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Self-regulated learning and self-efficacy in prekindergarten students

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SELF-REGULATED LEARNING AND SELF-EFFICACY
IN PREKINDERGARTEN STUDENTS

by
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A Dissertation

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Dedications

I would like to dedicate my dissertation work to my Lord and Savior, Jesus Christ. Without him in my life, nothing is possible.

I dedicate this dissertation to my wife, Denise. She has been a tower of strength and guidance through this whole process. She has been there through the good times and bad, offering me the necessary sustenance and support I needed to get to where I am today. I know and recognize the fact that I would not have become the person I am now without her hard work and dedication to this family.

I dedicate this dissertation to my two children—Cassidy and Brennen. Over the past three years of my life, I grew to understand that their love motivates me to be a better person. It is because of my two children that I now realize what is truly important. Without their love and support, I would not have been able to accomplish such a feat as this dissertation.

I dedicate this dissertation to my family. They have been there since my journey began, offering words of encouragement. Their guidance has allowed me to regain focus in times of need. I strive to make them proud every day.

I dedicate this dissertation to Dr. Carol Thompson, my committee chairperson. Her patience, encouragement and level of commitment to this research has inspired and motivated me to finish what I started. I am extremely grateful for her unwavering support and guidance.

Abstract

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The purpose of this study was to understand prekindergarten teacher perceptions of self-regulation and to investigate how prekindergarten students regulate their learning.

Research entailed video recorded observations of prekindergarten students engaged in social-cognitive behaviors during centers. *The Creative Curriculum*—one of several State recommended programs for prekindergarten—provided the foundational guidelines for teachers to incorporate into daily lessons—one of which is for students to play in organized centers. Naturalistic observations were conducted in five-minute intervals per student and coded according to *The Play Observation Scale.* During play, students' activities were coded according to interaction with peers (e.g., solitary, parallel or group) and interaction with the environment (e.g., constructive, dramatic or exploration). In addition, the classroom teacher participants were interviewed using a semi-structured format. At the conclusion of the study, they had the opportunity to provide details on self-regulation, prekindergarten students, instructional practice, and curriculum.

The results of the study show that prekindergarten students were able to self-regulate by choosing a center, setting a goal and engaging in play either independently or with a peer. The organized centers encouraged specific types of play, where the predominant behaviors observed involved building structures (constructive) or engaging

in pretend play (dramatic). Although the teachers of the three prekindergarten classrooms were not familiar with current terminology, they did believe that *Creative Curriculum* provided the necessary learning environment for students to self-regulate, gain a sense of self-efficacy, and develop a foundation for future academic success. Through teacher modeling, scaffolding, reinforcement and a structured classroom environment, prekindergarten students did apply the acquired knowledge into practice.

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Chapter One

Introduction

To teach is to have the understanding that meaning can be constructed and construed in a variety of ways. The prescribed means of constructing reality—the idiosyncratic histories and subsequent theories of people—is referred to as perspectival tenet (Bruner, 1996). Standards and curriculum prefabricate a Westernized pedagogical custom from which the presumed omniscient teacher is the bearer of knowledge. Therefore, the classroom never fully articulates the cultural values and perspectives of others (Bruner, 1996). As a means of teacher influence on behavior and learning, students need the time to interact and observe one another, sharing ideas and encountering new theories and philosophies (Bandura, 2011).

A school's curriculum is not only about subject matter, but from a cultural perspective, *is* the school. Cultures are comprised of the roles, practices, and status of people within the institutions. Furthermore, cultures institutionalize experiences that form the "self" through agency and evaluation. Agency implies one's ability to initiate, complete actions, and possess the necessary skills to accomplish tasks—apply knowledge to daily practice. Evaluating is the self-reflection and sense of self-efficacy to accomplish formidable and unpretentious tasks (Bruner, 1996). An example of such a task would be when a prekindergarten student is required to play with unfamiliar peers for the first time. His or her actions and interactions are motivated by prior experiences, perceptions, and self-concept (see Figure 1). The cultural experiences and tools internalized and subsequently perpetuating the actions of peers are what learners inherit as circumstantially appropriate through generational traditions (Cole, 1996). Interaction is a

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reciprocated, dialogic process where participants posit espoused theories that conjure an emergent product—self-regulated learning.

