in the study. Surveys were administered by the researcher, pre- and post-intervention, to determine teachers' backgrounds and opinions, which are said to have an effect on a teacher's ability to implement DAP successfully (Blay & Ireson, 2009; Buchanan et al., 1998). Open-ended questions and clarifying questions were designed to solicit teacher opinions about their role and their use of observation and conversation in the classroom (Charmaz, 2014; Creswell, 2015).

Participants and Setting

Participants for this research study were selected based on the criteria that they are teachers in a preschool setting and willing participants. The setting criteria were for each

participant to be in a separate school setting in proximity to the researcher for convenience. The setting for the research was a rural community with early childhood pre-k programs in Head Start and the public school. Two participants were selected from Head Start and one was selected from the public school system. Appropriate permissions were obtained from the participants and facilities.

Locating Sample Participants in the Community

A convenience sample (Creswell, 2015) of three participants teaching in pre-k classrooms from the City Schools and Head Start programs in a rural town in Virginia, were chosen for this study. A multiple probe single-case design and surveys with a final interview was used for this study. The researcher recruited willing participants in proximity to one another because of easy access for the many hours of observation that were involved. The criteria for participation were that each teacher was a preschool teacher and each was in a building that was separate from the other study participants. The researcher met with the director of the Head Start to obtain approval to implement the study and then met with the preschool teachers from various Head Start sites to share information about the study. The researcher also discussed the parameters of the study with the elementary preschool teacher. The elementary teacher was assured that the researcher would not be conducting formal observations or evaluations of her during the study. All the preschool teachers were provided informed consent documents regarding their agreement to participate. The Head Start director then informed the researcher of two Head Start teachers who were willing to participate in the study. The elementary teacher was selected as a participant to assure that all three participants were from different centers. This was important for the single-case design, to assure that participants were not communicating in ways that could have affected the outcomes.

Obtaining consent from teachers who agreed to participate in the study. Consent was obtained from the City Schools and Kids Central Head Start Programs to conduct the research study and to provide professional development in the Cycle of Inquiry System (COI) to the teachers participating in the study. Permissions were obtained by the superintendent, principal, and three preschool teachers for their participation and to videotape in the three preschool classrooms for the duration of the study. Parent permissions to videotape children during the teacher interactions and conversations during the study were granted in written form by the elementary school and Head Start administrators and through written permissions obtained from the parents or guardians. The researcher, a research assistant to code the videotaping, three videographers, and a transcriber for the interviews were also involved in this study. Teachers and students were not identified by their actual name to maintain confidentiality. Study data will be stored for 6 years after the study is completed in the East Tennessee State University campus office of the dissertation chair for this project.

Choosing child participants for consistency and reliability. The study focus was the effect of the COI intervention on teachers' conversations with children in group settings. For the results to be more effective, each teacher interacted with the same children throughout the study. In preschool, children develop language skills at a fast pace. The literature suggested that there is a need for preschool teachers to engage children in conversations. There is also a need for teachers to have appropriate training and support to follow DAP that allow for conversations among preschool children (Deason, 2009; DeVries et al., 2002). A purposeful sampling procedure (Creswell, 2015) was used for the formation of groups during playtime in which each classroom group was selected by their teacher based on the teacher's typical group assignments. To avoid disruption of teachers' daily practices, teachers were asked to use their current method for

choosing a group. An example might be teachers placing children into three groups organized according to children's similar interests, according to similar ability, or by mixed ability. The researcher informed the participants that, as schedules allowed, she would videotape the teachers and small groups up to three times weekly for approximately 30 minutes during group playtime for the duration of the study. The researcher asked the teachers to choose a consistent small group for this purpose and to organize the group according to her typical classroom grouping procedures. This group selection method assured that the sample choice would not affect the ongoing classroom dynamics. Each small group consisted of three to five children, except in cases due to class absences or scheduling. The video observation was not halted because of student absences. If the teacher was absent, the video observation was moved to the next day the teacher was present.

Instruments and Data Collection

The inclusion of instruments such as surveys, interviews with participants, video with an observation checklist, and field notes provided various perspectives for interpreting the relationships between teacher beliefs about observation and planning and conversations with children prior to and after the training. Triangulating among three data sources creates a justification for the development of findings (Creswell, 2015).

Pre-Surveys, Post-Surveys, and Interviews

The researcher designed a survey to elicit responses from preschool teachers on their beliefs about their role as teachers and teacher practices regarding observation and conversation. Additional information on gender, age, education, years of experience, and degree were obtained in the survey; the literature suggests that educational background influences teachers' successful implementation of DAP (Deason, 2009). The Pre-Survey Items (Appendix A) and the Post-

Survey Items (Appendix B) were organized into various categories (demographics, social validity, feasibility, value, significant change, and measurement of worthiness). The post-survey items were designed by the researcher to elicit participants' beliefs about how they valued the intervention at the conclusion of the study.

Face-to-face interviews were used to follow up and obtain clarification of responses in the pre-surveys and post-surveys. Interviews included open-ended questions that led to clarifying and elaborating through sub-questions that guided interviews in a natural conversational way to make the interview more comfortable. The flow of each interview varied (Charmaz, 2014; Creswell, 2014; Creswell, 2015). Interview questions were organized with open-ended questions preceding clarification and elaboration questions (Creswell, 2015).

Checklist

The coding checklist shown in Table 2 was designed by the researcher based on constructivist practices (DeVries et al., 2002; Elstgeest, 2001; Forman & Hall, 2005) and Bloom's taxonomy (Dalton & Smith, 1989; Forehand, 2012). The checklist was designed for indicating frequency and behaviors using a sampling method (Boehm & Weinberg, 1979). The checklist was used to identify 12 productive (P) and non-productive (NP) conversation behaviors that were used by raters to code videotaped segments of each participating teacher during playtime. Tally marks recorded the number of productive and non-productive utterances by the teacher during each minute of the observation.

Table 2

Checklist of Teacher's Productive and Non-Productive Conversation Strategies

Subject Name		Date			Coder Name		
	Productive conversations	1. Allows child choice as to when and who to talk with (peers or teachers). 2. Allows child initiated conversation. 3. Questioning or using statements that allow children to answer authentically, without expectation of being right or wrong. 4. Uses application questions: • How would you use/solve/do? • What other way could you use/do? 5. Uses reflective action statements: • Rephrasing what the child says. • Stating what the child is doing or did. 6. Responds to child following child's question or prompt.					
	Non-Productive conversations	7. Initiating conversation. 8. Praise or positive comments that do not elicit conversation. 9. Interrupting: • A. a child who is talking; or • B. a child's thought process. 10. Doesn't allow child choice as to when and who to talk with (peers or teachers): • Calling on students in a systematic way. • Telling children not to talk – to be quiet. □ Not allowing children to self-regulate their conversation skills. 11. Expecting a right or wrong answer; includes correcting a wrong answer. 12. Telling children talk aloud steps; teacher tells the exact steps with direct instruction.					
Time in minutes	1	2	3	4	5	6	7
Productive (P)							
Non-Productive (NP)							
Time in minutes	8	9	10	11	12	13	14
Productive (P)							
Non-Productive (NP)							
Time in minutes	15	16	17	18	19	20	
Productive (P)							
Non-Productive (NP)							
Additional Notes							

Video

Video was used to record teachers interacting and conversing with children during group playtime in each classroom. A schedule was created so that the research assistant could videotape group playtime up to three times a week for approximately 30 minutes, as schedules permitted. This allowed a 5-minute period prior to the 20-minute interval that was used for coding and allowed an extra 5 minutes for any interruptions. The actual coded data were gathered from a 20-minute videotaped observation. If the group playtime observations lasted less than the indicated 20 minutes, the researcher coded the shorter observation period.

Videographers were selected from teachers and college students. The researcher provided an overview of the research design and expectations for the study to the videographers and accompanied them on their initial visit with participants. There was a meeting with each participant and videographer to establish a relationship and guidelines for the study.

Fidelity of Training

The researcher developed the Checklist Data for Participant Training Form (see Appendix C) to determine if the training was consistent across sessions with each of the three participants. The checklist was developed by reviewing the training schedule and related PowerPoint presentations. A training session was conducted with a group of three early childhood educators to pilot the use of the checklist.

Field Notes

The researcher recorded reflective thoughts following the first viewing of each videotaped session. Additionally, any mention of classroom issues like attendance, sickness, or disruptions that were reported to the researcher on the day of a videotaping session were recorded in the Field Notes from Video Observations found in Appendix D. These notes assisted

the researcher in relating her thoughts into “insights, hunches, themes and ideas that emerge during the observation” (Creswell, 2015, p. 215). For this study, the field notes provided the third form of data for triangulation and validity.

Reliability and Validity of Instrumentation

Data for this study included surveys, videotaped observations, checklist coding of the observation data, interview recordings and transcripts, checklists for fidelity of intervention training, and researcher field notes. Data for the study were collected from surveys, videotaped observations, and interviews with three participants. The researcher and one research assistant coded all the videos that were recorded by three videographers. The researcher recorded field notes immediately following mentoring meetings and throughout the process of coding the videos. The interviews were transcribed by a research assistant, reviewed and checked by the researcher, and then member-checked by each participant.

Developing Inter-Rater Agreement

The video clips used for developing inter-rater agreement were shorter than the timeframe for planned videotaping sessions in the actual study. The videographers within these classrooms followed the natural flow of teacher interactions with children, starting and stopping the video as conversations began and ended. The goal was to obtain a wide range of teacher interactions with the same age group of children that would be observed in the actual study.

This study focused on the productivity of teacher’s conversations with children during group time in order to answer the research questions regarding whether the intervention into teachers’ thinking about children’s thinking changed the way teachers talk to children. A checklist was used to record characteristics of the teacher’s conversations with children during group playtime. In the checklist, a teacher’s utterances were tallied and characterized as either

productive or non-productive depending on how it was evaluated using the checklist. After initial training on checklist use, both observers independently coded 83 minutes from 15 sessions, averaging between 2 and 9 minutes per session. Confidence Intervals (95%) for the Interclass Correlation Coefficients (ICCs) were (0.39, 0.68) for non-productive conversations and (0.79, 0.90) for productive conversations (Cicchetti, 1994; Hallgren, 2012). Because this did not meet the criteria, the coders conferred over differences, which resulted in a revised checklist. Both observers then independently coded a second set of 16 sessions with a total of 185 minutes, averaging between 2 and 19 minutes per session. Interclass Correlation Coefficients (ICCs) met criterion, with 95% Confidence Intervals of (0.90, 0.94) for non-productive conversations and (0.95, 0.92) for productive conversations.

Transcribing and Member Checking of Interviews

A research staff member transcribed the interview audiotapes. The researcher then used the Interview Transcripts found in Appendix E to review the videotapes, obtain agreement, and edit any necessary changes to ensure accuracy (Creswell, 2014). Member checking took place for reliability whereby the researcher asked each participant to read their interview transcript for accuracy. Questions were asked to determine if the recorded responses represented what the interviewee intended; participants were invited to make comments and ask questions. The researcher refrained from interjecting personal views. The researcher took notes on their comments from the transcripts to obtain additional information for clarification of survey responses.

Coding of Teachers' Productive and Non-Productive Conversation Strategies Using a Checklist

During the study, the researcher coded all the videotapes of study participants and the research assistant coded 30% of the videos to ensure reliability of coding within the study

(Creswell, 2015). As noted in the data collection section of this report, the segment of video coded was 20 minutes, except for the times when teachers' shortened the playtime schedule. Raters recorded all productive and non-productive behaviors observed in 1-minute segments within the checklist. The 12 behaviors articulated in the checklist were necessary for determining the frequency of productive (P) and non-productive (NP) behaviors. The frequency of productive behaviors was illustrated in a visual graphic analysis.

Visual Analysis of Conversation Checklist

A graphic display plotting the number of productive conversations for each participant was used for visual analysis to determine patterns and draw conclusions from the data. This visual analysis was used to determine a baseline in which a participant's productive conversations remained within a stable level in the visual graphic, representing numbers of consistent productive conversation strategies as noted in the checklist. The display data were demonstrated in a graph comparing each participant (Kennedy, 2007). The graphs were used for visual analysis to determine patterns and draw conclusions from the data represented. The baseline was determined by inspecting levels using at least five data points to determine if there was a trend developing with less variability. This allowed for pattern comparisons between the baseline and intervention phase, where plotted points were evaluated to determine the mean percent, trend, and variability (Engel & Schutt, 2012; Horner et al, 2005; Kennedy, 2007).

The videotaped data were viewed to determine baseline data. When the baseline was established for one participant, the intervention was applied to her while the other two participants were videotaped less frequently – probed – in order to establish and maintain their baseline data. When the first participant met an acceptable trend, and the second participant maintained baseline, the intervention was introduced to the second participant in the same

manner. The same process was followed for the third participant. The intervention consisted of a 1-day training session about observing and interpreting observations of children to increase productive conversations, teacher's use of the COI observation (DR) and interpretation forms (ICKT), and bi-weekly mentoring sessions with the researcher. Graphic analysis identified the level and trend of productive and non-productive conversation indicators (Gast & Ledford, 2014).

The data trend was inspected using the graph as the visual. The trend was the best fit straight line that can be placed over the data within a phase. The slope and magnitude are important elements of the trend data. The trend data were used to compare baseline -A to Intervention -B across participants, analyzing the upward or downward inclination of the data within a phase with regards to the extent of the slope in the phases. An effect is evident when the data pattern in the intervention phase differs more than expected from the baseline phase (Creswell, 2015; Kennedy, 2007; USDOE, 2014).

Intervention

The intervention consisted of training in the use of observation and interpreting observations using the first two phases of the COI model (Broderick & Hong, 2011). Training was organized around effective adult learning practices adapted from the Participatory Adult Learning Practices model (Dunst & Trivette, 2009) to introduce, apply, reflect, and master the new information on observing and interpreting that was provided in the training.

The 1-day training was implemented by using Power Point presentations, examples of teachers' use of the two COI model forms for observation and interpretation (introduction), video for observation and interpretation exercises (application), discussion for trainee input and instructor feedback (reflection), and a checklist for teachers to use to self-check their process and

skill level (reflection). The 1-day training included a sequence of observation and interpretation processes to repeat for effective learning (Dunst & Trivette, 2009). The schedule for the training and overview of the materials used for the training are included in the Training Agenda shown in Appendix F. The COI Documentation Record Form (DR) provided in Appendix G is for the observation phase of the cycle of inquiry. The Interpretation of Knowledge and Thinking Form (ICKT) provided in Appendix H is for the interpretation phase of the cycle of inquiry. The Checklist for Participant Self-Check is provided in Appendix I.

The same or highly similar intervention conditions were implemented for all participants in the study (USDOE, 2010). The researcher attended and observed all trainings and used a fidelity checklist to assure that the trainer followed the determined protocol. Being able to replicate the intervention phase with replication across participants was important to lowering major threats to validity (USDOE, 2014). History can be a threat to validity because the researcher had little ability to determine what may have occurred in the past that could affect the outcome (USDOE, 2014).

Outline of the Plan for Single-Case Design Implementation

The researcher developed an outline of procedures to follow as a checklist to assure progress through the study. A chart was also designed for systematically organizing videotaping and mentoring meetings with participants.

1. Located participants and obtained consent.
2. Three participants were surveyed using researcher-designed survey questions based on the literature review.

3. Three participants were videotaped up to three times a week, as schedules allowed, for the duration of the study during group playtime, which is the time of day when teachers provide opportunities for small groups of children to interact with materials and peers. For this study, each teacher determined the specific schedule for the classroom's group playtime, so the researcher organized a videotaping schedule. As noted in the section on participants and setting, the research assistant videotaped the teacher interacting with the same group of children during the classroom small group playtime for the duration of the study. Research is more reliable and valid when the variable of participants – in this case children – is constant (Creswell, 2015).

4. A baseline of the trend for each teacher's conversations with children was established for each participant prior to the COI and PALS intervention phase. This was suggested to meet the Evidence Standards for Single-Case Designs (USDOE, 2010). The baseline was determined by coding video observations using a researcher-designed productive and non-productive conversations checklist form (Table 2). The purposes of a baseline are to provide evidence that a behavior is in need of change and to demonstrate that a pattern has a consistent level with little to no trend. These are necessary in order to compare the baseline pattern to the pattern following an intervention (USDOE, 2010).

5. The COI and PALS intervention was provided to each participant, once a baseline was established for the first participant and the remaining two training sessions were staggered as individual participant's baselines were established.

6. Each participant met bi-weekly for mentoring with the researcher using the COI Documentation Record Form (DR) (Appendix G) and the Interpretation of Knowledge and Thinking Form (ICKT) (Appendix H). The researcher asked the questions from the Checklists for each COI form as the protocol to maintain consistency across all mentoring meetings with the three participants.
7. All participants were continuously observed up to three times weekly, as schedules allowed, through all participant's baseline - "A"- phases, with videotaping ending for each participant when five level data points had been obtained for meeting the level of practice for conversations during the "B" phase for the participants (when COI forms and mentoring are in use). A sample videotaping and coding schedule is outlined in Table 3. This sample schedule assures that each of the three participants is observed on every day of the week and actually allows everything (video, initial coding, and final coding) to be done by the researcher (if the researcher worked on it full-time).
8. Post-surveys were conducted by the researcher with all participants and followed up with interviews to clarify survey responses using researcher-designed follow-up interview questions.

Table 3

*Sample Videotaping and Coding Schedule**

M	T	W	TH	F
1-Observe/video Participant 1	Code video of Participant 1	Finish coding video of Participant 1	**2-Observe/video Participant 1**	Code video of Participant 1
	1-Observe/video Participant 2	Code video of Participant 2	Finish coding video of Participant 2	**2-Observe/video Participant 2**
		1-Observe/video Participant 3	Code video of Participant 3	Finish coding video of Participant 3
M	T	W	TH	F
Finish coding video of Participant 1	**3-Observe/video Participant 1**	Code video of Participant 1	Finish coding video of Participant 1	**4-Observe/video Participant 1**
Code video of Participant 2	Finish coding video of Participant 2	**3-Observe/video Participant 2**	Code video of Participant 2	Finish coding video of Participant 2
2-Observe/video Participant 3	Code video of Participant 3	Finish coding video of Participant 3	**3-Observe/video Participant 3**	Code video of Participant 3
M	T	W	TH	F
Code video of Participant 1	Finish coding video of Participant 1	**5-Observe/video Participant 1**	Code video of Participant 1	Finish coding video of Participant 1
4-Observe/video Participant 2	Code video of Participant 2	Finish coding video of Participant 2	**5-Observe/video Participant 2**	Code video of Participant 2
Finish coding video of Participant 3	**4-Observe/video Participant 3**	Code video of Participant 3	Finish coding video of Participant 3	**5-Observe/video Participant 3**
M	T	W	TH	F
Finish coding video of Participant 2				
Code video of Participant 3	Finish coding video of Participant 3			

Continue using the same pattern throughout the study. After at least 5 data points are reached in the baseline phase, the intervention phase may be introduced. Mentoring is part of the intervention.

Chapter Summary

Chapter 3 provides an overview of the research questions, the research design, participants, setting, and general procedures used for choosing the participants. The instruments and data collection process were discussed with explanations of surveys, interviews, checklists,

video, and field notes. The data analysis procedure was described with the intervention detailed as well as an outline for the single case design implementation.

CHAPTER 4

FINDINGS

Review of Research Design

The research design for this study was a multiple baseline single-case design, implemented with three participants. Single-case designs are used primarily to evaluate the effect on participants of a variety of interventions like the COI intervention. This design involved a multi-probe systematic measurement of two dependent variables (teachers' productive and non-productive conversations with children) before and during the COI intervention. The intervention consisted of 1 day of COI training on the use of observation and interpretation, use of COI observation and interpretation forms in the classroom during playtime, and periodic mentoring following the training. The mentoring sessions were held periodically rather than bi-weekly due to scheduling conflicts, holidays scheduled, inclement weather, and teacher absences. This study was a non-concurrent multiple baseline single-case design (observation of different individuals at different times) across participants to measure individual differences among a small sample. Three participants were identified in the study to assure that conditions were functionally similar and could provide a basis for establishing a causal inference (Gast & Ledford, 2014; Kennedy, 2007; USDOE, 2014; Watson & Workman, 1981).

Social validity surveys and follow-up interviews were used to determine the value of the intervention to participants and determine changes in their beliefs about observations and conversations with children. Surveys were administered by the researcher pre-intervention and post-intervention to determine participants' backgrounds and beliefs (Blay & Ireson, 2009; Buchanan et al., 1998). Open-ended questions with clarifying questions were designed to seek participant input about beliefs regarding their role and use of observation and conversation in the

classroom (Charmaz, 2014; Creswell, 2015). Videotaped observations and coding participant responses before and after the intervention were used to establish baseline data and probe for accuracy as part of continuous measurement during the study.

Research Questions

Research studies are defined by the questions to be answered. There were two research questions used in this study that focused on determining a baseline for three participants, providing an intervention using the Cycle of Inquiry Model, and determining if the intervention affected productive conversations with children, perceptions of teachers, and their beliefs about observing and interpreting children's thinking.

1. Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' productive conversations with children?
2. Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' beliefs about observation and interpretation related to productive conversations with children?

Demographics

Three participants were included in this study. The participants were between the ages of 18 and 50 years. All three have degrees in early childhood education, but vary in experience from a first-year teacher to one who has 10 years of experience. One participant is a public school teacher and the other two are Head Start lead teachers.