Self-regulation is a complex interactive process involving metacognitive, motivational, and behavioral actions, which are affected by contextual variables such as task requirements and setting conditions (Zimmerman, 1995). Words such as *I think*, *I know*, and *I don't know*, can be observed and documented, and represent states of knowledgebase. They also represent temporary intellectual constructs of a child's ability to provide an answer or produce an action. Therefore, I want to observe students' self-regulatory capabilities across task demands in prekindergarten (Krebs & Roebers, 2011). Introspection is a complex, inner dialogue with oneself—contemplation that either leads to self-enabling or self-debilitating actions. This self-appraisal is based on one's aspirations, prior knowledge—mental models—and is a result of one's beliefs and constructive rehearsals of perceived cognitive abilities. Perceived cognitive abilities are formed as a result of prior experiences and interactions with peers, learning environment, and teachers (Bandura, 2011; Krebs & Roebers, 2010).

Metacognition is a term that has been defined as "thinking about thinking", learning to learn, or possessing the ability to consciously and subconsciously control cognitive decisions and thoughts, thereby processing information to build semantic knowledge (Flavell, 1979; Roebers, Cimeli, Röthlisberger, & Neuenschwand, 2012). Thus, metacognition is the process by which a person gains an understanding of his or her own thinking, word-interpretation, and sense-making process. Research has shown that this process can be observed during teacher-student, student-to-student interaction, and

actions performed during independent play (Elias & Berk, 2002; Mooney, 2000; Rushton & Larkin, 2001).

As discussed in the literature review, improvement in the areas of self-regulation and self-efficacy led to higher student achievement. Hence, this study is an investigation of self-regulated learning—from a social cognitive perspective—in a prekindergarten setting. This study examined data on teacher perspectives and student behaviors relating to self-regulation in order to improve academic achievement and the overall learning environment of our prekindergarten program.

Teachers and Self-Regulation

For this study, there were two purposes. The first purpose of this study was to understand prekindergarten teacher perceptions of self-regulation. Instructional decision-making is motivated by teacher perceptions, which are developed from prior experiences. These experiences may be to use direct instruction or a lecture approach as the only tool for teaching students—not allowing time for learning and exploring with peers. Therefore, teacher pre-service programs must provide the necessary training for teaching future teachers themselves how to be self-regulated learners in order to promote self-regulation in the classroom (Randi, 2004). Pre-service teachers must then translate their training into opportunities for students to participate in a spiraling curriculum, engage in self-generated discovery, and immerse in a personal, narrative world (Ball & Goodson, 1985; Huberman, 1993). As stakeholders of education, teachers, professors of education, and researchers all share a common goal of improving student achievement. In teacher preparation programs, pre-service teachers are often told to uphold a personal commitment, a willingness to learn more about instruction and inherit a view of life-long

learning (Spillane & Thompson, 1997). Though these attributes are important, teachers must also understand how communication—language—is an essential means of cultural learning for everyone (Bruner, 1996). Thus, it was important for this study to examine prekindergarten teacher perspectives on best practice strategies.

For early childhood and elementary students to internalize information, teachers must understand that "meaning cannot be taught directly, because children can memorize definitions, procedures, and algorithms and not link them to any previous experiences" (Steele, 2002, p. 405). Instead, teachers can introduce topics and concepts through modeling, introducing new terminology, and unfolding processes and procedures. Then, most of the class time is spent in centers or small group activities or exercises transforming the teacher as the sole resource of knowledge to a facilitator, encouraging students to collaborate, and assisting students by engaging the class in differentiated instruction. Teachers must understand the power of self-regulation, choice, or volition, as well as the importance of determining background knowledge and scaffolding information (Renshaw, 1992). In a social cognitive classroom environment, teachers need to create learning environments where children are able to interact within diverse, social contexts by fostering collaboration and collective inquiry (Bandura, 2001). Teachers also must learn that developing a social cognitive classroom requires time for self-reflection and building self-efficacy, creating a social learning atmosphere where students feel comfortable with their own individual identities, values, subject area, and pedagogical knowledge (Stoll, 1999).

In addition, teachers must understand their own cultural assumptions and be willing to adopt shared understandings, values, and goals—embracing social interactions.

Routine, sustained contact of teachers participating in joint-productive meetings creates the context for people to develop shared meaning, norms, values, and goals (Vygotsky, 1962). Instructional leaders must provide the necessary time and guidance to promote such learning communities. This practice will then translate over into the classroom, where teachers can also create a collaborative learning environment for the students—focusing on delineation of meaning and stipulated modes of social conduct (Cole, 1985; Giddens, 1984; Rogoff, 1990; Tharp & Gallimore, 1988). A collaborative learning environment for students facilitates sharing, creating dissonance, deep thought, and opportunities to truly test espoused theories (Bandura, 2001). Of particular importance for this paper are the ways which teachers can transfer their experiences and knowledge of self-regulated learning and social cognitive theory to inspire a transformative classroom.

Students and Self-Regulation

The second purpose of this study was to investigate how prekindergarten students regulate their learning. Self-regulated learning (SRL) is considered an integral component of student growth and has now become a topic of a growing body of research (e.g., Bandura, 2011). On an operational level, self-regulation and reflection occur when an external experience is reconstructed internally. Self-regulated learners generate thoughts, feelings, and behaviors to attain their learning goals (Schunk, 2001; Zimmerman, 2001). They cognitively regulate by planning, cataloging, monitoring, and evaluating their learning processes. In terms of motivation, they view themselves as self-efficacious and adept. They also regulate their behaviors by selecting and reconfiguring physical environments conducive to learning. Hence, self-regulated learners are information

seeking agents who are goal-oriented and have the ability to control their behavior, motivation, and cognition to achieve academic success (Bransford, Brown, & Cocking, 2000).

Children as early as age three portray an ambiguous, pervasive state of curiosity and uncertainty, where a child's knowledge base is partial, yet still fashions his or her actions (Lyons & Ghetti, 2010). Trevarthen (2005) presented an intriguing account of human beings' ability to investigate and cognitively regulate movements and moments of experimentation based on their emotions, or sense of self-efficacy. Research in this area conceptualizes three particular types of knowledge: procedural knowledge, or knowing *how* to phonemically pronounce words or non-verbal expressions. Second, is conditional knowledge, or knowing *when* to refer back to prior experiences. Third is declarative knowledge, or knowing *that* if she cries, attention will follow. The three types of knowledge allow people the ability to self-regulate—to establish a knowledgebase, set goals, experience, and interact within various contexts, and produce results.

Picture a group of 3-year-old children hunched over the lakeshore—looking inquisitively at their reflections. A frog jumps in, startling the students, rippling the water, and distorting their images. The interactions between the children within the context lead to inquisition and learning on so many levels. *What was that? Why did the ripples form when the frog jumped into the water? Does my face really look like it does in the lake? Why does the lake act like a mirror?* A child wants to know—to construct new knowledge—based on their innate ability to be inquisitive. A child's inquisitive, self-regulated, goal oriented nature inspires a search for answers—by either referring to prior knowledge, talking with peers, or asking family members. Thus children form cultural

tools when attempting to retrieve answers—potentially mastering the concept. Perhaps a child reenacts the event by tossing a rock in the lake, or looks for a reflection while in the bathtub. Ultimately, children are little scientists continually interacting and testing the contextual world that surrounds them, and if given the opportunity, discussing their findings with others.

Despite SRL being generally viewed as an individual construct, it is also fundamentally a social process (Özdemir, 2011). For example, two people (e.g., a father and child) determining where a missing item is located portrays a powerful example of the dyadic approach to problem solving, which is a more productive way—due to the mediational ways of determining the solution or answer—than intrapersonal cognitive means (Özdemir, 2011). Once children and teachers enter the classrooms to become participants in formal education, the diverse range of prior knowledge, values, skills, and beliefs signify and influence the perceptions and abilities to remember, reason, complete assigned tasks, and acquire new knowledge. Therefore, it is not so much the sum of individuals but rather the social milieu that is important for teachers to foster. In other words, the actions as a result of the discussion and subsequent mediation are important components of the process (Özdemir, 2011).

Over the last decade, research on student learning in prekindergarten was analyzed—by proxy—through informal interviews (Perels et al., 2009), or computer based memorization games measuring self-efficacy, regulation, and introspection (Hembacher & Ghetti, 2014; Lyons & Ghetti, 2010). The results from the studies indicated that prekindergarten students can self-regulate—showing a positive correlation in 3- and 4-year-old thought processes related to answer choice, confidence ratings, and

self-reflection data. Research has primarily concentrated on elementary, middle, and high school, as well as college students. There remains, however, a preconceived notion from prior researchers and theories that early childhood students have limited declarative and procedural knowledge (Haberkorn et al., 2014). Therefore, there remains a gaping hole in research on self-regulation in prekindergarten students, which is why it is important to determine whether the emergence of self-regulated learning occurs in prekindergarten and how teachers perceive instructing students to embrace self-regulated learning is important. The consensus from the current research studies is that self-regulatory processes do improve with age (e.g., Piotrowski et al., 2013; Raffaelli et al., 2005; Simonds et al., 2007); however, I remain convinced that acknowledging, researching and providing a self-regulated, sociocultural learning environment for prekindergarten students will only improve achievement of students—prekindergarten through twelfth grade.