Participant 1 is a first-year public school pre-k teacher who is 23 years old. She holds a Bachelor's degree with a Bachelor of Art certification pre-k through six. She was employed in a

public-school program funded through a United Way grant, which allows for more flexibility in instruction and delivery than the typical public school pre-k setting. The grant was received partially on the premise that the curriculum would be one in which child initiated play was viewed as an important part to the learning. The teacher was to observe and build the curriculum around the children while following the guidelines in the Foundation Blocks of Learning developed by the Virginia Department of Education (VADOE, 2013).

Participant 2 is a Head Start Lead Teacher with 10 years of teaching experience. She is 45 years old and holds a Master's degree in Education with Pre-k-6 certification. The curriculum used in her classroom is High/Scope. She began using the CLASS model within the past 3 years.

Participant 3 is a Head Start Lead Teacher with 5 years of teaching experience. She is 30 years old and holds a Bachelor of Art degree with Pre-k-6 certification. The curriculum used in her classroom is High/Scope. She began using the CLASS model during this school year as part of Head Start requirements. Demographics for the three participants are shown in Table 4.

Table 4

Participant Demographics

Demographics	Participant 1	Participant 2	Participant 3
Age/Gender	18-25/Female	36-50/Female	25-35/Female
Education	BA Pre-k-6	MA Pre-k-6	BA Pre-k-6
Years Teaching	0	10	5
Setting	VA Public School	Head Start	Head Start
Current Curriculum	VA Foundation Blocks of Learning	High/Scope	High/Scope

Scheduling

Scheduling conflicts with the three participants resulted in changes to the planned schedule for the study. Twice a week videotaping sessions and bi-weekly mentoring did not always occur. Inclement weather, holidays, teacher absences, and school program regulations all caused schedule changes. When the videographer and researcher were prevented from following the planned schedule, they followed through with sessions as soon as possible within each participant teacher's constraints. Table 5 shows the schedule for Participant 1.

Table 5

Participant 1(BL = Baseline; I = Intervention; H = Holiday; P = Probe; WD = Weather Delays)*

M	T	W	TH	F
	Oct 4: BL Videotape		Oct 6: BL Videotape	
	Oct 11: BL Videotape		Oct 13: BL Videotape	
	Oct 18: BL Videotape	Oct 19: I COI Training		
		Oct 26: I Videotape	Oct 27: I Videotape	Oct 28: I Videotape
	Nov 1: I Videotape		Nov 3: I Videotape	Nov 4: I Mentoring
	Nov 8: I Videotape		Nov 10: I Mentoring	Nov 11: I Videotape
	Nov 15: I Videotape			
H-No School	H-No School	H-No School	H-No School	H-No School
		Nov 30: I Videotape		Dec 2: I Videotape
			Dec 8: I Mentoring	
	Dec 13: I Videotape			
		H-No School	H-No School	H-No School
H-No School	H-No School	H-No School	H-No School	H-No School
H-No School	H-No School	H-No School	School Opens	
WD	WD	WD		
			Jan 19: I Videotape	
			Feb 2: I Mentoring	

The schedule for Participant 1 was steady until the Winter Break, which was also followed by several snow days or delays in opening due to inclement weather. Table 6 shows the schedule for Participant 2.

Table 6

Participant 2(BL = Baseline; I = Intervention; H = Holiday; P = Probe; WD = Weather Delays)*

M	T	W	TH	F
Oct 3: BL Videotape		Oct 5: BL Videotape		
Oct 10: BL Videotape		Oct 12: BL Videotape		Oct 14: BL Videotape
Oct 17: BL Videotape				Oct 21: I COI Training
Oct 24: BL Videotape		Oct 26: BL Videotape		
Nov 7: P Videotape		Nov 9: P Videotape		Nov 11: I COI Training
Nov 14: I Videotape		Nov 16: I Videotape	Nov 17 – I Mentoring	
Nov 21: I Videotape	H-No School	H-No School	H-No School	H-No School
	Nov 29: I Mentoring	Nov 30: I Videotape	Dec 1: I Videotape	Dec 2: I Mentoring followed by I Videotape
Dec 5: I Videotape		Dec 7: I Mentoring followed by I Videotape		
Dec 12: I Videotape				H-No School
		H-No School	H-No School	H-No School
H-No School	H-No School	H-No School	H-No School	H-No School
H-No School	H-No School	School Opens		
WD	WD	WD	Jan 12: I Mentoring	
Jan 16: I Videotape	Jan 17: I Videotape			
			Jan 26: I Mentoring followed by I Videotape	Jan 27: I Videotape
				Feb 3: I Videotape
		Feb 22: I Mentoring		

The Participant 2 schedule was steady until Winter Break, which was followed by several snow days or weather delays. Mentoring sessions were scheduled close together when the participant needed more support. Table 7 shows the schedule for Participant 3.

Table 7

Participant 3(BL = Baseline; I = Intervention; H = Holiday; P = Probe; WD = Weather Delays)*

M	T	W	TH	F
		Oct 5: BL Videotape		Oct 7: BL Videotape
		Oct 12: BL Videotape		Oct 14: BL Videotape
Oct 17: BL Videotape				Oct 21: BL Videotape
Oct 24: BL Videotape		Oct 26: BL Videotape		
		Nov 2: BL Videotape		Nov 2: BL Videotape
Teacher Absent	H-No School	H-No School	H-No School	H-No School
				Dec 2: P Videotape
		Dec 7: P Videotape		
				H-No School
		H-No School	H-No School	H-No School
H-No School	H-No School	H-No School	H-No School	H-No School
H-No School	H-No School	School Opens		
WD	WD	WD		
		Jan 19: P Videotape		
	Jan 24: P Videotape			
			Feb 2: P Videotape	
Feb 6: I COI Training	Program Conflict	Program Conflict	Program Conflict	Program Conflict
		Feb 15: I Videotape	Feb 16: I Videotape	
Feb 20: I Mentoring followed by I Videotape		Feb 22: I Mentoring		Feb 24: I Videotape
	Feb 28: I Videotape			Mar 3: I Videotape
				Mar 10: I Videotape
Mar 13: I Mentoring followed by I Videotape			Mar 16: I Mentoring followed by I Videotape	

The schedule for Participant 3 was longer, as her intervention took place following Participants 1 and 2. The videotaping sessions for baseline were steady until the Winter Break, which was also followed by several snow days or delays in opening due to inclement weather. Mentoring sessions were scheduled close to one another when it was determined that the participant needed more support.

Field Notes and Mentoring Notes

Field notes were used throughout the coding process to document and provide an understanding of the setting and social structure of participants in this study. Field notes are qualitative in nature and provide insight that gives meaning to the understanding of the study.

Participant 1 was a first year teacher with an infant child. She missed several days between the intervention and the initial videotaping that followed the intervention due to her child's illness. Participant 1 had a class of 13 children and was responsible for the class on most days of the videotaping without an assistant. This prevented her from working consistently with the same group of children. Initially, when the videotaping occurred following the intervention, she spent time writing on the forms as she was observing, which meant that she did not have conversations with the children.

Because of the initial delay in videotaping, the mentoring was not held on a bi-weekly schedule. When the mentoring took place, the teacher indicated that she used the documentation forms, took pictures, and felt that she was better able to extend children's thinking but was not using the interpretation form. At the initial meeting, the researcher discussed the need to use the documentation record form on days that she was not videotaped, to be prepared for productive conversations with children. Participant 1 shared the need for an assistant in the classroom to be able to collaborate with during the study and when the study was over.

The next mentoring session was on the bi-weekly schedule. Participant 1 was more focused on the process of using both of the COI forms, noting lines of inquiry documented in the forms and ideas speculating about the children's thinking and knowledge. Due to holidays and unforeseen scheduling conflicts, the next mentoring session was delayed. This mentoring session was difficult for the participant because the school had experienced a kindergarten student's death. Participant 1 indicated that this time of month was stressful and difficult as a new teacher with an infant and the holidays. After sharing her concerns about school and family, she focused on the topic and said she was able to get good information on the memo side of the documentation form, but the interpretation form was still difficult to complete. The researcher provided the Power Point from the intervention training to refocus and help her review use of the interpretation form.

The next mentoring sessions did not follow the bi-weekly schedule and were held periodically; videotaping was more periodic as well. There were multiple schedule changes during the months of November, December, and January because of inclement weather and approximately 3 weeks of holiday time when school was not in session. The final mentoring session was informative. Participant 1 said she was more comfortable with the documentation form and was doing better with interpreting. She said, "My conversations are stronger and I am better at coaxing children to talk about their thinking since receiving the intervention."

Participant 2 was in a Head Start setting and used the High/Scope curriculum. She was a veteran teacher and was already using productive conversation and positive interactions with children. It was difficult for her during the study to work with the same group of children for each observation because of staffing issues. She had to go between groups and monitor multiple groups at times. During the mentoring process, Participant 2 indicated that if she could have

reviewed the video after the process she would have reflected at a deeper level, prepared for better conversations, and been able to self-assess for improvement in her interactions with students. There was little change in productive conversations. She was incorporating COI information into her High/Scope observation forms rather than using the COI forms. Overall, the range of productive conversations showed less variability and were at a higher average after the intervention. She said, “I was not sure that I invented methods for recording behaviors, but I did draw pictures of the structures they built in blocks.” She was confident that she had good descriptive transcripts of the processes and products that she observed with the children. She had not started using the interpreting form.

During the second mentoring session, Participant 2 mentioned that she was using the documentation form, but thought it was difficult to complete that form in addition to her forms with the High/Scope curriculum. She also indicated that she was adding odd events and her thoughts on the interpretation form. She said, “I wished that I could talk to my aide about the information on the forms while doing this study.”

The next mentoring sessions were not on a bi-weekly schedule; some were more frequent than bi-weekly and some further apart because of scheduling conflicts. The researcher provided the Power Point from the intervention training to Participant 2 for review. The researcher reminded Participant 2 to stay focused on conversations and questioning the children. Participant 2 commented that it was a very difficult time of the year with the holidays. Throughout the next mentoring sessions Participant 2 said, “it was tough to keep up with all of the documentation while still being required to do the Child Observational Records for her licensed job.” Participant 2 indicated that over the holiday break she had time to reflect on the use of the forms and was more confident about recording interpretations of the children’s thinking. She said, “it is getting

easier to think about their thoughts and not just what interests them….. I am not just talking for talking's sake."

During their mentoring sessions, all three participants indicated that after this study, they plan to include their classroom aides in the observation and documentation process so there will be someone to collaborate with. They suggested that it is important to have viewpoints from others who work with the children when interpreting the observations and that during this study they were limited by only being able to focus alone on their interpretations.

Participant 3 had the longest time between the start of the study and the intervention. During the baseline phase, Participant 3 had staffing issues and many student behavioral issues. There was a change in the videographer when it was time to videotape Participant 3 during the intervention. Prior to the intervention, she used the Child Observational Record for documentation as part of the High/Scope curriculum in the Head Start setting.

Participant 3 had a gap between her initial intervention training and videotaping session due to several field trips and home visits. The Head Start center changed the schedule and she had responsibilities because of Head Start regulations. Participant 3 had an initial drop in productive conversation when videotaping reoccurred. She was so involved in writing on the forms that conversation with the children was affected. The initial mentoring session occurred and an additional mentoring was necessary 2 days later to discuss how to use the forms and how to keep conversation going. Participant 3 determined during the mentoring session that she would document on the form directly after the play instead of during the play. She had a limited staff and was responsible for more than one group. She indicated that it was difficult to balance the forms and have productive conversations without support staff to help with the documentation.

The next periodic mentoring session happened after 3 weeks because of scheduling conflicts. The mentoring meetings were held before the Head Start center opened in the morning or after closing in the afternoon. Participant 3 often had conflicts with the mentoring time. The final mentoring was on schedule. Participant 3 stated that, “the process has made me more aware of what I should be saying to kids. It has helped me with the scores that I am receiving on the CLASS scale that Head Start uses.” She indicated that she was more aware of children’s thinking by reviewing the documentation forms.

All participants suggested that having another staff member present to record during the play would be helpful. As they became more comfortable with the forms, they were able to find a balance between writing and conversing.

Field Notes on Videotaping

During the videotaping process, the teachers progressively became more comfortable with being videotaped. During the first semester, there was consistency with having the same research assistant as the videographer. However, a new videographer was added to finish the study in the second semester as the initial person had a change in her schedule and had to leave. All videographers were given the same instructions for videotaping. Due to the schedule in the public school setting, conversation coded for the actual study was 13 minutes across all three participants. The participants and mentoring session schedules during the second semester were more unpredictable and varied more due to weather delays and unspecified curriculum changes from the public school and Head Start sector.

Inter-Rater Agreement During the Study

Determining inter-rater agreement was necessary in this study for coding the videotaped observation records using the conversation checklist. Coding was rated for consistency during the study using the Interclass Correlation Coefficients (ICCs) based on the study staff coding a percent of all records coded by the researcher. Interclass Correlation Coefficients were used to test the consistency between coders. ICCs are appropriate for interval data and fully-crossed designs using a subset of events and are more sensitive to the magnitude of disagreements between observers than other measures like Cohen's Kappa (Cicchetti, 1994; Hallgren, 2012). In this study, the conventions summarized by Cicchetti (1994) indicated that good agreement requires ICCs in the range of 0.60 to 0.74, and excellent agreement in the range of 0.75 to 1.00. The actual study sessions, which lasted between 13 and 20 minutes, extended through baseline and treatment observational sessions, included:

- 19 sessions spanning October 4, 2016, to January 19, 2017, for Participant 1 whose was videotaped between 13 and 17 minutes due to limitations in her schedule.
- 25 sessions spanning October 3, 2016, to February 3, 2017, for Participant 2 who was able to be videotaped for 20 minutes consistently; and
- 24 sessions spanning October 5, 2016, to March 3, 2017, for Participant 3 who was able to be videotaped for 20 minutes consistently.

The results are summarized in Table 8. Confidence Intervals met conventional standards for *good* data across all teachers for both types of conversations, met standards for *excellent* data for productive conversations in Participant 1 and Participant 3, and were only marginally below *excellent* for Participant 2 (Cicchetti, 1994).

Table 8

Interclass Correlation Coefficients (ICC)

	95% Confidence Intervals for ICCs	
Participant	Productive	Non-Productive
1	(0.81, 0.91)	(0.73, 0.89)
2	(0.65, 0.80)	(0.65, 0.80)
3	(0.81, 0.90)	(0.74, 0.86)

This reliability study gives strong evidence that the primary coder reliably counted the minute-to-minute productive and non-productive teacher-child conversation across teachers over the study period and supports using the session-averaged per-minute rates of productive and non-productive conversation as good measures of the target constructs.

Fidelity of COI Intervention Training

The researcher and presenter of the COI Intervention training implemented a pilot training with doctoral students in the Early Childhood Department at East Tennessee State University. Prior to the pilot the researcher created a checklist table (see Appendix C) organized around the training DR and ICKT Power Point presentations and documents. The checklist included cells for the researcher to document that the elements of the Power Point presentations and documents were addressed, and any presenter comments that are not noted in the Power Point, as well as participant comments. The data on the pilot checklist served as a model for the researcher to review during the three COI training sessions with study participants. The researcher reminded the presenter to include details within the pilot checklist, as needed, to maintain consistency across sessions.

Following the pilot COI training session the participants recommended that the training sessions should be shortened. The intervention plan for the DR form included two opportunities for learners to view video of children and teacher interactions, use the DR, and review their use of the DR. The intervention plan also included the opportunity for review of two videos to use and review use of the ICKT form. A decision was made to remove the second video reviews from the DR and ICKT segments of the COI training sessions during the study. Time was better spent using the COI self-assessment checklists for the DR and ICKT.

Visual Analysis

In this single-case design, the results of the intervention were examined over time and replicated across three participants (Kazdin, 2011). The levels and trends for the three participants are noted in Figure 1. Data for each participant were evaluated using visual inspection to determine changes in the level, trend, and variability of teachers' conversations with children (Kazdin, 2011). Data points for productive conversations in the figures represent the percent of productive conversations within the total number of conversations noted during 13-minute intervals of observation data. With all participants, there was a rate of change indicated by an increase in productive conversations noted after the intervention. Figures show variability as the range between high and low points on a slope during a phase. The mean in the participant's findings represents the level of change from the baseline to the intervention. The mean is calculated by averaging the totals of all data points in the baseline and doing the same after the intervention. The trend line in a visual graphic is a straight line showing the rate of increase or decrease in the dependent variable, which is evaluated by the magnitude of the slope (Horner et al., 2005). Level, trend, and variability are used in figures to indicate patterns that happen during the study phases (Kennedy, 2007).

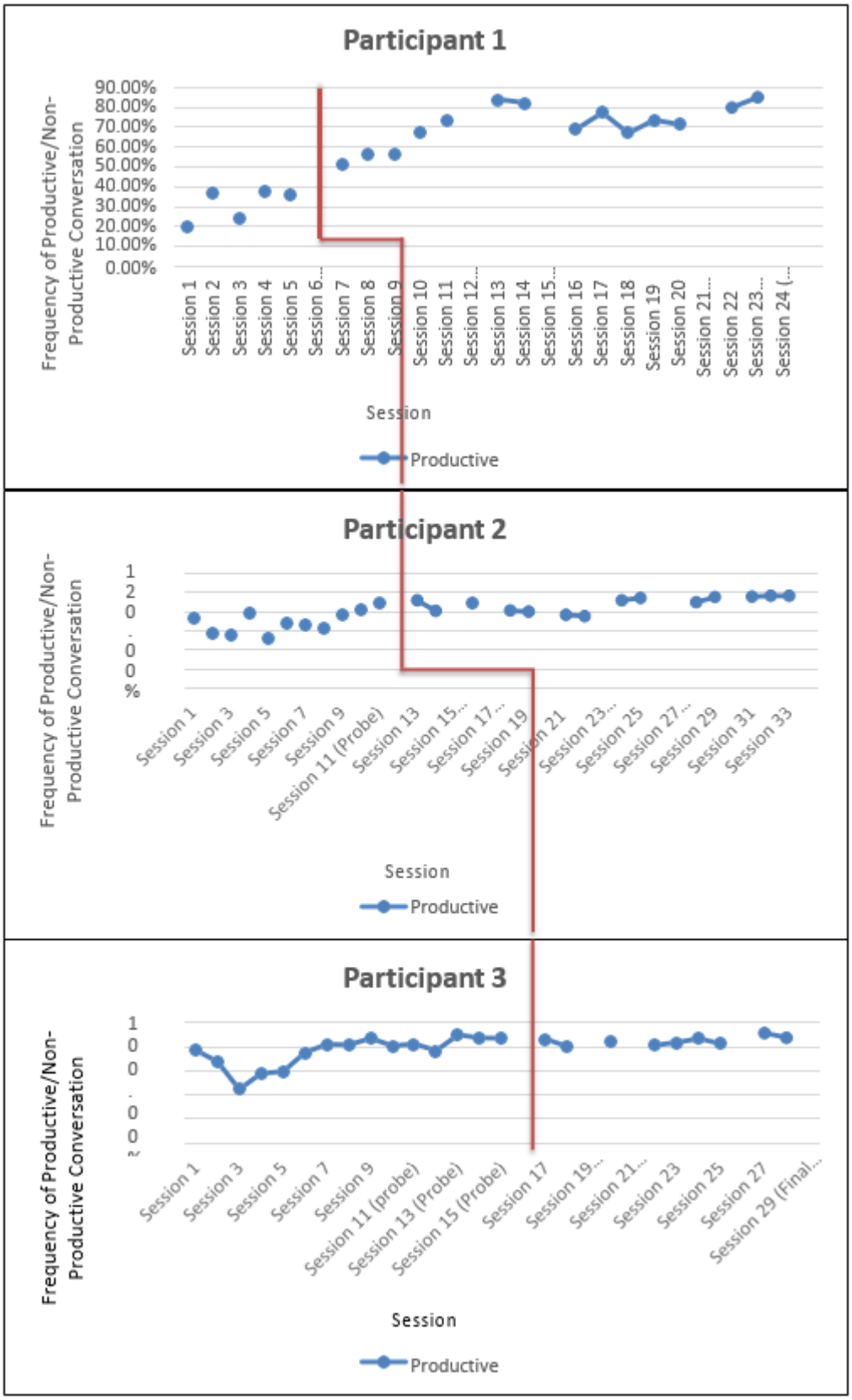

Figure 1. Visual Analysis of All Three Participants

Participant 1 Variability

The variability of the baseline for productive conversation for Participant 1 was lower in the baseline than after the intervention. The baseline variability was from 19.72% to 37.84% and the intervention variability was from 50.94% to 85.14%. Participant 1 demonstrated an immediate 14.71% increase in slope following the training, which demonstrated a significant increase in learning during the earlier intervention sessions. The variability of 34.2% after the intervention is greater than the 18.12% variability during the baseline (see Figure 2). This participant was a first year teacher who had not received CLASS training.