Students and Self-Efficacy

Self-efficacy is the inner belief system, or one's perceived capabilities. Motivational and action theorists have focused on courses of action and specific observable behaviors, such as exerting effort and persistence. Emotional actions would be anxiousness, fear, happiness, anger, boredom, and interest. Research also categorizes motivated activity using such terminology as engaged or disaffected (Connell, 1990; Frese & Sabini, 1985; Kuhl, 1984). Students' expectations for achievement are composed of two types: efficacy and outcome (Bandura, 2001). Efficacy expectations and goals are formed on the basis of whether one believes that he or she has the ability to perform the required behaviors and actions necessary for success. Outcome expectations discern

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whether or not an individual believes that his or her actions will lead to desired outcomes. I want to examine self-efficacy because it plays an integral role on student achievement, primarily in students who have a positive self-perception, who tend to be more motivated, higher achievers compared to their low self-concept counterparts (Bandura, 2001). For example, a high achieving student may perceive learning as a means of gaining knowledge, and therefore, establish aspirations, seek challenges, and perceive mistakes as learning experiences. They also develop what is called high outcome expectancy, or confidence in completing a task successfully. However, what if high achievers fail certain tasks? Failure after using these operations would seem to be much less influential on a student's efficacy expectations; however, sometimes students engage in behaviors they doubt will lead to success. High achievers can quickly feel a sense of low self-efficacy.

In contrast, there is also the deficit model—where a student's perspective of learning in school is enjoyable when tasks are not deemed too demanding or require high effort, straying away from tasks exposing deficiencies and reinforcing the notion that he or she is not intelligent. Lastly, analogous but divergent from Bandura's definition of efficacy (2011), Eccles and Wigfield (2002) delineated self-efficacy as one's belief about competency in any given area regardless of expectations for success on any specific upcoming task. Therefore, even though a student may or may not feel a level of conviction and reassurance when confronted with a task, real-world achievement situations and choices are "…empirically indistinguishable" (Eccles & Wigfield, 2002, p. 119).
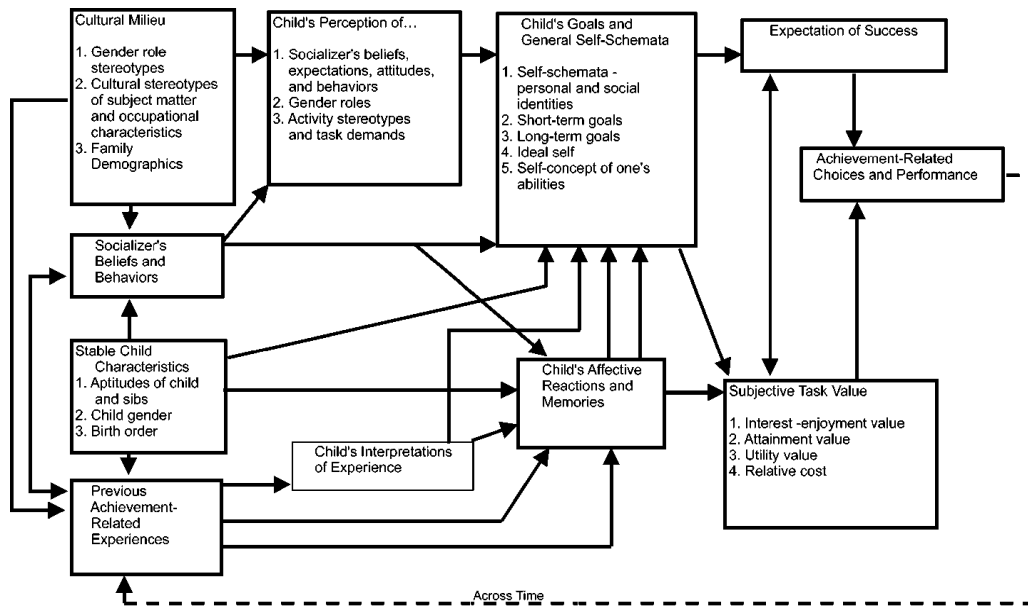
Figure 1. A Social Cognitive Expectancy-Value Model of Achievement Motivation (Eccles & Wigfield, 2002).