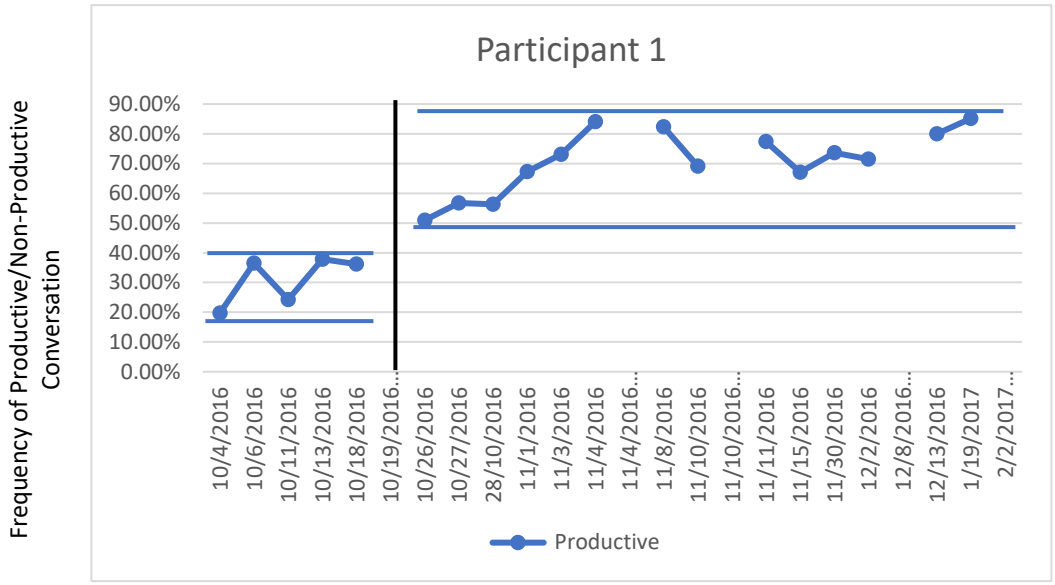

Figure 2. Visual Analysis of Participant 1 Productive Variability

Participant 1 Level

The baseline level mean for Participant 1 was 30.84%, which was lower than the level mean of 71.03% after the intervention. Participant 1 demonstrated an immediate 14.71% increase

following the intervention. The data revealed an overall increase with a baseline range from 19.72% to 37.84% and an after intervention range from 50.94% to 85.14%, which demonstrated a level mean increase of 40.19% overall (see Figure 3).

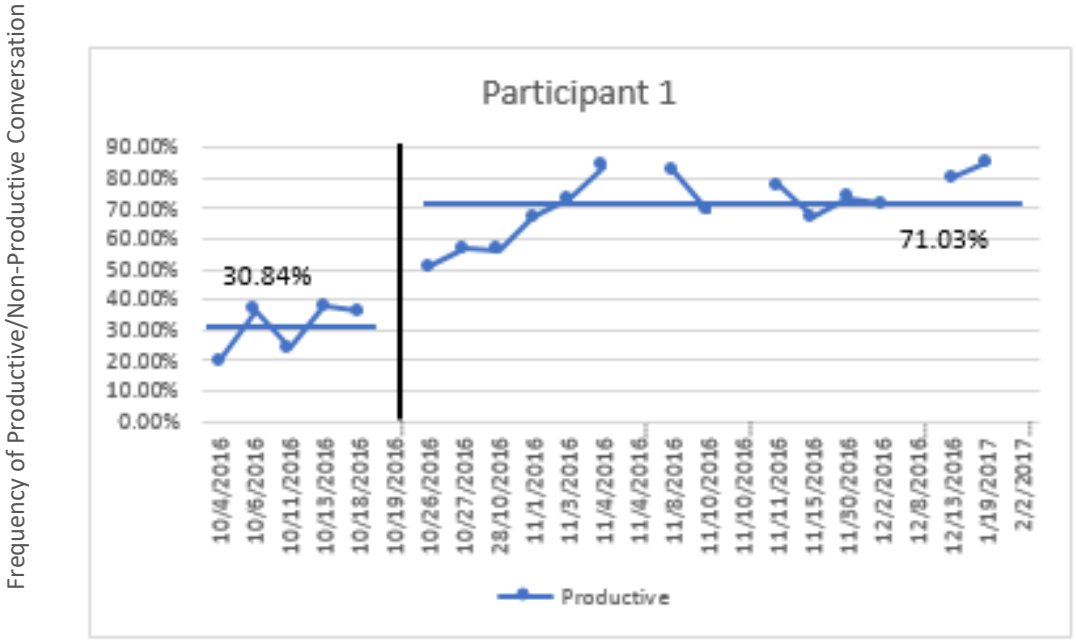

Figure 3. Visual Analysis of Participant 1 Productive Level Mean

Participant 1 Trend

There is a greater trend for productive conversations in the intervention phase, representing an impact of the intervention on Participant 1. The magnitude of the slope is 16.51% in the baseline phase for Participant 1 and 34.20% for the intervention phase (see Figure 4).

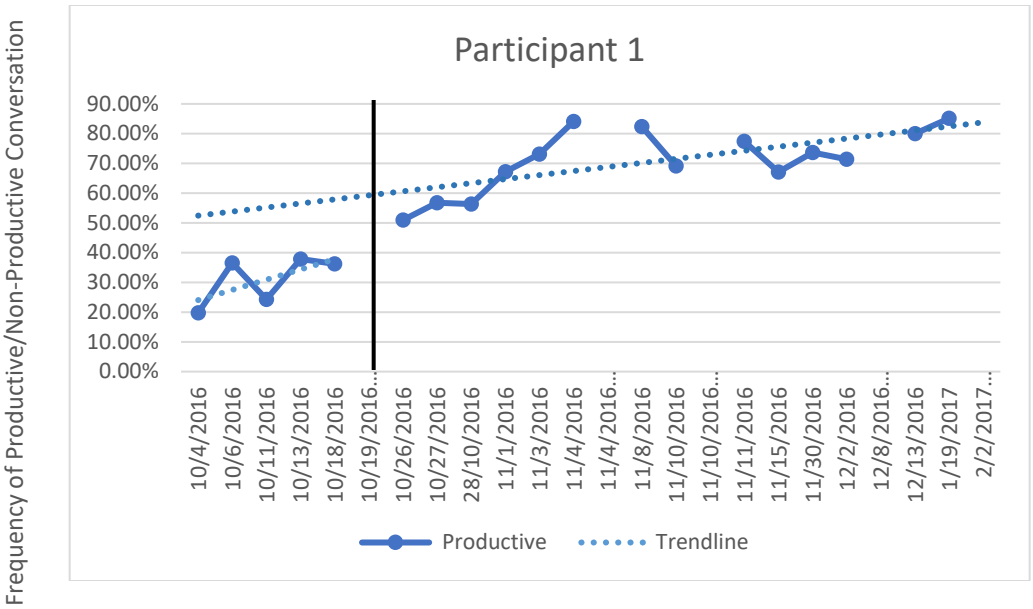

Figure 4. Visual Analysis of Participant 1 Productive Trend

Participant 2 Variability

The variability of the baseline for productive conversation for Participant 2 was higher in the baseline than after the intervention. The baseline variability was lower from 51.56% to 89.89% than the intervention variability from 75.28% to 95.79%, indicating more consistency with productive conversation. Participant 2 demonstrated a very small 1.95% increase in slope following the training, which demonstrated little increase in learning during the earlier intervention sessions. The variability of 21.27% after the intervention is less than the 38.33% variability during the baseline (see Figure 5).

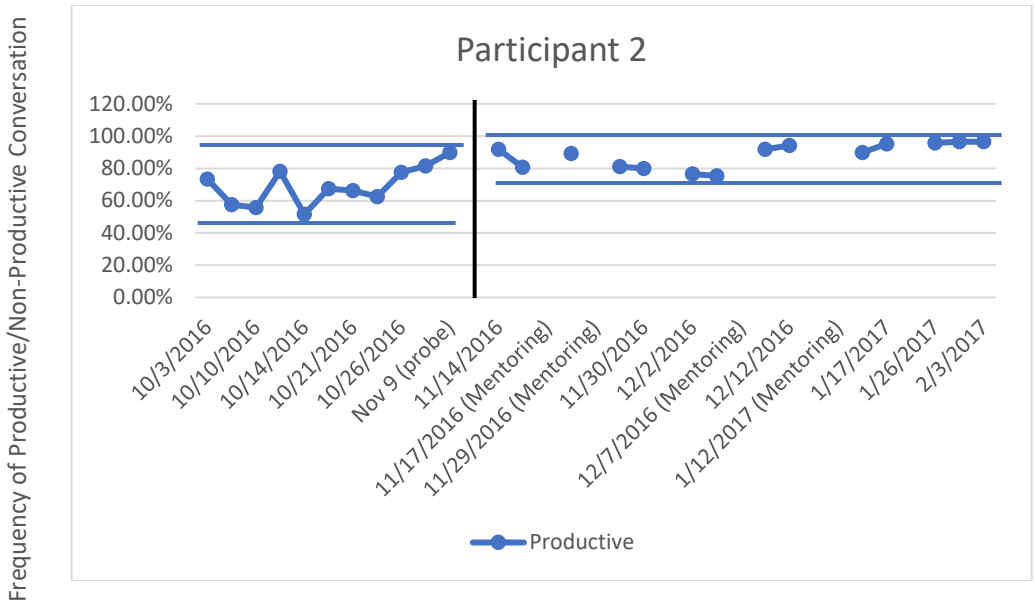

Figure 5. Visual Analysis of Participant 2 Productive Variability

Participant 2 Level

The baseline level mean for Participant 2 was 69.21%, which was lower than the level mean of 88.21% after the intervention. Participant 2 demonstrated a minimal 1.95% increase immediately following the intervention; a latency rate of change was noted after additional mentoring during the next phase of the intervention in which she was to observe and interpret the group of children using the COI (DR and ICKT) forms. This participant has 10 years of experience in early childhood education using the High/Scope curriculum. The data revealed an overall increase with a baseline range from 51.56% to 89.89% and an after intervention range from 75.28% to 96.55%, which demonstrated a level mean increase of 19% overall (see Figure 6).

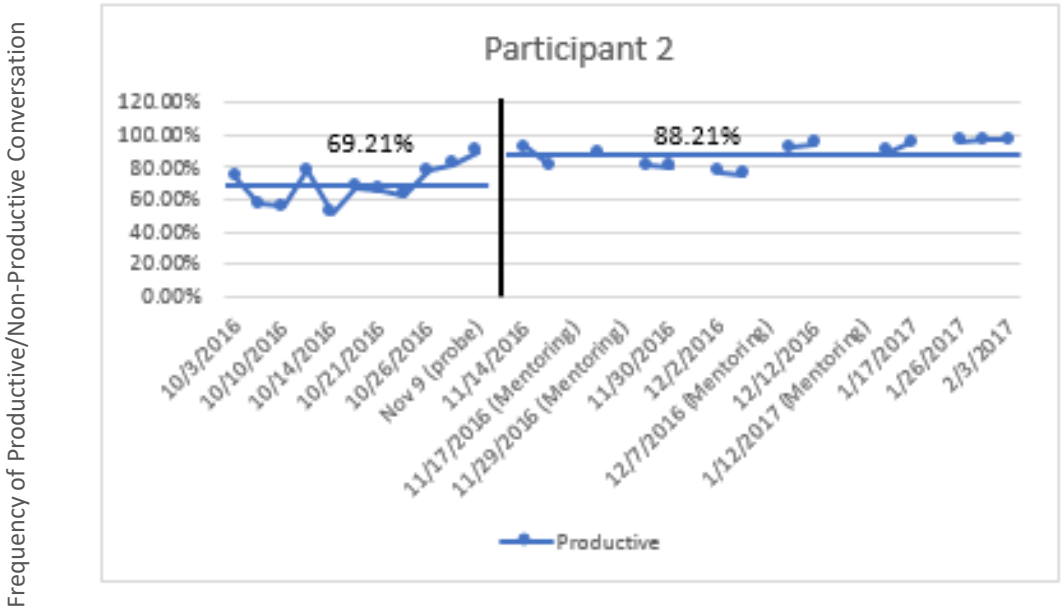

Figure 6. Visual Analysis of Participant 2 Productive Level Mean

Participant 2 Trend

The trend line for Participant 2 was not significant in that there is little to no change in the slope and low magnitude from the baseline to the intervention phase. What is important to note with Participant 2 is the consistency in the frequency of productive conversations (see Figure 7).

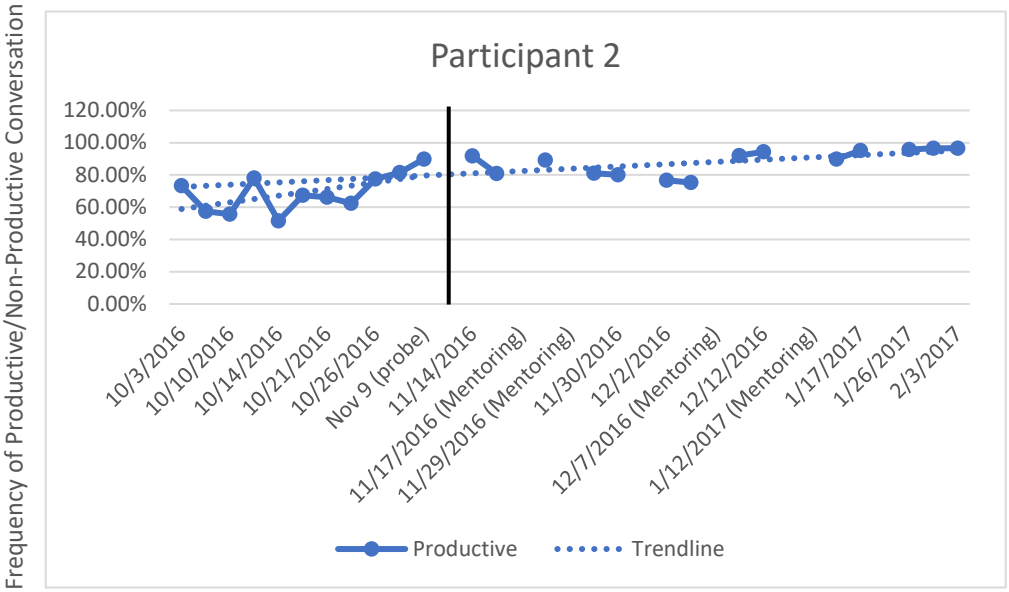

Figure 7. Visual Analysis of Participant 2 Productive Trend

Participant 3 Variability

The variability of the baseline for productive conversation for Participant 3 was greater in the baseline than after the intervention. The baseline variability was from 44.74% to 90.00% and the intervention variability was from 80.33% to 91.57%. Participant 3 demonstrated a slight decrease of 0.7% in slope following the training. The variability of 11.24% after the intervention is less than the 34.2%variability during the baseline. Participant 3 had a greater variability in the baseline phase, but it should be noted that near the end of the baseline the variability was lower. She indicated in her interview that she had received CLASS training during the baseline phase. During the intervention phase, the variability was lower overall than in the baseline (see Figure 8).

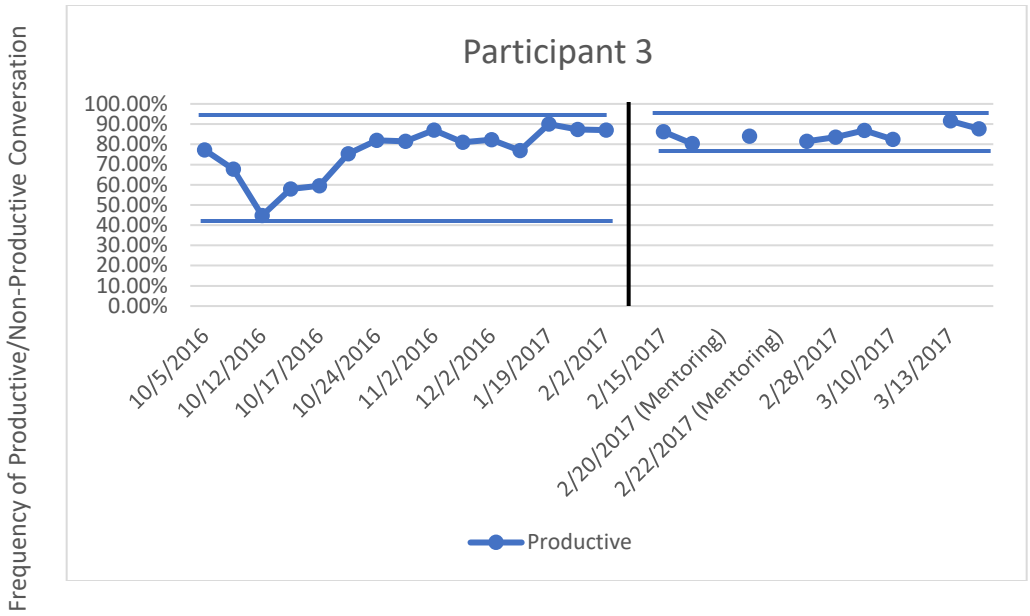

Figure 8. Visual Analysis of Participant 3 Productive Variability

Participant 3 Level

The baseline level mean for Participant 3 was 75.81%, which was lower than the level mean of 84.91% after the intervention. Participant 3 demonstrated an immediate 0.7% increase following the intervention. During the intervention training, the researcher learned that Participant 3 had previously received CLASS training sessions, which may be a reason for the higher level of productive conversation in her baseline data. The data revealed an overall increase with a baseline range from 44.74% to 90.00% and an after intervention range from 80.33% to 91.57%, which demonstrated a level mean increase of 9.1% overall (see Figure 9).

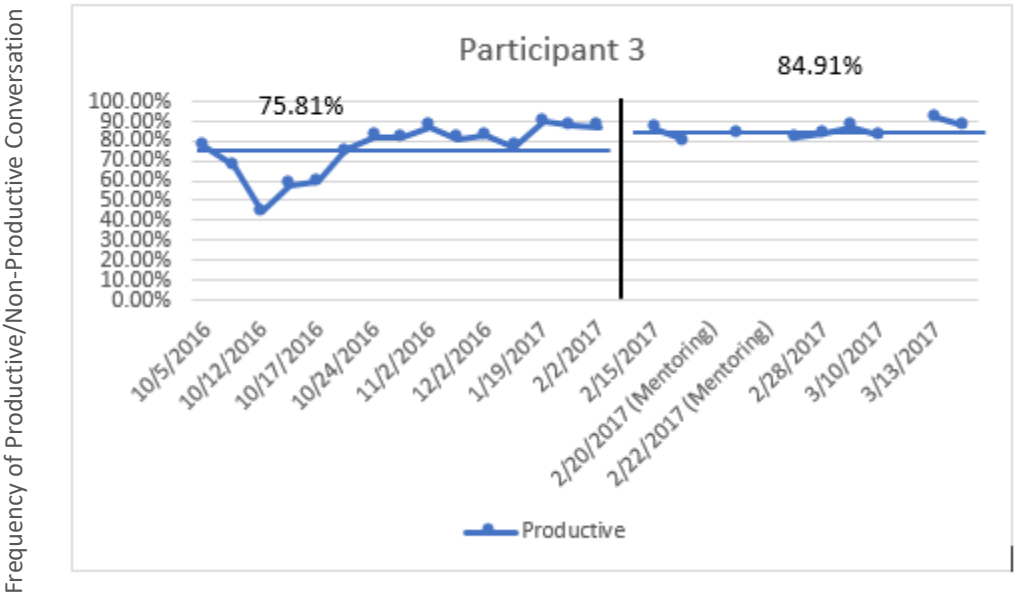

Figure 9. Visual Analysis of Participant 3 Productive Level Mean

Participant 3 Trend

The trend data indicated a moderate slope in the baseline data overall and a slight trend during the intervention phase. The consistency in frequency for productive conversations should be noted in the intervention phase. The data for Participant 3 were noted at an initial high level of productive conversation with latency noted in the slight trend during the intervention phase (see Figure 10).

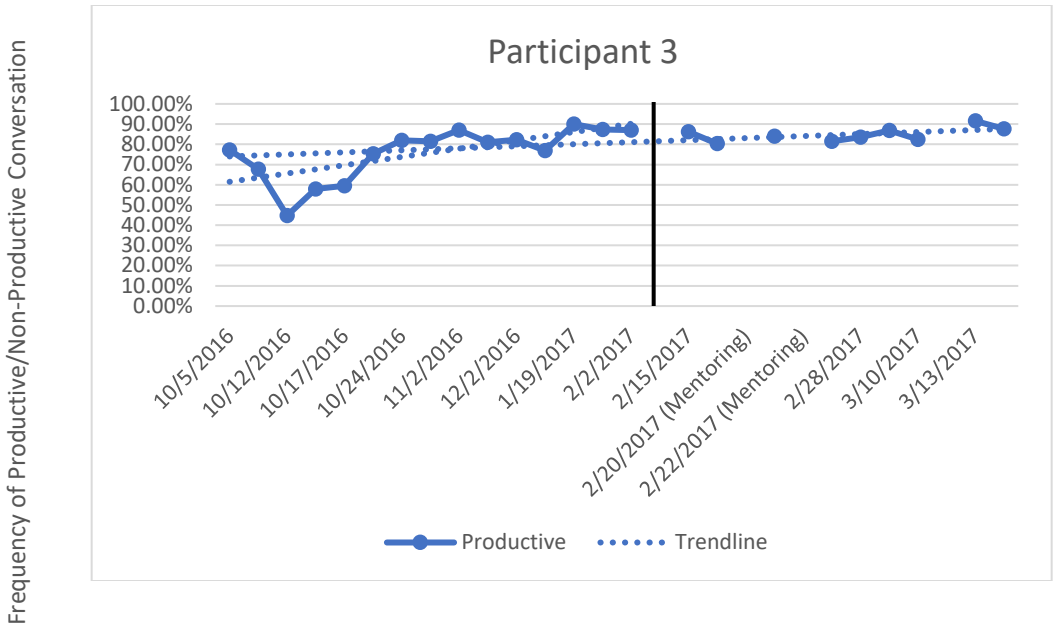

Figure 10. Visual Analysis of Participant 3 Productive Trend

Surveys and Interviews

Pre-surveys and post-surveys (see Appendix A and Appendix B) were used as part of this study to gain additional knowledge and inform the researcher about the participants as a way to better understand differences in the visual graphic data and the effects of the intervention on each teacher's conversations with children (Check & Schutt, 2012). Pre-surveys and post-surveys were used to determine participants' knowledge of the key concepts that were introduced in the intervention and the effect of the intervention following the study.