According to the model in Figure 1, a student's perceptions and background are critical motivators of efficacy expectancies. Relevance and relatedness are integral to the learning, establishing high engagement, competency, and improved self-efficacy. One could gain satisfaction when outperforming the rest of the class. In contrast, one's self-efficacy can be undermined and doubt settle in when receiving poor grades or feedback that has been surpassed by others within the class. The theory expectancy value is a model focusing on students' expectations for succeeding on upcoming tasks—an individual's comparisons of his or her performance with that of others (Eccles & Wigfield, 2002). Task value includes four components: attainment value, intrinsic value, utility value, and cost. Tasks that are deemed important to an individual, or tasks that the individual feels directly contribute to one's schema are considered by the person to have a high fulfillment appeal. Intrinsic value is related to how interesting or motivating an

individual finds in a task. Utility value is how a student determines whether a task contributes to current and future goals. Finally, the cost of a task incorporates a number of factors related to a student's determination to engage in a task, including the amount of effort required, any other opportunities lost, and the potential for any negative consequences, such as angst or fear of failure (Eccles & Wigfield, 2002).

Research Questions

The emergent nature and current research in self-regulated learning is intriguing and leads to so many questions about prekindergarten students and the power teachers have in shaping their ability to learn, reflect, and be confident. As a researcher, I am an ontological realist—embracing the notion that there is a reality that exists separately from one's perspectives and theories (e.g., prekindergarten students learn best when entrenched in a sociocultural, self-regulated learning environment), and epistemological constructivism—the diverse understanding of the world as a result of a variety of perceptions based on individual experiences. Therefore, the purpose of this qualitative study was first to understand the prekindergarten teachers' perceptions of self-regulation in prekindergarten students and second, investigate how prekindergarten students regulate their learning. Thus, my research questions were: a) *What are the perceptions of prekindergarten teachers regarding self-regulation and self-efficacy?* b) *What behaviors do prekindergarten students exhibit when they are self-regulating?*

Setting

The Cassidy School District is considered District Factor Group (DFG) B, with over 50% of the students living in poverty, receiving free or reduced breakfast and lunch (R. Chichec, personal communication, February 10, 2015). This qualitative study was

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conducted at Brennen Elementary School in Southern New Jersey, which houses approximately 150 prekindergarten students. There are a total of six prekindergarten sessions (three AM and three PM) with three prekindergarten teachers and three instructional aides. One prekindergarten student was not observed due to a conflict of interest. Teacher participants were selected using purposeful selection (Maxwell, 2013)—strictly prekindergarten teachers. Using purposeful selection, I was able to receive parental consent, observe, and analyze 34 prekindergarten students during the AM and PM sessions.

The Cassidy School District adopted one of the state approved models: *The Creative Curriculum for Preschool* for the half-day program. The curriculum is based on five principles that are considered essential to learning: 1) positive relationship and interactions with adults, 2) social-emotional competence, 3) constructive, purposeful play, 4) contextual factors, and 5) teacher-family partnerships. According to *Teaching Strategies™* Research Foundation: *The Creative Curriculum* (2010), sociodramatic play and private speech or self-talk are correlated to the development of self-regulation. The social constructivist theory posited that play—independent (e.g., self-talk) and with others—conjures self-regulated learning and introspection (Vygotsky, 1978). Conversing with peers during organized play provides an opportunity to learn and assess one's capabilities compared to others in diverse contexts. In addition to constructivism, the fundamental assertion of sociocultural theory heralds language as the most influential self-regulatory tool. The external sociocultural world and inner psyche of an individual are linked by language (Vygotsky, 1994). Children's self-directed speech is the main means for transferring regulation of behavior from peers and adults to the self. Self-

regulation initiates when children incorporate adult strategies, explanation, prompts, and boundaries into their own private speech. Memory, planning, attention, and reflection occur when turning this inner dialogue to redirect their own behavior—internalizing inner verbal thought.