After the surveys were administered, many queries arose that were subsequently addressed during interviews to clarify responses. Interview questions (see Appendix B) were

developed to maintain a clear protocol across participants for the interview process. Interviews gave the participants an opportunity to elaborate on the survey questions and the study as a whole.

Checking for understanding involved a more direct interaction with participants in a semi-structured setting where the participants had more freedom to explain their thoughts than in the survey. Responses to the interview were recorded, transcribed, and interpreted in direct relation to survey responses. Following the survey with an interview resulted in a stronger study (Singleton & Straits, 2010).

Interview and Survey Results

As noted in the demographics shown in Table 4, the pre-surveys indicated that all participants held an education degree with certification to teach preschool. Participant ages varied from 23 to 45. Their experience in education also varied as one participant was in her first year of teaching and the participant with the most experience was in her tenth year of teaching.

Participant 1. In the survey, Participant 1 noted that from pre-intervention to post-intervention she increased in documenting using video and photographs. She increased in how important she considered it was to share observation information with parents and to assess developmental milestones. She also noted the importance of observing for understanding children's theories about the world.

During the interview following the post-survey, Participant 1 indicated that she was using the DR form to collect her thoughts and ideas from her observations for what children were thinking. She indicated that in public school, she is encouraged to use checklists for developmental milestones and that it is required as a means for providing concrete evidence of where children are in their development based upon those milestones.

During the interview, Participant 1 said, “During and following the intervention, I became more aware of the children’s interests and spent more time watching and observing their play.” She said, “I reserved my conversations for after my observations, when I could engage in talk that is more meaningful with the children, to tie to their interests and what I observed their thinking to be.” She indicated that she would use video as a way to observe now that she had the video camera that was provided by the researcher as a benefit for participating in the study. During the interview, Participant 1 said, “Video would be a way for me to review things I may have missed; it would enable me to hear conversations that I may not have heard among the students.” She noted after the intervention that it was important for children to think independently and that the teacher should be a guide. She also recognized the importance of observing children and documenting their play in an effort to have productive conversations with them. She mentioned that additional training would encourage her to be consistent in the use of the forms. The survey responses for Participant 1 are shown in Table 9.

Table 9

Survey Responses Participant 1

		Times Each Week Pre Intervention		Post Intervention
	To document observations in your classroom, how often do you use:			
1.	Written running records?	2	±0	2
2.	Written anecdotal records?	2	-1	1
3.	Developmental checklists?	1	+2	3
4.	Video?	0	+2	2
5.	Photographs?	5+	±0	5+
		Importance (Least to Most) 0 – 6		**0 – 6**
	How important are your observations and observation methods for:			
6.	Behavior management?	6	±0	6
7.	Sharing information with families?	4	+2	6
8.	Assessing developmental milestones?	5	+1	6
9.	Learning about children's interests?	6	±0	6
10.	Understanding children's theories about the world?	3	+3	6
	The role of conversation in my classroom is:			
11.	For children to follow procedures.	3	-1	2
12.	To give information.	3	±0	3
13.	To model correct procedures.	4	-2	2
14.	To learn children's interests.	6	-1	5
15.	To question in order to correct children.	2	±0	2
16.	Questioning to encourage children's theory development	6	-2	4
17.	To provide opportunities for children to initiate conversations with peers and teachers.	6	-2	4
18.	To understand children's theories about the world	5	±0	5
19.	For children to reflect upon and plan projects or processes to extend their own learning.	4	-2	2
20.	To invite children to participate in planning curriculum/project work that generates from the children's ideas and problem solving.	4	-2	2
	For observations to interpret children's thinking:			
21.	I use written running records.	3	±0	3
22.	I use written anecdotal records.	3	-2	1
23.	I use developmental checklists.	4	±0	4
24.	I use video.	0	±0	0
25.	I use photographs	3	+2	5
26.	*How important is it to interpret children's thinking?*	6	±0	6
	It is important to interpret children's thinking:			
27.	To manage behavior.	6	±0	6
28.	To be sure that children are adhering to the teacher's ideas for learning.	4	-2	2
29.	To make a connection with children's interests for the teacher to further direct their learning.	6	±0	6
30.	To plan curriculum with children in ways that encourage children to theorize with autonomy.	6	±0	6
31.	To offer opportunities for and invite children to be their own teacher and leaders of their learning projects/processes.	5	+1	6

Participant 2. Responses to the survey for Participant 2 indicated that she increased the use of photographs to document observations. She indicated that the role of conversation in her classroom was to provide information and for children to follow procedures. When asked during the interview to clarify her post responses, she said, “I had used the High/Scope curriculum that included observation notes.”

She noted that it was important to observe their interests but that in the Head Start setting teachers were encouraged to stress kindergarten readiness skills. She said, “It was important to let children converse and problem solve when they are not getting along with each other.” Participant 2 had not started using the video for observation, but said, “It would be useful when I could not get all of my notes written down and especially during the study to reflect on my observation of conversations.” She used the documentation record as part of what she would include for her High/Scope notes. She stated that, “Using photographs as a means of documentation for observation was very helpful for taking a closer look at what children were thinking and producing in their play.” The photographs helped her make sense of the things the children said during conversations by looking closely at their play. The survey responses for Participant 2 are shown in Table 10.

Table 10

Survey Responses Participant 2

	Times Each Week Pre Intervention	Post Intervention	
To document observations in your classroom, how often do you use:			
1. Written running records?	5	-5	0
2. Written anecdotal records?	5	±0	5
3. Developmental checklists?	5	±0	5
4. Video?	0	±0	0
5. Photographs?	3	+2	5
	Importance (Least to Most) 0 – 6	**0 – 6**	
How important are your observations and observation methods for:			
6. Behavior management?	6	±0	6
7. Sharing info with families?	6	±0	6
8. Assessing developmental milestones?	6	±0	6
9. Learning about children's interests?	5	-1	4
10. Understanding children's theories about the world?	4	±0	4
The role of conversation in my classroom is:			
11. For children to follow procedures.	3	+1	4
12. To give information.	4	+1	5
13. To model correct procedures.	4	±0	4
14. To learn children's interests.	4	±0	4
15. To question in order to correct children.	2	+2	4
16. Questioning to encourage children's theory development	5	±0	5
17. To provide opportunities for children to initiate conversations with peers and teachers.	6	±0	6
18. To understand children's theories about the world	5	±0	5
19. For children to reflect upon and plan projects or processes to extend their own learning.	6	±0	6
20. To invite children to participate in planning curriculum/project work that generates from the children's ideas and problem solving.	6	±0	6
For observations to interpret children's thinking:			
21. I use written running records.	4	-4	0
22. I use written anecdotal records.	6	-2	4
23. I use developmental checklists.	5	-1	4
24. I use video.	0	±0	0
25. I use photographs	2	+1	3
26. *How important is it to interpret children's thinking?*	6	±0	6
It is important to interpret children's thinking:			
27. To manage behavior.	6	-1	5
28. To be sure that children are adhering to the teacher's ideas for learning.	4	-1	3
29. To make a connection with children's interests for the teacher to further direct their learning.	6	-2	4
30. To plan curriculum with children in ways that encourage children to theorize with autonomy.	6	±0	6
31. To offer opportunities for and invite children to be their own teacher and leaders of their learning projects/processes.	6	±0	6

Participant 3. Participant 3 indicated that all methods of documenting observations were important and that post-intervention she used video to document observations. The post-survey showed that Participant 3 increased her confidence in the importance of observation for documenting milestones, learning about children's interests, and for understanding children's theories about the world. She also indicated in the post-survey an increase in the belief and value of the role of conversation for questioning to encourage children's theory development. She increased her use of photographs to interpret children's thinking and rated the importance of interpretation of children's thinking higher on the post-survey.

During the interview, Participant 3 said, "I started to focus on the process and not as much on developmental milestones." She had started using the COI documentation forms for observing and interpreting, and stated that, "I put more of what I was thinking, about what the child was thinking, into the forms and was able to better prepare activities for the children to extend this type of learning." After the intervention, Participant 3 said she used photos for a visual to go along with her notes. She was able to provide better opportunities for autonomous learning after the training and she said, "It seemed to be a more natural learning process that was not forced on the children." The survey responses for Participant 3 are shown in Table 11.

Table 11

Survey Responses Participant 3

		Times Each Week Pre Intervention		Post Intervention
	To document observations in your classroom, how often do you use:			
1.	Written running records?	5	±0	5
2.	Written anecdotal records?	5	±0	5
3.	Developmental checklists?	2	+1	3
4.	Video?	0	+1	1
5.	Photographs?	5+	±0	5+
		Importance (Least to Most) 0 – 6		**0 – 6**
	How important are your observations and observation methods for:			
6.	Behavior management?	6	±0	6
7.	Sharing info with families?	6	±0	6
8.	Assessing developmental milestones?	5	+1	6
9.	Learning about children's interests?	5	+1	6
10.	Understanding children's theories about the world?	4	+2	6
	The role of conversation in my classroom is:			
11.	For children to follow procedures.	4	±0	4
12.	To give information.	4	±0	4
13.	To model correct procedures.	4	±0	4
14.	To learn children's interests.	5	±0	5
15.	To question in order to correct children.	3	±0	3
16.	Questioning to encourage children's theory development	5	+1	6
17.	To provide opportunities for children to initiate conversations with peers and teachers.	6	±0	6
18.	To understand children's theories about the world	6	±0	6
19.	For children to reflect upon and plan projects or processes to extend their own learning.	6	±0	6
20.	To invite children to participate in planning curriculum/project work that generates from the children's ideas and problem solving.	6	±0	6
	For observations to interpret children's thinking:			
21.	I use written running records.	5	±0	5
22.	I use written anecdotal records.	5	+1	6
23.	I use developmental checklists.	4	-1	3
24.	I use video.	0	+3	3
25.	I use photographs	3	+2	5
26.	*How important is it to interpret children's thinking?*	5	+1	6
	It is important to interpret children's thinking:			
27.	To manage behavior.	4	±0	4
28.	To be sure that children are adhering to the teacher's ideas for learning.	3	±0	3
29.	To make a connection with children's interests for the teacher to further direct their learning.	6	±0	6
30.	To plan curriculum with children in ways that encourage children to theorize with autonomy.	6	-1	5
31.	To offer opportunities for and invite children to be their own teacher and leaders of their learning projects/processes.	5	+1	6

Social Validity

Social validity is used as a guide to determine if the goals of an intervention are relative to everyday life, if the goals are acceptable to participants, if the intervention is valued as important, and if the intervention will influence the lives of participants (Kazdin, 2011). The participants' evaluations of the intervention provided important information regarding any changes to the intervention that would be necessary if the study were replicated; the evaluations also offered insight into the strength of the intervention.

Participant 1. Participant 1 said, "Using the DR and a camera for recording observations was worth the time it took to complete and I would use the DR and a camera in the future." She was not confident of her ability to be consistent. She did not see the worth in using the ICKT to interpret the children's thinking and knowledge for the time it took to complete and indicated that she would not use the form to interpret children's thinking and knowledge. During the mentor sessions, Participant 1 indicated on more than one occasion that the ICKT was very time consuming and that she was not having success with finding time to complete it. She noted that she was able to interpret observations most effectively on a weekly basis. She found value in observing and interpreting for increasing productive conversations with children and said her "beliefs changed because of the intervention." She indicated that her use of productive conversations had increased during playtime and throughout the day because of the intervention. Participant 1 said, "My beliefs about observation and interpretation and their affect on my conversations with children changed because of the intervention." The changes in conversation that she most valued during her interactions with children after the intervention – in order of importance to her – were her ability to:

1. listen to children,
2. use application questions,
3. use reflective statements,
4. respond to children following their question or prompt,
5. allow children to initiate conversations,
6. question in ways that allow children to answer authentically without requiring a right or wrong answer, and
7. allow children choices as to when and who to talk with.

Participant 2. Participant 2 said, “Using the DR and a camera for recording observations was worth the time it took to complete.” She reported that she would use the DR and a camera in the future, but she was not sure of her ability to be consistent. Participant 2 reported that using the ICKT to interpret children’s thinking and knowledge was worth the time it took to complete and that she would use the ICKT, but is again not sure of her ability to be consistent. She said, “I was able to interpret observations most effectively on a daily basis.” She found value in observing and interpreting for increasing productive conversations with children and said, “My beliefs changed because of the intervention.” She indicated that her use of productive conversations had increased during playtime because of the intervention. Participant 2 indicated that her beliefs about observation and interpretation and their influence on conversations with children changed after the intervention. The changes in conversation that she most valued during her interactions with children after the intervention – in order of importance to her – were her ability to:

1. question in ways that allow children to answer authentically without requiring a right or wrong answer,
2. use application questions,
3. listen to children,
4. allow children to initiate conversations,

5. respond to children following their question or prompt,
6. allow children choices as to when and who to talk with, and
7. use reflective statements.

Participant 3. Participant 3 said, “Using the DR and a camera for recording observations was worth the time it took to complete.” She said she would use the DR and camera consistently throughout the year. She indicated that using the ICKT to interpret children’s thinking and knowledge was worth the time it took to complete and that she would use the ICKT, but she is not sure of her ability to be consistent. She reported that she would be able to interpret observations most effectively every 2 days. She found value in observing and interpreting for increasing productive conversations with children and stated that her beliefs changed because of the intervention. Participant 3 indicated that her use of productive conversations had increased throughout the day because of the intervention. She indicated that her beliefs about observation and interpretation and the influence on conversations with children changed because of the intervention. The changes in conversation that she most valued during her interactions with children after the intervention – in order of importance to her – were her ability to:

1. use application questions,
2. use reflective statements,
3. allow children to initiate conversations,
4. listen to children,
5. respond to children following their question or prompt,
6. allow children choices as to when and who to talk with, and
7. question in ways that allow children to answer authentically without requiring a right or wrong answer.

Summary of social validity. All participants indicated that they found value in observing and interpreting for increasing productive conversations with children and stated that their beliefs changed because of the intervention. All participants reported that their conversations had increased during playtime and throughout the day because of the intervention.

All participants said that using the DR and a camera for recording observations was worth the time it took to complete and that they would use the DR and a camera. The ability to be consistent with that use was a concern for two of the three participants.

Two of the three participants indicated that using the ICKT to interpret children's thinking and knowledge was worth the time it took to complete and that they would use the ICKT but were not sure of their ability to be consistent. Based on the researcher's knowledge of public school and Head Start settings, it is likely that the complexity of expectations on these preschool teachers and their curriculum constraints leave them cautious about their ability to be consistent with something that is new and lacks built-in support. As explained in her survey and during the interview, one participant did not value the ICKT form due to the time it took to complete. She indicated that she would need more intervention to feel comfortable using the form. She also said that, if there were collaboration with colleagues on using the form, she would be more apt to use it.

Chapter Summary

Chapter 4 revisited the research questions, demographics, field notes, and mentoring notes. The inter-rater agreement during the training and during the study was described. The visual analysis was explained and the results of the surveys and interviews were provided for each participant of the study.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The summary, conclusions, and recommendations for this study are important to the purpose of the study as related to observation, interpretation, conversation, and the research questions that guided the study. This summarization of findings and conclusions guides researchers for possible replication of the study. Recommendations based on the study details provide an overview of the strengths, weaknesses, and possible implications for future research.

Statement of Purpose

The purpose of this study was to determine if providing a training in the observation and interpretation phases of the Cycle of Inquiry System (Broderick & Hong, 2011) would affect the conversations that a teacher had with children and shift her beliefs about planning for and engaging children in conversation.

Summary of Findings

Results of this study suggest that the intervention had an influence on increasing productive conversations. Teachers' stated beliefs shifted to where they valued observation and documentation and said they believed these practices had an influence on increasing their productive conversations with children in their respective programs. Learning how to document observations and how to focus on what children were thinking was beneficial to all participants. Mentoring sessions during the study helped keep the participants focused and held them accountable during the time of the study.

All participants mentioned that they would benefit from additional professional development and for the intervention strategies to be continued in their classrooms. All participants indicated that they saw the value in observing and interpreting but were uncertain of their ability to be consistent when using the COI forms. Based on comments that participants had to follow the current curriculum in their respective programs, it is implied that each participant would need a shift in their school administration to support their ability to sustain these new practices with the forms. They all indicated that using video and photographs would become a part of their documentation after the study.

The teachers would benefit from training in planning following the observing and interpreting phases of the cycle of inquiry process that led each to increase their productive conversations with children. Two of the participants indicated in the interviews that the intervention had changed the way they plan for children. More in-depth training would encourage teachers to plan for appropriate provocations with the potential to extend children's learning in ways that are autonomous for the learner. Anecdotal reports of teachers using emergent curricula practices reveal that children address more than the expected learning standards during long-term investigations that are closely linked to children's ongoing thinking (Broderick & Hong, 2011; Edwards et al., 1998).

Teachers are much like children, and to shift their beliefs they must have hands-on experiences such as this intervention with built in supports, mentoring, and team teaching. For a shift in what is practiced to become a habit, it must be nurtured and repeated. Therefore, it is important for administrators to have an understanding of and place an importance on team teaching, encourage co-teaching roles, and provide the necessary funding for pre-k teachers to obtain appropriate professional development and classroom environment enhancements.

Research Question 1

Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' productive conversations with children?

The COI intervention affected teachers' productive conversations with children. The visual graphics (see Figure 1) show an increase in productive conversations for the three participants.

Participant 1 saw the greatest level change with a 40.19% increase in productive conversations after the intervention. Participant 2 had the most training in CLASS and had the most experience as a teacher. Her productive conversations were represented by an increase of 19% in the graphic. The percentage increase of Participant 3 is 9.1%, which is much less than the other participants. The rise in her baseline prior to her intervention may be related to the CLASS training she received during the baseline prior to the COI intervention.

Research Question 2

Does the Cycle of Inquiry Intervention (training teachers to observe, document, and interpret their observations of children at playtime) affect teachers' beliefs about observation and interpretation related to productive conversations with children?

The participants' perceptions of observation before the research study were that the teachers observed children's behaviors with little interaction. Documentation was viewed as using a checklist for developmental milestones. Participants' perceptions of observation and documentation were affected after receiving the training in the COI system in that all of the participants perceived documenting observations and using video and photos as important. All of the participants indicated an increase in the importance of observations for understanding

children's theories about the world. The participants reported that they realized the importance of interaction and conversation with children after being able to use what was learned during the training in their classroom environments.

All of the participants reported beliefs about the role of conversation, observation, and interpreting children's thinking were affected as indicated on their pre-survey and post-survey responses. The participants reported a better understanding of the role of conversation as more than directing children to follow procedures and only to provide information. During the follow-up interviews, all participants expressed that using productive conversation provided insight as to the children's thinking and how to provide appropriate materials and learning opportunities for the children.

Social Validity

The value of the training participants received was indicated in the social validity questionnaire. All participants found value in observing and documentation for increasing productive conversations, but were concerned about their ability to use the forms for interpreting children's thinking consistently.

Limitations

There are several limitations to consider in this single case design. Choosing this design limited the sample size. The findings from the study of three participants cannot be generalized, yet they can add to the literature base (Gast & Ledford, 2014). Additionally, a characteristic of the single-case design is that the structure provides the ability to replicate the study and add to the sample size over time.

The choice of a convenience sample limited the study to teachers with great variation in years of experience in the preschool classroom. In future replications of this study, choosing participants with similar years of experience would reduce this limitation.

The use of training in relation to the Classroom Assessment Scoring System (CLASS) in the two Head Start teacher's programs may have influenced their baseline. A lack of information about CLASS instruction that these participants had experienced prior to the training and intervention limited the researcher's ability to know whether trainings related to CLASS affected participant's conversations with children. Future replications should consider participant inclusion criteria to include that all participants either have or have not received CLASS related assessment training.

In public school and Head Start settings, using a non-concurrent design with a multi-faceted intervention – training and mentoring – can be complicated and a consistent schedule across all three participants is difficult. There are many distractions in this type of setting that likely cannot be avoided, including teacher absences, weather related absences, altered schedules, and curriculum directives from administration as part of the regular school and program design; all can interfere with the design for this type of study. Other limitations regarding schedules is the amount of time between mentoring meetings and videotaping sessions that may influence the teacher's mindset and focus. Gaps in the timing of the training and mentoring sessions because of limitations can prevent teachers from using the COI tools within proximity to the training or mentoring sessions. These limitations will exist in every school setting. The need to change videographers was another factor related to schedule changes. Staffing issues affected the teacher's ability to work consistently with the same small group of children so that the number of children observed during each videotaping session varied.