Theoretical Framework

In this section, I will discuss the theory of planned behavior (Ajzen, 1991), action theory (Kuhl, 1984) and model of cognitive monitoring (Flavell, 1979); however, Bandura's (2001) cognitive theory provides the theoretical basis for most of this study. Prekindergarten is a dynamic world—an educational environment revolving around the nature and science of play and inquiry; with modeling of basic math, literacy, and social skills directly from the teacher. For public schools, there are three prescribed curricula to choose from that are research-based and encompass socialization and play to provide that solid foundation towards creating a well-rounded, social-emotional, intelligent, and motivated student. The motivated student has a level of self-efficacy and level of forethought to achieve or attempt to take chances despite the fear of failure. Therefore, it was important to capture the essence of self-regulated learning by observing for student control of specific actions, or inactions, behaviors, and student-to-student and student-to-teacher interactions. The various theories and research outlined in chapter two not only focus on prekindergarten, but postulate the notion that 3- and 4-year-old students can self-regulate.

As noted in the preceding and proceeding paragraphs, self-regulation, and self-efficacy encompass a component of observable behaviors: motivation, disengagement, disruptive, and cooperative—all of which impact as well as are impacted *by* context.

Since self-regulation is about goal setting and response to contextual factors, self-efficacy is an influential component—as you will see from the studies in the literature review—in that response.

Action theorists investigate the relationship between goals and human action investigate the relationship between goals and human action (Chapman, 1984; Frese & Sabini, 1985; Kuhl, 1984)—other terms used with self-regulation. The theory of action conveys the notion of action control, the concept of intentional human behavior directed toward accomplishing goals, framed by plans that are hierarchically organized, and feedback provides the next course of action (Frese and Sabini, 1985). As Kuhl (1984) described, "The actor tests the degree of congruence between the outcome of a previous action and a standard" (p. 129), which perpetuates observable behavior and the execution of cognitive operations, or actions. In contrast, examples of mechanisms that may cause symptoms of self-regulatory deficits, or learned helplessness, are mood irregularities, or the inability to restore motivation—especially when exposed to uncomfortable or frustrating conditions where students are desperately seeking alternative actions, lacking representations of his or her own needs, values or feelings.

Similarly, one's intention to produce a certain behavior is the central factor in the theory of planned behavior (Ajzen, 1991). It is a self-regulatory mode where behavioral achievement is jointly based on purpose and behavioral control. Intentions are indicative of motivational factors and a person's willingness to plan and put forth a certain amount of effort. One's behavioral control is evident in terms of ability. Perceived behavioral control signifies the actor's perception concerning level of difficulty when completing a task. The theory of planned behavior is very similar to Bandura's (2011) social cognitive

theory, as well as perceived behavioral control and concept of self-efficacy—one's judgments of how well he or she can execute the necessary courses of action to meet the requirement(s) (Bandura, 1982).

The theory of planned behavior posits three independent elements of intention (Ajzen, 1991). First, is the attitude toward the behavior, which signifies the appraisal of the specific behavior, or whether it is favorable or not. Second is the subjective norm—a social factor, or peer pressure, to decide whether or not to execute the behavior. Lastly, the third precursor of intention is the degree of perceived behavioral control. Prior experience and projected barriers influence the perceived ease or difficulty of performing the behavior. Hence, the more auspicious the attitude and behavioral subjective norm, the greater the behavioral control, and the more willing one's intent should be to perform the behavior. In some applications, attitudes may have a more significant impact on intention, while in other applications, attitudes, and perceived behavioral control are sufficient indicators. The theory of planned behavior suggests that behavior is a mechanism of a plethora of salient beliefs, which converge into a small number of cognitively manageable beliefs at any moment in time, and are the prevailing determinants of one's actions and intentions. At this level, we can learn about the exclusive factors that cause one person to engage in interest behaviors and prompt another to adhere to a different course of action while immersed in the cognitive learning task.

A learner's ability to govern cognitive processing and the calculated application of ensuing strategies is conceptualized in the cognitive theory (Gagné, 1984; Mayer, 1981; Weinstein & Mayer, 1986). Albert Bandura (2011) defined cognitive theory as the

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capacity of a person to intentionally process information through a series of cognitive strategies using forethought, self-regulation, and reflecting on his or her capabilities. This personal agency personifies the endowments, self-efficacy, self- regulatory capacities, and corresponding structures and level of functioning from which one's self-perceptions are solidified. At the conscious level, a person purposefully accesses prior knowledge and processes experiences in order to determine selection of information, and construction, regulation and evaluation of potential courses of action.