Because of the structure of the single-case design, there could only be one participant at each site, which did not allow teachers to collaborate with teaching aides or co-teachers when interpreting the documentation. The COI model includes collaboration, which would likely benefit participants as far as encouraging them to continue the observation and interpretation practices. The study report noted that the participants said they would like to have had the opportunity to share in their processes with other teachers. Follow-up to any future replications of this study should include training with participants and their co-teachers that progresses on to focus on planning in relation to observations and interpretations.

Participants were not allowed to review their videos to enhance their DR forms and records during the study. If they could have reflected on the videos, they would have been able to note if they had documented and interpreted all they needed to plan for productive conversations. Revisiting video may have enhanced their ability to self-check their interactions and allowed them to consider more deeply the content that emerged from the children, and to plan for more long-term project work with the children. Future replication of this study may allow researchers to provide videotaped records to teachers immediately following the observation sessions.

Recommendations for Practice

This study has many implications for the public-school setting and Head Start. With studies of this nature, it is important to think about the professional development that is needed not just for teachers, but also for the administrators. Most teachers, even those with certification in pre-k, spend most of their time thinking about how to prepare students for kindergarten and not as much time thinking about the individual learner.

Administrators are consumed with standardized testing, accreditation, and other aspects of the school setting; pre-k is often overlooked in the grand scheme of education. In Virginia,

educational leadership degree programs provide administrators with k-12 certification. Administrators need training to find new ways of thinking about how important early childhood education is, and what an early education means for a child during their formative years. Such training must progress over time to allow administrators to apply and to revisit and reflect on their new learning and application for continual growth and improvement within their school settings. Administrators should be introduced to research study findings that demonstrate the importance of focusing on appropriate learning opportunities for individual children as part of effective accreditation processes. As administrators gain knowledge about the importance of early childhood development they must encourage teachers to attend professional development opportunities and support them as they implement what they have learned, providing time for the type of reflection and collaboration that the three participants in this study stated as needs.

Participants need continual professional development and mentoring to gain expertise with the skills they began developing because of the intervention. Participant's roles in the educational setting should be consistent over a longer time, allowing them to remain in the same classroom setting for continued practice with new skills. This may not be possible for many teachers, such as the public-school teachers in this study, because public school teaching assignments often shift from year-to-year based on certifications and the school's needs because of enrollment and highly qualified requirements. Thus, this type of training should be repeated over time for it to become sustainable in each school setting.

Recommendations for Further Research

After much debate as to the level of detail on the coding sheet, conversations were coded as productive or non-productive during this study. There were many indicators for productive and non-productive conversation strategies in the checklist – six for productive conversation

strategies and six for non-productive conversation strategies. Reviewing the videotapes from this study and coding for each indicator on the checklist would provide information regarding the changes in level and trend of the specific use of each of these conversation strategies.

The participants in this study ranged from 1 year of experience to 10 years of experience in early childhood education. There were differences in the thinking of less experienced and more experienced teachers. The most experienced participant was more *set in her ways* of instructing and it was harder for her to shift to a new way of thinking. It would be interesting to see the difference in a replication of this study designed as a concurrent multi-baseline study of tenured teachers versus new teachers and the influence of the intervention on both groups as a comparison. Also, an additional finding was that, overall, all three participants increased their conversations with children. This would be worth investigating in future research.

Teachers trained in the COI model of documentation and interpretation have a better understanding of the influence of productive conversations on children's thinking and overall intellectual and social development. Helm and Katz (2011) saw the project approach as a means for encouraging questioning and to guide an informal curriculum that provided better opportunities for observing, documenting, and interpreting children's thinking. The emergent curriculum allows teachers to plan based on the children's interests and wonderings. Children have engaging conversations around materials and ideas in this type of classroom environment (Jones & Nimmo, 1998). More emphasis on outcomes from research like this study is needed for project work to be viable in public school settings and settings where extensive SOLS are required. A step in this direction would be to design a study to train teachers to implement practices in the phases of the COI used in this study as well as the three additional COI phases and measures in relation to child outcomes. Additionally, training and instruction in the COI

model would help educators understand that many standards can be met beyond the expectations of age and grade level by using this system in place of the developmental checklists typically used in preschool settings (Broderick & Hong, 2011).

If a future study is conducted by the researcher, it should be simplified to focus on one productive conversation trait such as questioning techniques. The checklist for coding productive and nonproductive conversations with multiple indicators is complex.

In implementing future research with the COI it is recommended that training be provided separately for each phase of the COI, with pre-measurement and post-measurement for each phase. During mentoring meetings participants said that if they could have received training in only one aspect of the COI at a time over multiple sessions, they would have learned how to better use the forms and gained a greater understanding of the process. An additional benefit to any future research would be to include the policy makers and administrators in the training.

Summary

This chapter provides a summary of the study, conclusions to the research questions, and recommendations for practice and further research. The purpose of the research is revisited and an analysis summary of the findings in relation to each research question is provided.

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APPENDICES

APPENDIX A

Pre-Survey Items (Adapted from Blay & Ireson, 2009)

Demographics

1. Age
   - ☐ 18-25
   - ☐ 25-35
   - ☐ 36-50
   - ☐ 50-60
   - ☐ over 60
2. Educational Background
   - ☐ High School Graduate
   - ☐ Associates Degree in Early Childhood
   - ☐ Bachelor Degree in Early Childhood
   - ☐ Bachelor Degree other than Early Childhood
     Name of Degree: _____
   - ☐ Master's Degree in Early Childhood
   - ☐ Master's Degree other than Early Childhood
     Name of Degree: _____
   - ☐ Doctoral Degree in Early Childhood
   - ☐ Doctoral Degree other than Early Childhood
     Name of Degree: _____
3. Certifications
   - ☐ PreK-3
   - ☐ PreK-4
   - ☐ PreK-6
   - ☐ K-8
   - ☐ SPED
   - ☐ Other
     Name of Certificate: _____
4. I have worked in preschool for
   - ☐ 0-5 yrs
   - ☐ 6-10 yrs
   - ☐ 11-20 yrs
   - ☐ more than 20 yrs

Pre-Survey Items

1. How often do you use *written running records* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week

2. How often do you use *written anecdotal records* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week

3. How often do you use *developmental checklists* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week

4. How often do you use *video* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week

5. How often do you use *photographs* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week

Choose 0 (least important) to 6 (most important) to state the importance of each in your practice.

6. How important are your observations and observation methods for *behavior management*? 0 – 1 – 2 – 3 – 4 – 5 – 6

7. How important are your observations and observation methods for *sharing information with families*? 0 – 1 – 2 – 3 – 4 – 5 – 6

8. How important are your observations and observation methods for *assessing developmental milestones?* 0 – 1 – 2 – 3 – 4 – 5 – 6

9. How important are your observations and observation methods for *learning about children's interests?* 0 – 1 – 2 – 3 – 4 – 5 – 6

10. How important are your observations and observation methods for *understanding children's theories about the world?* 0 – 1 – 2 – 3 – 4 – 5 – 6

11. The role of conversation in my classroom is *for children to follow procedures*. 0 – 1 – 2 – 3 – 4 – 5 – 6

12. The role of conversation in my classroom is *to give information*. 0 – 1 – 2 – 3 – 4 – 5 – 6

13. The role of conversation in my classroom is *to model correct procedures*. 0 – 1 – 2 – 3 – 4 – 5 – 6

14. The role of conversation in my classroom is *to learn children's interests*. 0 – 1 – 2 – 3 – 4 – 5 – 6

15. The role of conversation in my classroom is *to question in order to correct children*. 0 – 1 – 2 – 3 – 4 – 5 – 6

16. The role of conversation in my classroom is *questioning to encourage children's theory development.* 0 – 1 – 2 – 3 – 4 – 5 – 6

Choose 0 (least important) to 6 (most important) to state the importance of each in your practice.

17. The role of conversation in my classroom is *to provide opportunities for children to initiate conversations with peers and teachers.*
0 – 1 – 2 – 3 – 4 – 5 – 6

18. The role of conversation in my classroom is *to understand children's theories about the world.* 0 – 1 – 2 – 3 – 4 – 5 – 6

19. The role of conversation in my classroom is *for children to reflect upon and plan projects or processes to extend their own learning.*
0 – 1 – 2 – 3 – 4 – 5 – 6

20. The role of conversation in my classroom is *to invite children to participate in planning curriculum/project work that generates from the children's ideas and problem solving*.
0 – 1 – 2 – 3 – 4 – 5 – 6

21. *I use written running records* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

22. *I use written anecdotal records* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

23. *I use developmental checklists* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

24. *I use video* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

25. *I use photographs* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

26. *How important is it to interpret children's thinking*?
0 – 1 – 2 – 3 – 4 – 5 – 6

27. It is important to interpret children's thinking *to manage behavior.*
0 – 1 – 2 – 3 – 4 – 5 – 6

28. It is important to interpret children's thinking *to be sure that children are adhering to the teacher's ideas for learning.* 0 – 1 – 2 – 3 – 4 – 5 – 6

29. It is important to interpret children's thinking *to make a connection with children's interests for the teacher to further direct their learning.*
0 – 1 – 2 – 3 – 4 – 5 – 6

30. It is important to interpret children's thinking *to plan curriculum with children in ways that encourage children to theorize with autonomy.*
0 – 1 – 2 – 3 – 4 – 5 – 6

31. It is important to interpret children's thinking *to offer opportunities for and invite children to be their own teacher and leaders of their learning projects/processes.*
0 – 1 – 2 – 3 – 4 – 5 – 6

APPENDIX B

Post-Survey Items (Adapted from Blay & Ireson, 2009)

Post-Survey Items also on the Pre-Survey

1. How often do you use *written running records* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week
2. How often do you use *written anecdotal records* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week
3. How often do you use *developmental checklists* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week
4. How often do you use *video* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week
5. How often do you use *photographs* to document observations in your classroom? 0 – 1 – 2 – 3 – 4 – 5 – 5+ times per week

Choose 0 (least important) to 6 (most important) to state the importance of each in your practice.

6. How important are your observations and observation methods for *behavior management*? 0 – 1 – 2 – 3 – 4 – 5 – 6
7. How important are your observations and observation methods for *sharing information with families*? 0 – 1 – 2 – 3 – 4 – 5 – 6
8. How important are your observations and observation methods for *assessing developmental milestones?* 0 – 1 – 2 – 3 – 4 – 5 – 6
9. How important are your observations and observation methods for *learning about children's interests?* 0 – 1 – 2 – 3 – 4 – 5 – 6
10. How important are your observations and observation methods for *understanding children's theories about the world?* 0 – 1 – 2 – 3 – 4 – 5 – 6
11. The role of conversation in my classroom is *for children to follow procedures*. 0 – 1 – 2 – 3 – 4 – 5 – 6
12. The role of conversation in my classroom is *to give information*. 0 – 1 – 2 – 3 – 4 – 5 – 6
13. The role of conversation in my classroom is *to model correct procedures*. 0 – 1 – 2 – 3 – 4 – 5 – 6
14. The role of conversation in my classroom is *to learn children's interests*. 0 – 1 – 2 – 3 – 4 – 5 – 6
15. The role of conversation in my classroom is *to question in order to correct children*. 0 – 1 – 2 – 3 – 4 – 5 – 6
16. The role of conversation in my classroom is *questioning to encourage children's theory development.* 0 – 1 – 2 – 3 – 4 – 5 – 6

Choose 0 (least important) to 6 (most important) to state the importance of each in your practice.

17. The role of conversation in my classroom is *to provide opportunities for children to initiate conversations with peers and teachers.*
0 – 1 – 2 – 3 – 4 – 5 – 6

18. The role of conversation in my classroom is *to understand children's theories about the world.* 0 – 1 – 2 – 3 – 4 – 5 – 6

19. The role of conversation in my classroom is *for children to reflect upon and plan projects or processes to extend their own learning.*
0 – 1 – 2 – 3 – 4 – 5 – 6

20. The role of conversation in my classroom is *to invite children to participate in planning curriculum/project work that generates from the children's ideas and problem solving*.
0 – 1 – 2 – 3 – 4 – 5 – 6

21. *I use written running records* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

22. *I use written anecdotal records* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

23. *I use developmental checklists* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

24. *I use video* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

25. *I use photographs* of observations to interpret children's thinking.
0 – 1 – 2 – 3 – 4 – 5 – 6

26. *How important is it to interpret children's thinking*?
0 – 1 – 2 – 3 – 4 – 5 – 6

27. It is important to interpret children's thinking *to manage behavior.*
0 – 1 – 2 – 3 – 4 – 5 – 6

28. It is important to interpret children's thinking *to be sure that children are adhering to the teacher's ideas for learning.* 0 – 1 – 2 – 3 – 4 – 5 – 6

29. It is important to interpret children's thinking *to make a connection with children's interests for the teacher to further direct their learning.*
0 – 1 – 2 – 3 – 4 – 5 – 6

30. It is important to interpret children's thinking *to plan curriculum with children in ways that encourage children to theorize with autonomy.*
0 – 1 – 2 – 3 – 4 – 5 – 6

31. It is important to interpret children's thinking *to offer opportunities for and invite children to be their own teacher and leaders of their learning projects/processes.*
0 – 1 – 2 – 3 – 4 – 5 – 6

Social Validity

Choose 0 (not at all) to 6 (greatly increased) to state the increase in each.

1. Attending the COI training improved my observation strategies.
   0 – 1 – 2 – 3 – 4 – 5 – 6
2. Following the training, I increased the amount of observation I do during free choice playtime. 0 – 1 – 2 – 3 – 4 – 5 – 6
3. Following the training, I consistently used the DR form to document observations.
   0 – 1 – 2 – 3 – 4 – 5 – 6
4. Following the training, I consistently used the ICKT form to interpret my observation data. 0 – 1 – 2 – 3 – 4 – 5 – 6
5. Following the training, I consistently interpreted children's thinking.
   0 – 1 – 2 – 3 – 4 – 5 – 6

Feasibility

6. Using the DR and a camera for recording observations is worth the time it takes to complete. 0 – 1 – 2

0	I will not use the DR and a camera.
1	I will use the DR and a camera. Not sure of ability to be consistent.
2	I will use the DR consistently through the school year.

7. Using the ICKT to interpret children's thinking and knowledge is worth the time it takes to complete. 0 – 1 – 2

0	I will not use the ICKT to interpret thinking and knowledge.
1	I will use the ICKT to interpret thinking and knowledge. Not sure of ability to be consistent.
2	I will use the ICKT to interpret thinking and knowledge consistently through the school year.

8. I find I am able to interpret observations most effectively:
   - ☐ Daily
   - ☐ Every two days
   - ☐ Every few days
   - ☐ Weekly
   - ☐ In meetings with my mentor

Value

9. Value of observing and interpreting for increasing productive conversations with children. 0 – 1 – 2

0	I do not value observation and interpretation for increasing productive conversations with children.
1	I value observation only for increasing productive conversations with children.
2	I value observation and interpretation for increasing productive conversations with children.

10. The intervention changed my beliefs about observation and interpretation and the impact on conversations with children. 0 – 1

0	My beliefs did not change as a result of the intervention.
1	My beliefs changed as a result of the intervention.

Significant Change

11. I increased the amount of conversations I have with children as a result of the intervention:

    ☐ during playtime.

    ☐ throughout the day.

12. The changes I most value in my interactions with children as a result of the intervention are my ability to (number in the order of significance to your teaching practice):

    _____ listen to children

    _____ allow children to initiate conversations

    _____ allow children choices as to when to talk and who to talk with

    _____ question in ways that allow children to answer authentically without requiring a right or wrong answer

    _____ use application questions (How would you? What other ways could you?)

    _____ use reflective action statements (rephrasing and stating what the child says and is doing)

    _____ model processes in open-ended ways (that allow children to explore with their own unique and diverse approaches)

Choose 0 (not at all) to 6 (greatly increased) to state the increase in each.

13. Following the training, I have increased the amount of conversations I have with children:

- during playtime 0 – 1 – 2 – 3 – 4 – 5 – 6
- throughout the day 0 – 1 – 2 – 3 – 4 – 5 – 6

14. Following the training, I have increased my ability to:

- listen to children 0 – 1 – 2 – 3 – 4 – 5 – 6
- allow children to initiate conversations
  0 – 1 – 2 – 3 – 4 – 5 – 6
- allow children choices as to when to talk and who to talk with
  0 – 1 – 2 – 3 – 4 – 5 – 6
- question in ways that allow children to answer authentically without requiring a right or wrong answer 0 – 1 – 2 – 3 – 4 – 5 – 6
- use application questions (How would you? What other ways could you?)
  0 – 1 – 2 – 3 – 4 – 5 – 6
- use reflective action statements (rephrasing and stating what the child says and is doing) 0 – 1 – 2 – 3 – 4 – 5 – 6
- model processes in open-ended ways (that allow children to explore with their own unique and diverse approaches)
  0 – 1 – 2 – 3 – 4 – 5 – 6

Measurement of Worthiness

15. Using the DR and a camera for recording observations is worth the time it takes to complete. 0 – 1 – 2 – 3 – 4 – 5 – 6

0	No value to using the DR or any observation process that is tied to interpretation processes.
1	I cannot successfully use the DR or an observation record system I create consistently through the school year.
2	I have concerns about using the DR or an observation record system I create at some level through the school year.
3	I can observe throughout the school year using my own system.
4	I can use the DR process at some level through the school year. Not sure of ability to be consistent.
5	I can use the DR process consistently through the school year with more support. Will strongly influence my planning and facilitating of learning with children.
6	I can successfully use the DR consistently through the school year. Will strongly influence my planning and facilitating of learning with children.

16. Using the ICKT to interpret children's thinking and knowledge is worth the time it takes to complete 0 – 1 – 2 – 3 – 4 – 5 – 6

0	No value to using the ICKT or interpretation processes.
1	I cannot successfully use the ICKT process consistently through the school year.
2	I have concerns about using the ICKT process at some level through the school year.
3	I can observe and interpret throughout the school year using my own system.
4	I can use the ICKT process at some level through the school year Not sure of ability to be consistent.
5	I can use the ICKT process consistently through the school year with more support. Will strongly influence my planning and facilitating of learning with children.
6	I can successfully use the ICKT process consistently through the school year. Will strongly influence my planning and facilitating of learning with children.

17. Meeting with a mentor to review the observation (DR) and interpretation (ICKT) processes was worth the time it took to meet

0 – 1 – 2 – 3 – 4 – 5 – 6

0	No value to using the DR & ICKT or any observation process that is tied to interpretation processes.
1	I cannot successfully implement the DR & ICKT process consistently through the school year.
2	I have concerns about implementing the DR & ICKT process at some level through the school year.
3	I can observe and interpret throughout the school year using my own system.
4	I can implement the DR & ICKT process at some level through the school year. Not sure of ability to be consistent.
5	I can implement the DR & ICKT process consistently through the school year with more support. Will strongly influence my planning and facilitating of learning with children.
6	I can successfully implement the DR & ICKT process consistently through the school year. Will strongly influence my planning and facilitating of learning with children.

APPENDIX C

Checklist Data for Participant Training

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Started at 9:15 AM				
Goal of Study Presented	X			Study protocol reviewed - Goal of study was defined
Definition of Meaningful conversations	X			Trainer may want to say that conversation for this study is "talk."
Productive defined	X			Used researchers coding checklist
Non-Productive defined	X			Used researchers coding checklist
Discussion by the teacher of Productive and Non-Productive	X			"Teachers" gave examples of what they believed to be productive and non-productive such as praise for non-productive, "can you explain" for productive.
Non-Productive - detailed description	X			
Video of Non-Productive	X			

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Discussion of Video (Using Questions on the PPT provided in a handout)	X		"Teacher" asked questions about how to make literacy teaching into productive conversation.	Did not use the slide in PPT exactly, but the trainer did ask, "What nonproductive conversation did you see?"
Productive - detailed description	X			Used researchers coding checklist
Video of Productive	X			
Discussion of Video (Using questions on the PPT provided in a handout)	X	Did not use the slide in PPT handout exactly, but the trainer did ask, "What productive conversation did you see?"		Teachers noticed the difference - children were engaged - talking about what they were doing; they noticed that in the video teacher asked the students questions that led them to explain their play.
Productive Conversation Strategies Introduced	X	Can you think of a time when you used something to generate conversation?		"Teachers" demonstrated that they were understanding productive conversation - mentioned using pictures, materials, as conversation starters.

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Observing Children as a means to guide conversation introduced - (clay example)	X	Used question as in PPT -Can you remember a time when you observed a child's actions without initiating a conversation? -Why might it be important to know her meaning for the actions?	All could remember a time. They thought it was important to observe. Talked about how it was important to observe to start thinking about their thinking. Talked about observing was important to determine their needs to extend thinking.	
Materials as conversation introduced	X			
Teacher formulates as application or reflective statement (productive conversation)	X	What might you say to encourage the child to talk?	Teacher responded: I see a lot of shapes what do you see? How many pieces do you see? How are the pieces similar and different?	
Observations introduced as the "stuff" of conversations	--			Not in explicit detail. May need to discuss more in actual training.
"What to Document" introduced	X			

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Discussion with questions from the PPT	X	Focus on the actions, not necessarily the food- extending of play- ideas that capture a lot of people. Could bring in pizza at a later date as just one activity for cutting.	Talked about themes – such as pizza in clay	
Introduction to DR Record (Documentation Record)	X			
Example of DR Record (Questions from PPT notes)	X	Reviewed example. Gave review of how this evolves. Talked about teacher's thinking- teachers have questions when doing the DR form.		
DR Record – What to document- PPT slide	X	DR- is making the teachers thinking visible—What do you think the teachers see?	"Teacher" noted I think the children are exploring the worms. Sharing with the teacher in the picture.	Trainer noted that more than pictures are needed to document fully.