The cognitive theory of learning is derived from the observable model of the world in general, where people act in such a manner to achieve desired outcomes and avoid potential hazardous or detrimental decisions (Bandura, 2011). When a person constructs what he or she encounters, such as trouble, one engages in a moment of self-enabling or self-incapacitating introspective discussion. Hence, the pattern occurs in times of prudence, establishing goals based on self-awareness and perceived level of competence, determination of courses of action and self-reflection.

The internal, self-regulatory mechanism of personal agency is divided into three modes: direct personal, proxy, and collective agencies (Bandura, 2001). As Bandura (2001) described, there is an ever-evolving, purposeful cognitive course of processing information for "…selecting, constructing, regulating, and evaluating courses of action" (p. 3). Cognitive processes are emergent, and the human mind is proactive, creative, reflective, reactive, and generative. To be human is to be an agent of the mind—to intentionally create a course of action, constructing the world around them based on perceived notions of oneself to establish goals, motivating, and self-regulating based on inherit morals and values, and evaluating one's (agent's) actions through self-reflection.

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Therefore, Bandura's ideology of what makes us human is through a set of cognitive processes that interact with the external environment to formulate perceptions of oneself and his or her surroundings—*the frog distorting the reflection in the water.*

Other terms relative to cognitive strategies are executive control and functioning. For example, an actor who demonstrates executive control can consciously and unconsciously (dependent on the relevance of the event or learning) employ a degree of regulation over cognitive processes (e.g., identifying key details of a story to determine main idea). Gagné (1984) presents an argument regarding motor skills, which are the actions one takes during performances (e.g., verbal statement, completing an assessment, etc.) and attitudes, or cognitive and emotional progeny of one's apparent behaviors. The argument is one's behavior is most frequently deciphered through observation, which could potentially differ when compared to the actual planned behavior (Gagné, 1984).

Another theoretical framework conceived by Connell and Wellborn (1991) is called integrated control beliefs, in which they proposed three basic psychological needs: competence, autonomy, and relatedness. Similarly, Deci and Ryan's (2000) self-determination theory (SDT)—a model of motivational development and outcomes when interacting with social contexts—outline three universally identified psychological needs: relatedness, competency and autonomy. Connell and Wellborn (1991) and Deci and Ryan (2000) determined a correlation between control beliefs and competency needs. For example, children who believe they control their achievement outcomes should feel more competent. Deci and Ryan (2000) hypothesized that the extent to which needs are fulfilled is shaped by following characteristics of their family, peers, and school contexts—the level of structure, the degree of autonomy allowed, and the extent of

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involvement in the children's activities. Deci and Ryan (2000) also discovered a positive correlation between students who were perceived as highly engaged behaviorally and receiving active teacher support throughout the entire school year (fall to spring). In contrast, students who were perceived as behaviorally disaffected received less frequent or no teacher support from the fall to the spring. Lastly, they proposed that the means in which these needs are fulfilled dictate engagement in different activities. When desires are fulfilled, children will be fully engaged. When one of more of the desires are not fulfilled, children will become unmotivated (Connell & Wellborn, 1991; Skinner & Belmont, 1993). Ellen Skinner and her colleagues (1998) proposed a more elaborate model of perceived control focusing on understanding goal-directed activity. Skinner described three critical beliefs: means-ends beliefs, control beliefs, and agency beliefs. Means-ends beliefs concern the expectation that particular causes can produce certain outcomes; these causes include causal attributions and unknown control. Agency beliefs are the expectations that one has access to the means needed to produce various outcomes. Control beliefs are the expectations individuals have that they can produce desired events. All three sets of beliefs influence performance on achievement tasks. Skinner et al. (1998) charted the development of these beliefs over the school years and examined the relation between children's perceived control to the ways children perceived how teachers treated them. Children who believed teachers were nurturing and supportive developed a more positive sense of control over outcomes.