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Questions on PPT that relate to What does the child think?	X	What are your speculations of the child's thinking? Theory development- Separate teachers thinking and speculation from observations. How can your teacher knowledge of theories help you plan for future lessons and conversation with children? Trainer talked about creating environment, provocations for extending learning.	Documentation could help teacher's plan questions to ask and things to put out for the children.	Add picture to slide 18? Ben… roads…
Looking at Conversation from perspective of Developmental Domains: Language, Fine Motor, Gross Motor, Social Emotional, Cognitive	X	Developmental documentation does not always help develop thinking in children. "Child knows color" you can develop more meaningful interactions beyond color knowledge.		
What to do with interpretations- Threads of inquiry introduced	X			Used slide to explain.
DR Records- Photos Photos to accompany written records- Purpose of photos defined	X	We see child's actions in photos.		Used slide to explain.

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
DR Records- Photos- Observational Notes	X	Helps us see what the teacher referenced in documentation records.		
Introduction to Checklist to be used with Mentor during the study/research	X	Could an outside reader understand what you are seeing?	What is enough to document?	Had teachers refer to the checklist handout? Moved break here… 11 AM.
Video/Discussion/ Video with use of DR form	X	Teachers asked about documenting what the teacher is saying, what parts of the episode to document. Asked about real water.	Can you see the actions and what children do as important?	May want to use all or less of video (9 minutes) Used approximately 6 minutes today. Watched video, teachers used DR form, replayed video— revisited forms- discussions.
Self-assessment with DR checklist	X		Use checklist to review DR form.	

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Discussion	X	-Some of the questions were not applicable since watching a video and not actually there. -Teachers questioning made students investigate more, adding blocks for strengths. -Could use pictures to have a conversation with children at later time after reflection of DR form. - noticed that teachers ask questions to encourage engagement as children's attention wondered.	So, what if you were there what would you photograph? You can say a frame of video for picture. Discussions of what the teachers put in DR forms. Allow play to continue for more than one time frame to get more documentation/thinking.	
Review with a completed DR- handout	X	-Difference in documenting actions and words by children. -more detail could be added to DR	Was the DR checklist good to help see if the DR form had elements needed?	
BREAK				
COI Practice 2	X			Video with bird nest/mud discussion
Video/discussion of video/ Revisit video with DR form	X	-Engaging children more -actions of children -what can teacher do to make it a better experience		

DATE 8/23/2016 - Pilot Training - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Self-assessment with DR checklist	--			Mostly discussion of video clip
LUNCH				

DATE 8/23/2016 - Pilot Training - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Goal of interpreting play- Why it is important- Intro to ICKT form	--			May need to introduce in more detail as afternoon session begins
Conversations introduced as keys to children's thinking: -with peers -with teachers and peers -with teachers -self talk -with materials	X			
Why teachers interpretations of conversations are important	X	When you interpret you are digging deeper than just documenting		
Interpretations defined/ Importance related	X	Assess for knowledge and theories of the world- Not themes only		
Speculating on the minds of children/ More than just their interests	X	"what they know" what is their knowledge and theory- "Clay melts" Teachers seem to be thematic- not necessarily conceptual knowledge.		
Use actions as strategies- speculations: open/divergent	X	Goals and Strategies seen in the PPT? They are trying to keep the coil clay on top of each other to go higher. Find the meaning of the play- find threads	Responses to trainer: Goal is to create a bowl, some kind of container, making it go higher	

DATE 8/23/2016 - Pilot Training - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
ICKT form- example of speculation with ICKT form- descriptive language sample	X	More than describing play- use your (teacher thinking.		Used PPT slide to introduce what to put on the ICKT form
How to choose what to write in ICKT form- notice when actions seem significant	X	Find the meaning of play through narrative - From PPT: Students developed strategy to build high with blocks- trials with stacking blocks.		
Find the meaning of play through narrative – conversations with co-teachers relating the experience	X	Good to share with co-teachers – telling what is happening in ICKT record- at this point the co teacher writes what the teacher says. It is like telling a story. The teacher can interrupt- capture both thoughts on thinking.	When sharing, the co- teacher writes what I share?	Dr. B. will need to be co teacher during the actual training for the example of how this takes place.
Example defined- Manipulating paint narrative(Day 1,2,3)	X		Do we write in 1st person? (yes)	
Manipulating paint with tools- picture	X			
Writing the narrative- elements of a good narrative – example of the narrative	X	Thoughts? Questions?		Worm exploration
Exploring the child's perspective	X	If /then, how and why I think…. Language we should have in thinking about narrative.		
Review of narrative- from a child's perspective/writing as a child what they are thinking	X	What can you imagine from looking at the pictures? Documentation panels of previous play is good for children to revisit.		Used slide- gave detail and explained pictures.

DATE 8/23/2016 - Pilot Training - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
Child's perspective – samples of narratives/ importance of honest dialog, engagement, materials. Children do not work towards abstract standards- standards are adult checklists	X	Imagine you are the child you are writing about. This will help you to dig deeper into the perspective of the child. What might the child be thinking in the picture? Maybe they have the question "how does the worm move, Can I touch it and make it move? Paint picture- Children do not work from standards- standards are adult checklists.	Is the worm moving? Is it down in there?	
Introduction to the ICKT form	X			
Sample ICKT form	X			Handout
Checklist for ICKT form- Used for bi- weekly meeting with COI mentor	X	What do you think?	Checklist: teachers discussed handout info. "We see this because child is thinking this…"	
Using checklist with sample ICKT form- -Video -DR-ICKT -Write interpretations -Self assess -Discussion	X	Work to do this form on your own. Look at your DR form from this video and start to develop you interpretations from it. -Adding examples to general knowledge is good – relate back to the video. Example-(drawing) given to teachers to help explain how children see things differently. –blocks-	Teachers shared what their interpretations were.	Reviewed video from morning session- block play Reminded to use checklist as they self-assess.
BREAK				

DATE 8/23/2016 - Pilot Training - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Pilot Participant Comments***	***Researcher Comments***
2nd Video -Brief discussion ICKT to review DR forms -self assess -Discussion	X		Students shared the co teaching strategies for providing info into the narrative.	-Video with outdoor play-nests and tree -Co-teacher sharing- to aid in narrative and finding more detail for narrative ICKT form.
Questions/Discussion How to use new knowledge	X	How could you take what you learned today and use in your classroom tomorrow? Teachers will be asked to use forms every day.	-Seeing from child's perspective -Teaching with a purpose	
Discussion of Study/Protocols of Study	X	Did the setup of the day work for you? What did you get out of this training? Drew the COI to better explain purpose of this model.	This training would be helpful to have before having to observe children. The domains is not enough to observe.	
Ended at 4:00 PM				

DATE 10/19/2016 - Participant 1 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Started at 9:45 AM				
Goal of Study Presented	X			Study protocol reviewed- Goal of study was defined-
Definition of Meaningful conversations	X			Conversations as talk- it was clear.
Productive defined	X			Used researchers coding checklist
Non-Productive defined	X			Used researchers coding checklist

DATE 10/19/2016 - Participant 1 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Discussion by the teacher of Productive and Non-Productive	X			P1 gave examples of what they believed to be productive and non-productive.
Non-Productive- detailed description	X			Using researchers checklist
Video of Non-Productive	X			
Discussion of Video (Using Questions on the PPT provided in a handout)	X	"What nonproductive conversation did you see?"		
Productive- detailed description	X			Used researchers coding checklist
Video of Productive	X			
Discussion of Video (Using questions on the PPT provided in a handout)	X	"What productive conversation did you see?"		P1 noted the differences in the atmospheres from productive and non-productive and the teacher's demeanor for conversing with the children.
Productive Conversation Strategies Introduced	X	Can you think of a time when you used something to generate conversation?		P1 demonstrated that she was understanding productive conversation.
Observing Children as a means to guide conversation introduced – (clay example)	X	Used question as in PPT – -Can you remember a time when you observed a child's actions without initiating a conversation? -Why might it be important to know her meaning for the actions?		
Materials as conversation introduced	X			

DATE 10/19/2016 - Participant 1 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Teacher formulates as application or reflective statement (productive conversation)	--	Said in the training initially, but not in this training with P1- "What might you say to encourage the child to talk?"		
Observations introduced as the "stuff" of conversations	X			
"What to Document" introduced	X			
Discussion with questions from the PPT	X			
Introduction to DR Record (Documentation Record)	X			
Example of DR Record (Questions from PPT notes)	X	Reviewed example. Gave review of how this evolves. Talked about teacher's thinking- teachers have questions when doing the DR form.		
DR Record – What to document-	X	DR- is making the teachers thinking visible—What do you think the teachers see?		
Questions on PPT that relate to What does the child think?	X			
Looking at Conversation from perspective of Developmental Domains: Language, Fine Motor, Gross Motor, Social Emotional, Cognitive	--			
What to do with interpretations- Threads of inquiry introduced	X			Used slide to explain.
DR Records- Photos Photos to accompany written records- Purpose of photos defined	X			Used slide to explain.
DR Records- Photos- Observational Notes	X	Helps us see what the teacher referenced in documentation records.		
Introduction to Checklist to be used with Mentor during the study/research	X	Could an outside reader understand what you are seeing?		Had P1 reference the checklist handout.

DATE 10/19/2016 - Participant 1 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Video/Discussion/ Video with use of DR form	X		Can you see the actions and what children do as important?	Watched video, teachers used DR form, replayed video - revisited forms- discussions.
Self-assessment with DR checklist	X		Use checklist to review DR form.	
Discussion	X			
Review with a completed DR- handout	X	-Difference in documenting actions and words by children. -more detail could be added to DR	Was the DR checklist good to help see if the DR form had elements needed?	
BREAK				
COI Practice 2	--			Used only one video to practice – P1 seemed to have an understanding of the form.
Video/discussion of video/ Revisit video with DR form	--			
Self-assessment with DR checklist	--			
LUNCH				

DATE 10/19/2016 - Participant 1 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Goal of interpreting play- Why it is important- Intro to ICKT form	X			
Conversations introduced as keys to children's thinking: -with peers -with teachers and peers -with teachers -self talk -with materials	X			
Why teachers interpretations of conversations are important	X	When you interpret you are digging deeper than just documenting		

DATE 10/19/2016 - Participant 1 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Interpretations defined/ Importance related	X	Assess for knowledge and theories of the world- Not themes only		
Speculating on the minds of children/ More than just their interests	X	"what they know" what is their knowledge and theory- "Clay melts" "Sensory with Paint" Teachers seem to be thematic- not necessarily conceptual knowledge.		
Use actions as strategies- speculations: open/divergent	X	Goals and Strategies seen in the PPT? Find the meaning of the play- find threads	PI brought in her own experience in her classroom.	
ICKT form- example of speculation with ICKT form- descriptive language sample	X	More than describing play- use your (teacher thinking. –worm exploration		Used PPT slide to introduce what to put on the ICKT form "Writing the Narrative"
How to choose what to write in ICKT form- notice when actions seem significant	X	Find the meaning of play through narrative - From PPT: Students develop strategy		
Find the meaning of play through narrative – conversations with co-teachers relating the experience	X	Good to share with co-teachers – It is like telling a story. The teacher can interrupt- capture both thoughts on thinking. Have empathy as this process evolves.		*Due to isolation of study will not have a co-teacher. Revisit with all participants of actual study to implement this piece at end of study.
Example defined- Manipulating paint narrative(Day 1,2,3)	X			
Manipulating paint with tools- picture	X			
Writing the narrative- elements of a good narrative – example of the narrative	X	Thoughts? Questions?		
Exploring the child's perspective	X	If /then, how and why I think…. Language we should have in thinking about narrative.		

DATE 10/19/2016 - Participant 1 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 1 Comments***	***Researcher Comments***
Review of narrative- from a child's perspective/writing as a child what they are thinking	X	What can you imagine from looking at the pictures? Documentation panels of previous play is good for children to revisit.		Used slide- gave detail and explained pictures.
Child's perspective – samples of narratives/ importance of honest dialog, engagement, materials. Children do not work towards abstract standards- standards are adult checklists	X	Imagine you are the child you are writing about. This will help you to dig deeper into the perspective of the child. What might the child be thinking in the picture? Children do not work from standards- standards are adult checklists.		
Introduction to the ICKT form	X			
Sample ICKT form	X			Handout
Checklist for ICKT form- Used for bi- weekly meeting with COI mentor	X	What do you think? Any questions?		
Using checklist with sample ICKT form- -Video -DR-ICKT -Write interpretations -Self assess -Discussion	X	Work to do this form on your own. Look at your DR form from this video and start to develop you interpretations from it. -Adding examples to general knowledge is good – relate back to the video.	PI shared what interpretations were.	Reviewed video from morning session- block play Reminded to use checklist as self-assessing.
BREAK				
2nd Video -Brief discussion ICKT to review DR forms -self assess -Discussion	--			P1 Did not seem to need additional support with second video.
Questions/Discussion How to use new knowledge	--			
Discussion of Study/Protocols of Study	--			
Ended at 2:30				

DATE 11/11/2016 - Participant 2 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Started at 9:15 AM				
Goal of Study Presented	X			Study protocol reviewed- Goal of study was defined
Definition of Meaningful conversations	X			Trainer may want to say that conversation for this study is "talk."
Productive defined	X			Used researchers coding checklist
Non-Productive defined	X			Used researchers coding checklist
Discussion by the teacher of Productive and Non-Productive	X			"Teachers" gave examples of what they believed to be productive and non-productive such as praise for non-productive, "can you explain" for productive.
Non-Productive- detailed description	X			
Video of Non-Productive	X			
Discussion of Video (Using Questions on the PPT provided in a handout)	X		"Teacher" asked questions about how to make literacy teaching into productive conversation.	Did not use the slide in PPT exactly, but the trainer did ask "what nonproductive conversation did you see?"
Productive- detailed description	X			Used researchers coding checklist
Video of Productive	X			

DATE 11/11/2016 - Participant 2 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Discussion of Video (Using questions on the PPT provided in a handout)	X	Did not use the slide in PPT handout exactly, but the trainer did ask, "What productive conversation did you see?"		Teachers noticed the difference- children were engaged- talking about what they were doing; they noticed that in the video teacher asked the students questions that led them to explain their play.
Productive Conversation Strategies Introduced	X	Can you think of a time when you used something to generate conversation?		"Teachers" demonstrated that they were understanding productive conversation- mentioned using pictures, materials, as conversation starters.
Observing Children as a means to guide conversation introduced – (clay example)	X	Used question as in PPT – -Can you remember a time when you observed a child's actions without initiating a conversation? -Why might it be important to know her meaning for the actions?	All could remember a time. They thought it was important to observe. Talked about how it was important to observe to start thinking about their thinking. Talked about observing was important to determine their needs to extend thinking.	
Materials as conversation introduced	X			
Teacher formulates as application or reflective statement (productive conversation)	X	What might you say to encourage the child to talk?	Teacher responded: I see a lot of shapes what do you see? How many pieces do you see? How are the pieces similar and different?	
Observations introduced as the "stuff" of conversations	--			Not in explicit detail. May need to discuss more in actual training.

DATE 11/11/2016 - Participant 2 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
"What to Document" introduced	X			
Discussion with questions from the PPT	X	Focus on the actions, not necessarily the food- extending of play- ideas that capture a lot of people. Could bring in pizza at a later date as just one activity for cutting.	Talked about themes – such as pizza in clay	
Introduction to DR Record (Documentation Record)	X			
Example of DR Record (Questions from PPT notes)	X	Reviewed example. Gave review of how this evolves. Talked about teacher's thinking- teachers have questions when doing the DR form.		
DR Record – What to document- PPT slide	X	DR- is making the teachers thinking visible—What do you think the teachers see?	"Teacher" noted I think the children are exploring the worms. Sharing with the teacher in the picture.	Trainer noted that more than pictures are needed to document fully.
Questions on PPT that relate to What does the child think?	X	What are your speculations of the child's thinking? Theory development- Separate teachers thinking and speculation from observations. How can your teacher knowledge of theories help you plan for future lessons and conversation with children? Trainer talked about creating environment, provocations for extending learning.	Documentation could help teacher's plan questions to ask and things to put out for the children.	Add picture to slide 18? Ben… roads…

DATE 11/11/2016 - Participant 2 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Looking at Conversation from perspective of Developmental Domains: Language, Fine Motor, Gross Motor, Social Emotional, Cognitive	X	Developmental documentation does not always help develop thinking in children. "Child knows color" you can develop more meaningful interactions beyond color knowledge.		
What to do with interpretations- Threads of inquiry introduced	X			Used slide to explain.
DR Records- Photos Photos to accompany written records- Purpose of photos defined	X	We see child's actions in photos.		Used slide to explain.
DR Records- Photos- Observational Notes	X	Helps us see what the teacher referenced in documentation records.		
Introduction to Checklist to be used with Mentor during the study/research	X	Could an outside reader understand what you are seeing?	What is enough to document?	Had teachers refer to the checklist handout.
Moved break here… 11 AM				
Video/Discussion/ Video with use of DR form	X	Teachers asked about documenting what the teacher is saying, what parts of the episode to document. Asked about real water.	Can you see the actions and what children do as important?	May want to use all or less of video (9 minutes) Used approximately 6 minutes today. Watched video, teachers used DR form, replayed video—revisited forms- discussions.
Self-assessment with DR checklist	X		Use checklist to review DR form.	

DATE 11/11/2016 - Participant 2 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Discussion	X	-Some of the questions were not applicable since watching a video and not actually there. -Teachers questioning made students investigate more, adding blocks for strengths. -Could use pictures to have a conversation with children at later time after reflection of DR form. - noticed that teachers ask questions to encourage engagement as children's attention wondered.	So, what if you were there what would you photograph? You can say a frame of video for picture. Discussions of what the teachers put in DR forms. Allow play to continue for more than one time frame to get more documentation/thinking.	
Review with a completed DR - handout	X	-Difference in documenting actions and words by children. -more detail could be added to DR	Was the DR checklist good to help see if the DR form had elements needed?	
BREAK				
COI Practice 2	X			Video with bird nest/mud discussion
Video/discussion of video/ Revisit video with DR form	X	-Engaging children more -actions of children -what can teacher do to make it a better experience		
Self-assessment with DR checklist	--			Mostly discussion of video clip
LUNCH				

DATE 11/11/2016 - Participant 2 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Goal of interpreting play- Why it is important- Intro to ICKT form	--			May need to introduced in more detail as afternoon session begins
Conversations introduced as keys to children's thinking: -with peers -with teachers and peers -with teachers -self talk -with materials	X			
Why teachers interpretations of conversations are important	X	When you interpret you are digging deeper than just documenting		
Interpretations defined/ Importance related	X	Assess for knowledge and theories of the world- Not themes only		
Speculating on the minds of children / More than just their interests	X	"what they know" what is their knowledge and theory - "Clay melts" Teachers seem to be thematic- not necessarily conceptual knowledge.		
Use actions as strategies- speculations: open/divergent	X	Goals and Strategies seen in the PPT? They are trying to keep the coil clay on top of each other to go higher. Find the meaning of the play- find threads	Responses to trainer: Goal is to create a bowl, some kind of container, making it go higher	
ICKT form- example of speculation with ICKT form- descriptive language sample	X	More than describing play - use your (teacher thinking.		Used PPT slide to introduce what to put on the ICKT form
How to choose what to write in ICKT form- notice when actions seem significant	X	Find the meaning of play through narrative - From PPT: Students developed strategy to build high with blocks- trials with stacking blocks.		

DATE 11/11/2016 - Participant 2 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Find the meaning of play through narrative – conversations with co-teachers relating the experience	X	Good to share with co-teachers – telling what is happening in ICKT record- at this point the co teacher writes what the teacher says. It is like telling a story. The teacher can interrupt- capture both thoughts on thinking.	When sharing, the co- teacher writes what I share?	Dr. B. will need to be co teacher during the actual training for the example of how this takes place. *Due to isolation of study will not have a co-teacher. Revisit with all participants of actual study to implement this piece at end of study.
Example defined- Manipulating paint narrative(Day 1,2,3)	X		Do we write in 1st person? (yes)	
Manipulating paint with tools- picture	X			
Writing the narrative- elements of a good narrative – example of the narrative	X	Thoughts? Questions?		Worm exploration
Exploring the child's perspective	X	If /then, how and why I think…. Language we should have in thinking about narrative.		
Review of narrative- from a child's perspective/writing as a child what they are thinking	X	What can you imagine from looking at the pictures? Documentation panels of previous play is good for children to revisit.		Used slide- gave detail and explained pictures.

DATE 11/11/2016 - Participant 2 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
Child's perspective – samples of narratives/ importance of honest dialog, engagement, materials. Children do not work towards abstract standards- standards are adult checklists	X	Imagine you are the child you are writing about. This will help you to dig deeper into the perspective of the child. What might the child be thinking in the picture? Maybe they have the question "how does the worm move, Can I touch it and make it move? " Paint picture- Children do not work from standards- standards are adult checklists.	Is the worm moving? Is it down in there?	
Introduction to the ICKT form	X			
Sample ICKT form	X			Handout
Checklist for ICKT form- Used for bi- weekly meeting with COI mentor	X	What do you think?	Checklist: teachers discussed handout info. "We see this because child is thinking this…"	
Using checklist with sample ICKT form- -Video -DR-ICKT -Write interpretations -Self assess -Discussion	X	Work to do this form on your own. Look at your DR form from this video and start to develop you interpretations from it. -Adding examples to general knowledge is good – relate back to the video. Example-(drawing) given to teachers to help explain how children see things differently. –blocks-	Teachers shared what their interpretations were.	Reviewed video from morning session- block play Reminded to use checklist as they self-assess.
BREAK				

DATE 11/11/2016 - Participant 2 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 2 Comments***	***Researcher Comments***
2nd Video -Brief discussion ICKT to review DR forms -self assess -Discussion	X		Students shared the co teaching strategies for providing info into the narrative.	-Video with outdoor play- nests and tree -Co-teacher sharing- to aid in narrative and finding more detail for narrative ICKT form.
Questions/Discussion How to use new knowledge	X	How could you take what you learned today and use in your classroom tomorrow? Teachers will be asked to use forms every day.	-Seeing from child's perspective -Teaching with a purpose	
Discussion of Study/Protocols of Study	X	Did the setup of the day work for you? What did you get out of this training? Drew the COI to better explain purpose of this model.	This training would be helpful to have before having to observe children. The domains is not enough to observe.	
Ended at 4:00 PM				

DATE 2-6-2017 - Participant 3 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Started at 10:15 AM				
Goal of Study Presented	X			Study protocol reviewed- Goal of study was defined
Definition of Meaningful conversations	X			
Productive defined	X			Used researchers coding checklist
Non-Productive defined	X			Used researchers coding checklist
Discussion by the teacher of Productive and Non-Productive	X		Gave examples of what she believed to be productive and non- productive- Her answers were appropriate.	

DATE 2-6-2017 - Participant 3 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Non-Productive- detailed description	X			
Video of Non-Productive	X			
Discussion of Video (Using Questions on the PPT provided in a handout)	X		Commented that teacher was not at eye level with kids, uninterested in what she was doing with kids. All teacher directed talk.	Participant 3 was on track with discussion of non- productive.
Productive - detailed description	X			
Video of Productive	X			
Discussion of Video (Using questions on the PPT provided in a handout)	X	Pointed out that the teacher had times of listening and not doing all the talking.	Noticed students were allowed to talk to each other, teacher was a guide for conversation, but did not direct it to a level that did not give children a voice.	Teacher's noticed the difference- children were engaged- talking about what they were doing; they noticed that in the video teacher asked the students questions that led them to explain their play.
Productive Conversation Strategies Introduced	X	Discussion of using pictures of children to generate productive conversations.		
Observing Children as a means to guide conversation introduced – (clay example)	X	Talked about the clay and number of materials introduced and used with the children.		
Materials as conversation introduced	X			
Teacher formulates as application or reflective statement (productive conversation)	X			
Observations introduced as the "stuff" of conversations	X			
"What to Document" introduced	X			

DATE 2-6-2017 - Participant 3 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Discussion with questions from the PPT	X	Focus on the actions, not necessarily the food- extending of play- ideas that capture a lot of people. Could bring in pizza at a later date as just one activity for cutting.		P3 had a grasp that there was more to the clay play than just the development of a food theme.
Introduction to DR Record (Documentation Record)	X			
Example of DR Record (Questions from PPT notes)	X	Reviewed example. Gave review of how this evolves. Talked about teacher's thinking- teachers have questions when doing the DR form.		
DR Record – What to document- PPT slide	X	DR- is making the teachers thinking visible—What do you think the teachers see?	P3 noted that the children are exploring the dirt, maybe for bugs.	Trainer noted that more than pictures are needed to document fully. Reviewed the pictures and a record of documentation for discussion.
Questions on PPT that relate to What does the child think?	X	What are your speculations of the child's thinking? Theory development- Separate teachers thinking and speculation from observations. How can your teacher knowledge of theories help you plan for future lessons and conversation with children? Trainer talked about creating environment, provocations for extending learning.		Ben and "Roads" on PPT slide.

DATE 2-6-2017 - Participant 3 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Looking at conversation from perspective of Developmental Domains: Language, Fine Motor, Gross Motor, Social Emotional, Cognitive	X	Developmental documentation does not always help develop thinking in children. Be mindful that the development milestones will come out through the documentation process naturally.		
What to do with interpretations- Threads of inquiry introduced	X			Used slide to explain.
DR Records- Photos Photos to accompany written records- Purpose of photos defined	X	We see child's actions in photos. Photos add to the DR.		Used slide to explain.
DR Records- Photos- Observational Notes	X	Helps us see what the teacher referenced in documentation records.		
Introduction to Checklist to be used with Mentor during the study/research	X	Could an outside reader understand what you are seeing?	P3- Participant stated, "This checklist will really help me to do this."	Had P3 refer to the checklist handout.
Moved break here… 11:30 AM				
Video/Discussion/ Video with use of DR form	X			Watched video, P3 used DR form, replayed video—revisited forms- discussions.
Self-assessment with DR checklist	X		Use checklist to review DR form.	

DATE 2-6-2017 - Participant 3 - Observing Play - Morning Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Discussion	X	-Some of the questions were not applicable since watching a video and not actually there. -Teachers questioning made students investigate more, adding blocks for strengths. -Could use pictures to have a conversation with children at later time after reflection of DR form. - noticed that teachers ask questions to encourage engagement as children's attention wondered.	.	
Review with a completed DR- handout	X	-Difference in documenting actions and words by children. -more detail could be added to DR	PS said the DR checklist was good to help see if her DR form had elements needed.	
BREAK				
COI Practice 2	--			
Video/discussion of video/ Revisit video with DR form	--			
Self-assessment with DR checklist	--			
LUNCH				

DATE 2-6-2017 - Participant 3 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Goal of interpreting play- Why it is important- Intro to ICKT form	X			
Conversations introduced as keys to children's thinking: -with peers -with teachers and peers -with teachers -self talk -with materials	X			

DATE 2-6-2017 - Participant 3 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Why teachers interpretations of conversations are important	X	When you interpret you are digging deeper than just documenting		
Interpretations defined/ Importance related	X	Assess for knowledge and theories of the world- Not themes only. Self-challenging for children		
Speculating on the minds of children/ More than just their interests	X	"what they know" what is their knowledge and theory- Teachers seem to be thematic- not necessarily conceptual knowledge. I think "x" because of "y"		
Use actions as strategies- speculations: open/divergent	X	Goals and Strategies- Provocations that extend strategies. Find the meaning of the play- find threads		
ICKT form- example of speculation with ICKT form- descriptive language sample	X	More than describing play- use your teacher thinking. This is a form of research for your students.		Used PPT slide to introduce what to put on the ICKT form
How to choose what to write in ICKT form- notice when actions seem significant	X	Find the meaning of play through narrative		
Find the meaning of play through narrative – conversations with co-teachers relating the experience	X	Good to share with co-teachers – telling what is happening in ICKT record- at this point the co teacher writes what the teacher says. It is like telling a story. The teacher can interrupt- capture both thoughts on thinking.		Co teaching is not part of this research design, but needed to be discussed as part of the COI model.
Example defined- Manipulating paint narrative(Day 1,2,3)	X			
Manipulating paint with tools- picture	X			
Writing the narrative- elements of a good narrative – example of the narrative	X	Thoughts? Questions?		Worm exploration

DATE 2-6-2017 - Participant 3 - Interpreting Play - Afternoon Session				
"Look Fors" During the Training	***Observed***	***Trainer Comments***	***Participant 3 Comments***	***Researcher Comments***
Exploring the child's perspective	X	If /then, how and why I think…. Language we should have in thinking about narrative.		
Review of narrative- from a child's perspective/writing as a child what they are thinking	X	What can you imagine from looking at the pictures? Write as if you are the child.		Used slide- gave detail and explained pictures.
Child's perspective – samples of narratives/ importance of honest dialog, engagement, materials. Children do not work towards abstract standards- standards are adult checklists	X	Imagine you are the child you are writing about. This will help you to dig deeper into the perspective of the child. What might the child be thinking in the picture? Children do not work from standards- standards are adult checklists.		
Introduction to the ICKT form	X			
Sample ICKT form	X			Handout
Checklist for ICKT form- Used for bi- weekly meeting with COI mentor	X	What do you think?		
BREAK				
Using checklist with sample ICKT form- -Video -DR-ICKT -Write interpretations -Self assess -Discussion	X	Work to do this form on your own. Look at your DR form from this video and start to develop you interpretations from it. -Adding examples to general knowledge is good – relate back to the video.		
2nd Video -Brief discussion ICKT to review DR forms -self assess -Discussion	--			--
Questions/Discussion How to use new knowledge	--			
Discussion of Study/Protocols of Study	--			
Ended at 2:30 PM				

APPENDIX D

Field Notes from Video Observations

PARTICIPANT 1

October 4: The teacher was providing talk aloud steps with little "back and forth" conversation with the children. She gave praise for following the steps. This video clip was 15 minutes.

October 6:

October 11: Praise given often to children. Playtime was directed with an activity at a table. Teacher directed the play.

October 13: Teacher was listening to children conversation intently at the beginning of this video. Little conversation initially.

October 18: Behavior issue at beginning of video - Could not start coding until minute 3. This video was 15 minutes.

OCTOBER 19:Teacher attended Intervention/training at ETSU

October 26: First day of recording after intervention. Teacher was using DR forms - She spent much time observing and wring on the DR form. There were several students absent.

October 27: This observation was the on a consecutive day due to scheduling conflict with videographer. Teacher was observing children using the DR form. Not as much conversation, but teacher was intent on taking notes using DR form. It was a school "dress up" day for Halloween. Children were excited on this day. Teacher was also taking pictures as documentation of play.

October 28: Teacher was "telling" students which areas they could go to in order to play.

November 1:

November 3: Teacher had a play center that was set up with "light play." There was a box with leaves for play.

November 4: MENTORING #1 - Comments by teacher - "I haven't really started to use the forms for interpretation yet, but I feel like I am getting good information to extend their play. I did take some photos, mainly of their play with materials. I think I did a pretty good job with distinguishing dialog from action and teachers and children. "I am starting to think more about how to extend children's thinking. I hope to use the interpretation forms next week. I wish I could bounce ideas off of someone else to see if they think I am capturing what I need to and decide on

multiple ways to extend their learning. I have 3 DR forms and then there was one day I just grabbed a piece of paper and went to writing as if it was the form. I will be honest, I have not used the ICKT forms yet. I think they are time consuming, but I do see the benefit and really am going to make an effort next week."

November 4: rephrasing - observant - used photos to document. I was pleased to see the difference in productive conversation after the first mentoring session.

November 8:

November 10:

November 10: MENTORING #2 - Comments by teacher - "I have not taken photos every day, but if I think they will add to my notes, I try to take them. I take them from the level of the child at times, but not always. I maybe should use photos more to document the steps in children's thinking processes, not necessarily in a sequence, but throughout playtime. I haven't really focused on the emotions in the photos on my DR. I think I am getting better at producing a clear descriptive transcript. There are some materials that I need to add to their playtime." *The researcher encouraged her to look for articles about documentation panels - for demonstrating the steps in a child's learning* - Comments by teacher - "I have started to use the ICKT form. I am getting better at interpreting events as indicators of the thinking of children, not just their interests or needs. I did not speculate on the goals behind their actions as much as I should have. I am starting to see some lines of inquiry documented in my narrative. I thought about odd events that children talk about or how they see things differently, but I did not put much on the ICKT form. I am working on coaxing out different speculations about the children's knowledge and thinking."

November 11: Many students absent.

November 15:

November 17: Did not video - Special day with parents, not a regular schedule day. Thanksgiving activities.

November 18: Did not video- School had Appalachian Heritage Day - not a regular schedule day.

November 19-27 School Holiday - NO SCHOOL

November 30:

December 2: Video was 17 minutes - Playdough with tools.

December 8: MENTORING #3 - *researcher comments - This was a very difficult day at the school. The school had a death of a kindergarten student. It was hard for the teacher to focus on the mentoring session.* Teacher comments - "I feel like I have

a good handle on the DR form. I still need to focus on the emotions of the children when I photograph. I am writing down the actions of the children. I need to record behaviors and products more. This is such a hectic time of year for me. I am getting good info on the memo side. I still have trouble getting the ICKT forms complete. I will continue to work on these, especially after winter break." *researcher* - will send the PowerPoint from the intervention training for teacher to review to help with using the ICKT forms.

December 13: Video of children in art area.

January 19: First video after winter break.

February 2: MENTORING #4 - teacher comments - "I feel comfortable with the DR forms and am feeling better about the ability to interpret. I think that interpreting the events as indicators of the thinking of the children is sometimes still hard to do and not just focus on their interest and needs. I think my conversations are stronger now. I am better at coaxing them to talk about their thinking."

FINAL MENTORING #5: teacher comments - "The ICKT forms are still hard for me to get completed. Interpreting is a lot different from observing."

PARTICIPANT 2

October 3: High productive for first video.

October 5:

October 10: High productive.

October 12: High productive. The teacher has conversation with children in a small group while "playing" with them in the center. She is interacting with children the entire time of the video.

October 14: Teacher schedule was off. First 8 minutes of video were not of playtime.

October 17: Teacher is using high scope curriculum. Modeling play in housekeeping. Students are engaged with the teacher.

October 21: This was a good video. Teacher was modeling play in blocks. Cops/police/wreck/helicopters

October 24: Playdoh center.

October 26:

November 7: Play with a turtle shell/magnets. Teacher asked "I wonder" questions to children to generate conversation. Not necessarily play time, but discovery time.

November 9:

NOVEMBER11:Teacher attended Intervention/training at ETSU

November 14: First video after intervention/training.

November 16: Productive conversation was down. Teacher just did not seem to have as interactive day.

November 17: *Mentoring #1* - teacher indicated that she added to the Child Observational Record (COR) instead of using actual DR form. Teacher comments - "I have not used the form yet, but I added to my COR notes based upon some things I learned in the training. I spent time observing and wasn't involved so I didn't indicate in my data. I am not sure that I invented methods for recording behaviors or products, but I did draw pictures of structures they built in blocks. I think I have a good descriptive transcript of processes and products that I observe. I am relating their actions to their possible goals and theories. I didn't link previous play episodes in my memos. I did think about questions as ideas for plans to extend their thinking. I have not used the ICKT form."

November 18: Could not video - Special event for parents. Classroom schedule was not typical.

November 21: Teacher was using high scope curriculum. Video started at the "planning phase." Children quickly went to centers for playtime. Helicopters/airplanes/wings.

November 22-27 Thanksgiving holiday.

November 28: No video - Videographer was absent due to illness.

November 29: *researcher decided to do an early mentoring due to coding concerns* Mentoring #2 - teacher comments - "I am using the forms now. I actually transferred from the COR to the DR. On November 21, I was so involved in the play it was hard to take and get down all of the notes. If I could just go back and review the video for reflection I think that would make it so much more informative I am producing a descriptive transcript, but could be more thorough. With the ICKT forms I have thought about ways to extend play. I do document odd events when I think children are seeing things differently. One child kept talking about ghost on November 21. I really wish I could talk to my aide in this study."

November 29: video after mentoring on the same day.

November 30: Teacher had several visitors in the classroom. Videographer, Head Start personnel, evaluator and parent.

December 2: *Mentoring #3* - teacher comments - "I am using some photos to document observations. I am starting to think more about the emotions of the child. This week we had a lot of distractions in our classroom with holidays coming, visitors,

and parents in our center. It is difficult to stay right on task during this time of year with all the distractions."

December 2:

December 5: Teacher seems to be off task. Productive conversation is down.

December 7: *Mentoring #4* - *researcher comments* - the researcher sent the power point from intervention/training to the teacher for review. The researcher encouraged her to stay focused on conversations and questioning with students. Teacher commented that it is a very difficult time of year with the holiday season.

December 7: Video after mentoring session. The classroom was calm. The teacher was focused in block play with 5 students.

December 12: Block play

December 15: *Mentoring #5* - Teacher comments - "I am feeling better as I go through this process. But it is tough to keep up with all the documentation while still being required to keep COR notes for my licensed job."

No school after December 15 - January 10

January 12: *Mentoring* #6 - resuming after Christmas break and closures due to inclement weather. Teacher comments - I am feeling better about doing these forms now that I have reflected on this over break. I think I am getting better about interpreting events as indicators of their thinking not just their interests and needs. I am able to coax out differing speculations about the children's knowledge and thinking with lots of questioning.

January 16:

January 17:

January 26: Mentoring #7 - teacher comments - "I think I have a better understanding of observing for children's thinking processes. It is getting easier to think about their thoughts and not just about what interest them."

January 27:

February 3: Greater amount of talking by students with one another.

February 27: *Mentoring* #8 - Teacher comments - "The DR form is easier to use now. I am focusing on what the children are doing and having meaningful conversation. I am not just talking for "talking sake." I am trying to move forward and plan from my interpretations but sometime s their thoughts change so quickly."

PARTICIPANT 3

October 5: First videoing session - teacher seemed nervous in front of the camera.

October 7: This video was hard to code due to so much background noise.

October 12:

October 14: Teacher seemed preoccupied, but still had conversation with children. She has to move between centers due to staffing issues. Puzzles, kitchen centers visited.

October 17: Hard to hear all conversation on video due to noises in the classroom. This is a large room. Teacher had to move between centers due to staffing issues.

October 21:

October 24: Behavior issues on this day. Video had to be altered. Videographer did not video conflict with student. I did not code the controversy that was recorded. Teacher had to take a phone call during the middle of the video. A student was screaming in the background for part of the video. This particular child was not videoed on this day.

October 26:

November 2: Teacher was documenting on her own forms. She has not been introduced to DR form yet. Block play, blanket covering cars. Good conversation.

November 4: Very noisy classroom. Difficult to hear teacher comments on the video.

December 2: (Probe)

December 7: (Probe)

January 19: (Probe)

January 24: Teacher used reflective action statements – rephrasing and stating what the child is doing in this video.

February 2: Children had conversations with one another. Good amount of children talking. (Videographer changed)

February 6: Teacher attended intervention/training at ETSU.

February 15: Gap in days from intervention to videoing due to schedule changes at Head Start Center. Teacher was using DR forms and was using her camera to take pictures for documentation.

February 16: Using forms and taking photos of children's products and play.

February 20: Teacher is focusing so much on writing on DR forms that conversation is being affected.

February 20: *Mentoring #1* - *researcher comments* - The teacher is using the forms and said she can see a benefit. She indicated during the mentor checklist process that she is using photos and written data to capture the children's play. Teacher comments - "I may need to do more photos to capture the emotion of the children. I took the DR from and created a lesson to extend their thinking. Magnets were the first thing I noticed that needed a better understanding. I was able to ask questions for understanding and develop a plan for exploring at a deeper level."

February 22: *Mentoring #2* - *researcher comments* - This is an "extra mentoring after coding February 20 video. The research discussed the use of the forms and how to use and keep conversation as a high level while being productive. Teacher comments - "Documenting on the forms and having only one person to do this is hard to balance with conversation. I think I will try to document on the forms directly after play instead of during play."

February 24: The teacher was using the DR forms - asking why questions, applications. The teacher was modeling process - magnets. She was using restating strategies, "I wonder" and "did you notice questions."

February 28: Light table play-The teacher was distracted from group by a behavior problem between minutes 2-4 of the video. Teacher asking why questions. The children's play went from experimenting with the light table to filling a cup with things (small tiles) on the light table. Experimenting with sizes of containers.

March 3: There was a lot of background noise. Teacher had to help 2 children with going to the bathroom during the videoing. Teacher used modeling for conversation strategies beginning around minute 14 of the video.

March 10: Teacher using "why," "I wonder," "Can you figure out," "How to do think you could…," "show me" questionings and conversation starter with the children. There was one behavior problem that the teacher had to address in the video at minute 9.

March 13: Teacher conversation - "Now I'm curious..." Teacher was restating what children said to elicit talk. She was modeling play. She was asking "why do you think?" and what do you think questions about static. (A child noticed static in her hair).

March 13: *Mentoring #3* - teacher comments - "I think I need to work on documenting more of the steps of the thinking process of the children rather then so much focus on the product from what I am observing. I am trying to capture the emotion of the child in my documentation." I am not sure that I am inventing methods to record complex behavior or products, but my documentation got stronger throughout this study. I do think that focusing on children's thinking and linking play episodes in my memos is helping with my planning for children. I could probably do better on interpreting events as indicators of their thinking but I will continue to work on

this. The interpretation forms makes me think more about their actions and what is behind the actions. I have to “think like a kid” to try to understand why their theories make sense to them. I am starting to see lines of inquiry in my forms and I am using for planning. I am getting better at seeing things from the child’s perspective.”

March 16:

March 23: *Mentoring* - Teacher comments - I am more comfortable with the DR form, the other is more difficult. I think I may be putting some info on the DR that should go on the ICKT. This process has made me more aware of what I should be saying to kids. It has helped with me with the scores I now receive on the CLASS scale that head start uses. With the ICKT form, I think I interpret events as indicators of their thinking better now. For example, one child was plating with dinosaurs - I asked if they thought dinosaurs could swim. He said yes, I ask why and he pointed to the spikes. I interpreted on my form that he thought the spikes were like fins on a dolphin. This can lead to more conversation in another episode of play and the extension of play.”

APPENDIX E

Interview Transcripts

PARTICIPANT 1

R: participant 1 interview question following survey, what is your definition of anecdotal notes?

P1: basically just notes that I take while the children are playing while I am observing them or they're doing any kind of activity in the classroom.

R: ok, I noticed that these types of notes went down after the study and also your use of them to interpret the children's thinking, why did you think so?

P1: em I was using a different form… the DR form for that, so I didn't use my own personal notes as much I was using the actual form, so it was just a change in how I documented after I did that training and it was a better way for me to collect my ideas and see the children's ideas and all of their thinking rather than just trying to do it on my own.

R: ok, I noticed that your use of the (developmental) checklist went up after the training why do you think that was so?

P1: em that's just something that is required in a public school setting, you have to have checklists to know exactly where the students stand, it's just the easiest way to do it for most teachers and it's probably not the best way…it's probably a little bit over used but it's… em… it's just a requirement in the public school setting to have that concrete evidence of where they are.

R: do you think that you could ever see how you could move away from doing a checklist to doing more of a written assessment that's more than just an overview of how they're doing and not so much based on a checklist?

P1: yeah I think that would be a better way to see exactly where they are rather than like do they know this do they know this do they know this just their overall development, emotional development, physical development, academic development all of that just kind of written into a little like summery or report rather than just a checklist would be a better way to tell exactly where they are.

R: good, I noticed that it was slightly less important to you to have conversations to learn about children's interest after the study, why do you think so?

P1: em I don't think I would say it's less important necessarily em but instead using their or using the conversation to learn about their interest I became more aware of their interests just through watching them play and through seeing exactly what they would choose to play with rather than asking them why did you choose that or why do you think this is I would just observe them more rather than having a conversation about it so it's not necessarily that their interests are less important or that I think that is less important to

learn their interest, it's just I didn't use conversation as much as I did observation, em I didn't really think that they would be a good way to answer that in that with just a 1 through 6 or the zero through 6 but it's not less important it's just a different way rather than conversation just through observation.

R: and do you think even though you're saying that the conversation is not observation was more important but do you think your conversation maybe changed when you did ask questions based on observations you were taking?

P1: yeah absolutely, anything that I would say to the student would, you know, anything I would say to students come from any observations that I made which would tie in their interests as I would ask them the questions and observe them rather than just asking them what do you wanna do, what do you wanna play with, and asking them their interests so

R: ok, I noticed that you're still not using the video as a way to document do you think that em you will use that more once you have your own video camera from completing this research study?

P1: yeah, I think that would be really helpful not only to, you know, to see their thinking and just kind of go back and see all that but also to see ways that I can improve interacting with them, and ways that I can improve my teaching and you know it will be also great obviously for looking at things that I may have missed at the time and hearing conversations between each other that I may not be there for em and I think it'll really be helpful it's just I didn't have access to it this year.

R: it is important to interpret children's thinking to be sure that children are adhering to teacher's ideas for learning, this statement was rated as less important why do you think that was so?

P1: em I don't, I mean you can't think for anyone, even for a 4 -year-old even if you wanted to you can't really tell them what to think or how you want them to think. I think they're gonna they'll think for themselves and that's better for them to think for themselves. em I don't want them to not go away learning anything but I also don't want them too just think the way that I think, because if we are all thinking the same way that's not gonna help anybody learn and they're some of them… that just… they're gonna do, they gonna learn the way that they learn and there is no way that you can change that, the only way that you can get to them is by getting to their way of thinking and teaching them in that way because they're not gonna learn how I learn and think how I think it's just a [it's the differentiation piece in public education] yeah yeah that's true.

R: ok, was there anything that you found valuable from the training or being a part of the study or anything you think we could do if we were to replicate the study or that we would want to do differently? em was the training valuable to you in developing conversations with students and em having the forms to reflect and use as part of the study?

P1: em I enjoyed being a part of it and I did learn a lot especially you know being the first year teacher I basically just absorbing everything I can. but I really liked the DR forms I

don't think I used it as much as I would like to but I really did like those and because that's a good place to just write down exactly what they're saying and go back, and you know make note on it. em the other form [the interpretation] yeah the interpretation form I didn't really use that much, just because it is really hard to recall an exact situation from being like in the situation where I'm writing down their exact conversation with the DR form to trying to recall a em situation or provocation or experience, em having to recall that and write it down I don't think I'm as good at that and I don't have time throughout the day to do it, like I see something happen, and then I can go back to my desk and write it down like that, I just can't do that. whereas it's easier for me to, you know, sit with a clipboard and write it down as I'm listening to them, and I wouldn't be able to do it, do the interpretation form the way that I would need to if I was just sitting there, observing, because things, other things might happen that need to go in a different place in the interpretation form that I wouldn't be able to do, so I think if that one was just a little bit harder to use.

R: so you're saying you might even need more training and I know the other two participants mentioned that had they been able to go back and look at their videos during the study [yeah] would have helped and had they been able to share their ideas with their coworker [right right] ……. Do you think that would have made a difference if you've been able to do that?

P1: em if I yeah, if I would have a coworker that had the same training that I had, that would have been good because we could have you know say ok why do we think this child said this and why do we think that they're thinking this way and it would've been easier to bounce ideas off of each other, and that would have helped with all of the thinking and interpretation and their thinking. because you know just sitting there and thinking about it yourself isn't always that helpful because you're gonna, sometimes, you're just like, I don't really know why we think that way, but I think it would have been helpful also to be able to see myself on the video or to see the kids on the video and just see it from a different perspective would have been helpful too.

R: ok, alright thank you

P1: thank you

PARTICIPANT 2

R: participant 2 interview questions following the survey, I noticed your rating of use of written records was zero after the study, why do you think this is so?

P2: em we really don't use anecdotal records, we use high scope and I take core notes. So probably at the beginning I actually do write down notes, but it's not actual written records, so by the post interview I realized what that question was, we don't actually do those.

R: how important are your observations and observation methods for learning about children's interests? And I noticed this was rated less important at the end of the study, why do you think so?

P2: I still think it's very important to observe their interest, and toward the beginning of the year we follow that more with the high scope curriculum, but toward the end I'm pushing those kindergarten readiness skills, and I have certain things that I have to work on and I can't follow their interest as much.

R: ok, the role of conversations in my classroom is for children to follow directions and to give information both were slightly more important in the post-survey, why do you think so?

P2: I do think it's very important in everyday interactions with children, but like I said, toward the end of the year we can't follow their lead quite as much, we have certain things that we have to really push toward the end to get ready for kindergarten.

R: ok, "the role of conversation in my classroom is to question in order to correct children," this was rated as more important at the end of the study, and why do you think that was so?

P2: em I think I messed up on that question a little bit, I really don't use it so much to correct them, but for them. We question them in order for them to correct themselves, like with the problem solving skills. we have the children work out disagreements with each other, so we're doing it in a way that it's not like we actually correcting them they wanna train their own behavior and taking care of their own behavior.

R: so when you're talking about questions there, the questions that you are asking them, guides them to problem solve with one another?

P2: yes, to figure out the problem and how to solve that problem with each other.

R: ok, "is it important to interpret children's thinking to be sure that children are adhering to the teacher ideas for learning," this was also rated slightly as important, why do you think this?

P2: the children in high scope the children are kind of leading and we follow their lead and help them learn through that and they shouldn't always have to adhere to our ideas we want them to come up with their own thinking and their own ideas about how to do things and learn in their own way.

R: ok, I noticed you indicated that you are still not using the video, do you see it as important?

P2: em I think it would be wonderful, especially to help me look back on how I do things and react to things that they do, it would be a good tool, it's just finding the time to do it and the access to it.

R: I remember in our mentoring sessions you had talked about if you could have been able to go back and look at the videos of the things that you were doing with your conversations, it would have been helpful, do you see you might could go forward to using the video for that?

P2: yes, because my short term memory is bad and that's why I have to take a lot of notes and it's hard to get those notes taken down quickly and it would be much easier to just go back and watch it and you say things that you don't notice when you are in the situation.

R: so that would have been a help to you even using the form that we providing for the study?

P2: yes, it's much easier to go back and watch it.

R: "it is important to interpret children's thinking to make a connection with children's interest for the teacher to further direct their learning," this was rated as slightly less important and why do you think that was so?

P2: I think it is very important to follow the children's thinking and interest, but toward the end of the year we have a certain agenda and things we have to work on and we can't do that as much as we do it in the beginning.

R: ok, so some of your differences from the beginning of the year to the end of the year you're saying was because the timing of the year and the different stressors that you're faced with as the year goes from beginning to end.

P2: yes, and we are just so busy toward the end and have so much going on in the beginning we really follow their lead and anything they're interested in I can just plan a whole little week on it and follow their lead but toward the end it gets very hectic.

R: so do you think we have done this survey a little sooner after you'd had the training, but hadn't have time to actually implement everything from the training, that the answers maybe would have been different?

P2: yes, yes… earlier in the year it would have.

R: ok, is there anything about this study you want to add that you feel was valuable or a challenge that maybe could make the research stronger if we were to replicate it?

P2: the only challenge, was the challenge with the worksheets, it is very time consuming and that's hard, but I was able to use those notes and add to my core notes to go along with what I've been doing… it is more time consuming than my actual core notes that I take. but the thing I learned most from was taking pictures, and I do tend now to look at the child's thinking, not just what they're saying, but also at what the product they're making, like when they're in the block area, or in the art area, I look at the product and read into their thinking more… using that instead of just the conversation and the things they're saying.

R: thank you, when you say that it's really let me ask you one more question now when I said thank you I thought about it, has it guided your conversation by being able to look at that product to know what look at their product, and maybe know how to guide the conversation? Or do you think conversation is not as important now?

P2: no, conversation is definitely just as important [ok] that's always been the most important to me but that just gave me another area to delve into and think about and learn more from them.

R: thank you, now we're done.

PARTICIPANT 3

R: Participant 3 interview on the survey questions, what is your definition of anecdotal notes?

P3: em…I think they're notes that I write down based on what I see the children doing and what I think about what they're doing and the observances I have.

R: em… and I noticed they were more important after the study on your survey form.

P3: yeah, and em after doing the study and everything, I started to thinking more about what the kids were doing, I relied less on the checklist…. Because I was looking for what they were able to do instead of their thought processes, and what they were doing so…, I started taking more notes and what I was thinking and what I interpreted.

R: so your use of developmental checklist went down after the study, so what do you feel caused this change and what are you using now?

P3: I think so, like I said I started looking more at their thought processes and not just looking to see if they can tell me the a letter of if they could hold a pencil correctly, and so I focused more on what they were thinking and their thought processes, and now, I still don't use the DR forms all the time, but I do take more notes in that way and I include more of what I'm thinking in them and ideas I have for later lessons.

R: how do you see the video and pictures as important to interpreting children's learning?

P3: it helps, because I can go back and kind of see what they did, and because when I'm taking notes it gives me a visual so I can go back and look at it and see and think more of what they were thinking.

R: I noticed you thought it was slightly less important to interpret children's thinking for planning curriculum that encourages children to theory build with autonomy, what do you think and why do you think this changed after the study?

P3: I don't really know, because I know I think it's important and I rated it a six and then a five and it should have been a six…but I think it's very important, because that's how

they made connections, you know, if they had a little more autonomy and are able to do more on their own, that's how they make connections to what they're learning and it's good to do your lessons that way to provide them with opportunities to build on what they know. em and I had some kids, for instance, that were playing with magnets and I was watching them and they didn't exactly know how to use them, and for some of them and one little boy told me that they stick to metal which was good but he really didn't know what was going on, and I could teach them that but they weren't making their own discoveries and connections if I did that, so during the study I used that to do my lesson plans and I did lesson plans on magnets and I just sat paper clips, different toys and things that I knew would stick, and some that would not stick, out on the table and let them play with them…and the one boy that told me they stick to metals , he tried to stick one to a plastic car because it looked like metal. But when he realized it wasn't metal, he touched it and felt it, so then he realized it was painted to look like metal. Then he, from that, started walking around the room and sticking them to other things that felt like metal and that was all their own thinking, so they started discovering more with that and how much it weight they would hold and then they went in a lot of different directions with it…more than probably what they would have done if I just sat down and showed them what to do.

R: so you provided the materials for them to interact with but the process of what you had learned guided you to do it that way rather than just teaching a lesson and showing them everything?

P3: yeah, because I could have showed them, you know, this sticks to metal but they got more out of it, I think, that way because they were making the connections versus my telling them, oh it will stick to this or it will stick to this, they can think back to what they did and make that connection and learn it in a more natural that way, I think.

R: do you think what you learned in the training about conversations and observing interpreting had an impact on how you and how you are starting to plan?

P3: it did, because I kind of got more about what they were thinking and their interest in things and it affected my lesson planning, so I try to give them more opportunities to do things like that.

R: good, thank you.

COI Training: (3 hrs – Morning Session) ***Observe with Intention***

WELCOME introductions

OBSERVE WITH INTENTION #1

- Introduce the concept of observation with intention from an emergent curriculum perspective using PPT lecture and discussion. The PPT introduces the COI *DR Form*, a form for capturing written observations.
    - What do we need to capture?
    - Early processes of interpretation introduced
    - Introduce *Documentation Record (DR) Checklist* for teachers to use as a target for what to accomplish with their observation records
- Review sample/s of observation records documented using the COI *DR Form*.
    - Use the *COI DR Checklist* to assess these examples and discuss as a group
- Practice using the *DR Form* using an example of children playing in video footage from Videatives.com
    - View video one time and document
    - Discuss very briefly
    - View the video a second time to allow more time for recording observations
    - Self-assess using the *COI DR Checklist*
        - Discuss in groups and include in the discussion:
            - What did you document and why?
            - What does the video record show you about the child's knowledge or thinking?

BREAK

OBSERVE WITH INTENTION #2

- Practice using the *DR Form* using a second example of children playing in video footage from Videatives.com
    - View video one time and document
    - Discuss very briefly
    - View the video a second time to allow more time for recording
    - observations
    - Self-assess using the *COI DR Checklist*
        - Discuss in groups and include in the discussion:
            - What did you document and why?
            - What does the video record show you about the child's
            - knowledge or thinking?
- Discuss how teachers will use this new knowledge and practice in their classrooms tomorrow?
    - What help do they anticipate they need
    - Set goals for practice

LUNCH BREAK

COI Training: (3 hrs – Afternoon Session) ***Divergent Planning***

DIVERGENT PLANNING #1

- Introduce the concepts of interpretation and divergent thinking from an emergent curriculum perspective using PPT lecture and discussion. The PPT introduces the COI *ICKT Form*, a form for capturing written observations.
    - Reasons we speculate on children's knowledge, goals, and theories.
    - Early processes of interpretation introduced
    - Introduce *Interpretation of Children's Knowledge and Thinking Record (ICKT) Checklist* for teachers to use as a target for what to accomplish with their interpretation records
- Review sample/s of interpretation records documented on the COI *ICKT Form*.
    - Use the COI *ICKT* Checklist to assess these examples and discuss as a group
- Practice using the COI *ICKT Form* using the first example of children playing in video footage from Videatives.com and participants related *DR Forms*
    - Review the previous video and related *DR Forms*
    - Interpret using the COI *ICKT Forms*
    - Self-assess using the *COI ICKT Checklist*
        - Discuss in groups using the checklist as a facilitation guide

BREAK

DIVERGENT PLANNING #2

- Practice using the COI *ICKT Form* using the first example of children playing in video footage from Videatives.com and participants related *DR Forms*
    - Review the previous video and related *DR Forms*
    - Interpret using the COI *ICKT Forms*
    - Self-assess using the *COI ICKT Checklist*
        - Discuss in groups using the checklist as a facilitation guide
- Discuss how teachers will use this new knowledge and practice in their classrooms tomorrow?
    - What help do they anticipate they need
    - Set goals for practice

PARAMETERS OF STUDY PROCESSES DISCUSSION

- Review the protocols for the study
- Opportunity for participants to ask questions
- Clarify and review protocol as needed until all understand expectations

APPENDIX G

COI Documentation Record Form (DR)

Cycle of Inquiry Documentation record	Part 1 of 3	**DR**

Tag: **Date of observation:** **Page:**

Observers:

AREA:
PARTICIPANTS:
SETUP:

By working with documentation of children's **actions** and **words** we focus our discussions on "evidence" and de-privatize our discussions about children's thinking. (Reggio Study Group) ***When using video note the start / end time frames of clip you reference in name column.***

NAMES: Distinguish teacher's names from children's.	**DESCRIPTION:** **ACTIONS** **(what you see)** In parentheses **WORDS** **what you hear** Not in parentheses	**MEMOS:** Raise your questions about the meanings of children's actions and words. Why did they do / say this? What do they know?

Cycle of Inquiry Documentation record	Part 2 of 3	**DR**

Observation (continued). Page:

By working with documentation of children's **actions** and **words** we focus our discussions on "evidence" and de-privatize our discussions about children's thinking. (Reggio Study Group) ***When using video note the start / end time frames of clip you reference in name column.***

NAMES: Distinguish teacher's names from children's.	**DESCRIPTION:** **ACTIONS** **(what you see)** In parentheses **WORDS** **what you hear** Not in parentheses	**MEMOS:** Raise your questions about the meanings of children's actions and words. Why did they do / say this? What do they know?

Cycle of Inquiry Documentation record	Part 3 of 3	**DR**

Observation (continued). Page:

By working with documentation of children's **actions** and **words** we focus our discussions on "evidence" and de-privatize our discussions about children's thinking. (Reggio Study Group) ***When using video note the start / end time frames of clip you reference in name column.***

NAMES: Distinguish teacher's names from children's.	**PHOTO IMAGE** Insert images that capture the processes of children's play noted in preceding pages. Consider the way the child sees the processes, steps in the child's thinking process, the child's technique with materials.	**MEMOS:** Raise your questions about the meanings of children's actions and words. Why did they do / say this? What do they know?

APPENDIX H

Interpretation of Knowledge and Thinking Form (ICKT)

Cycle of Inquiry Interpretation of children's knowledge and thinking	Part 1 of 1	**ICKT**

Tag: **Date:**

Interpreters:

SPECULATE ON WHAT THE CHILDREN ARE DOING AND THINKING.

In the next two boxes, keep in mind that you're looking for emerging threads of play that have the most potential for advancing play toward children's inquiry. ***You are forming a context for interpreting what you saw.***

*Write a narrative using as much **descriptive language** as possible to te ll the reader what you think this play w as about. Write freely. Within your d escription**, speculate with statements** like "I think they are doing X because of Y."*

Look at the above paragraph. Imagine you are the child/children you wrote about. B e those children and write what you are thinking. (We ask you to complete this task to help you d ig a bit more d eeply into the perspective of the child)

APPENDIX I

Checklist for Participant Self-Check

DR – Mastery Checklist
Briefly review your Documentation Record. Mastery of documenting play for the purpose of building a curriculum requires skill in each of these areas:

Amount and nature of the data (*photo and written or video*)

_____Did you capture sufficient detail to interpret the episode?

_____Did you document connected events to describe a meaningful play episode?

_____Did you follow the connected events even if they moved from place to place?

_____Did you photograph / videotape

_____ • from the level of the child?

_____ • the steps in the child's thinking process?

_____ • the child's strategies / techniques with materials?

_____ • the emotion of the child (if this is significant to the documentation focus)

Accuracy and ease of use of the data

_____Did you distinguish dialog from action?

_____Did you distinguish teachers and children?

_____Did you invent methods to for recording complex behavior or products?

_____Did you produce a clear descriptive transcript of important processes and products you observed?

Focus on children's thinking and on your thinking (analytic memos)

_____Did you separate your speculations and thinking from your observations?

_____Did you relate children's actions to their possible goals or theories?

_____Did you think about links to previous play episodes in your memos?

_____Did you think about your questions as ideas for plans to extend children's thinking?

The goal is for thinking to be at the forefront of the teacher's minds.

ICKT – Mastery Checklist
Briefly review your Interpretation form. Mastery of interpreting play for the purpose of building a curriculum requires skill in each of these areas:

Focus on children's knowledge and thinking

_____Did you describe significant (possibly meaningful) events in the children's play?

_____Did you capture your thoughts about why these events were significant?

_____Did you interpret events as indicators of the thinking of children, not just their interests or needs?

_____Did you speculate on the goals behind the actions of the children?

_____Did you speculate on what knowledge and theories of the world made these actions strategic/sensible to children?

_____Did you look ahead to how your ideas might be used in planning?

_____Do you see diverse lines of inquiry documented in your narrative?

Focus on differentiating children's perspectives

_____Did you look at the events from the children's perspective, to wonder how they experienced things?

_____Did you describe and question odd events that indicate when children see things differently?

_____Did you coax out differing speculations about the children's knowledge and thinking?

The goal is for thinking to be at the forefront of the teacher's minds

VITA

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	Principal, Castlewood Elementary School, 2012-2013
	Principal, Copper Creek Elementary, 2012-2013
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	National Association of Elementary School Principals (NAESP)
	National Association for the Education of Young Children (NAEYC)
	Southern Early Childhood Association (SECA)
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