Lastly, John Flavell's (1979) original model of cognitive monitoring was based on actions and interactions within the realm of four phenomena: a) metacognitive knowledge, b) metacognitive experiences, c) goal setting, and d) subsequent actions. His

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beliefs were based off of the diverse experiences of people as cognitive beings, hence impacting specific goals and actions of individuals. Flavell (1979) further explained metacognitive knowledge as an occurrence that could be consciously or unconsciously triggered, and can lead one "…to select, evaluate, revise, and abandon cognitive tasks, goals, and strategies…" (p. 908). Metacognitive experiences, according to Flavell (1979), are pieces of metacognitive knowledge that emerge to the level of consciousness. Metacognitive knowledge and experiences can partially overlap—prior knowledge or schema can be used to solve present problems. Metacognitive experiences can alter, refine, or completely delete pre-existing metacognitive knowledge, as well as goals (e.g., This task was difficult before, so I may have to try a different approach). In summary, Flavell (1979) mentioned one's metacognitive experiences can formulate goals as cognitive strategies, such as when one does not truly understand a specific concept, so she returns to the chapter of the book to reread in hopes of fully comprehending the concept.

The theoretical frameworks discussed here provide an inductive platform for this study. Humans are able to establish goals, decide whether or not to act upon a certain assigned task, control executive functioning, and build a sense of success based on their individual accomplishments or performance compared to peers. Self-regulated learning is an evolutionary process that has been researched and theorized across specific areas of study—from neurology to psychology. The researchers use terminology like goal setting, producing actions, motivation, behavior, self-reflection, and introspection, which are terms correlated with self-regulated learning. Therefore, the theoretical frameworks and motivational factors and/or actions described by Bandura (2011), Ajzen (1991), and

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Flavell (1979) provide a basis for the ideologies of self-regulation, introspection, and self-efficacy.

Play and Early Childhood Learning Theories

It is important to delineate the differences, as well as similarities, between three learning theorists and psychologists who have had a tremendous impact on the evolution of education over the past century. There are distinct traditional, philosophical, and theoretical differences between the constructivist ideologies of Lev Vygotsky, Jean Piaget and Albert Bandura. In terms of similarity and the essential focal point of this study is the importance of social interaction and learning—primarily translated into play at the early childhood level.

Student epistemological beliefs and connections to learning influence their choices of what they learn, as well as motivation to learn. Constructivism is a theory that poignantly portrays a classroom where the teacher enlists a problem-solving and inquiry-based learning environment. Constructivism transforms students from passive recipients of information, or disengaged, to active participants in the learning process. Experimentation, dissonant conversation about interpretation of historical events, or even writing a critique on a story are all examples of thought-provoking constructs of knowledge. Real world problems are complex and often involve a level of dissonance due to encountering the existence of the unknown. Therefore, teachers and educational materials need not to reveal knowledge in a rote manner. Rather, learners thrive in environments where they can interact with others: explore, experience, observe and interact with phenomena to process and potentially inherit new mental models, or build upon prior knowledge (Krajcik & Blumenfeld, 2006). When teachers establish supportive

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classroom environments, they are involved in the learning experience with every student to give them a sense of autonomy. Also, when teachers emphasize the relevance of what they are learning, an environment of relatedness, the data suggests higher engagement, competency, and improved sense of connectedness to the learning and environment (Deci & Ryan, 2000; Marks, 2000; Guthrie & Davis, 2003).

During the early 1900's, Vygotsky's quantitative and qualitative research methods led to the formation of his zone of proximal development and social constructivist theory. He postulated that there is an evident distance between student independent development level and level of potential, which can transform when working independently (through self-talk), as well as with others, evoking self-regulated learning and introspection. Zone of proximal development maintains that social interaction with a more knowledgeable person is critical for cognitive development. This interaction helps the child attain a higher level of development than can be achieved alone. Children, starting at infancy, are intrinsically and extrinsically driven to be intuitive—gaining knowledge, and thus are not intellectually inept, stricken without prior knowledge—foundational research findings for this study.

Conversing with peers during organized play provides an opportunity to learn and assess one's capabilities compared to others in diverse contexts. His social constructive theory emphasizes the importance of collaboration, playing and conversing in order to construct knowledge—learning from others. When children play, they create complex narratives, symbols and rules. He found that when children interact during social play, they create goals and parameters for how they are going to play. Teachers can actually enhance a child's ability to learn through play by scaffolding information and modeling

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of Vygotsky's constructive, purposeful play. Vygotsky, despite his unfortunate death due to tuberculosis in 1934, still has his followers and practitioners who have translated his Russian transcripts, theories, notes and findings, which influence education to this day (Vygotsky, 1978).

Another constructivist influenced by Vygotsky was Jean Piaget, who also impacted the way early childhood education was originally conceptualized. Curiosity with how organisms adapted to their environments was the basis for Piaget's doctoral work in biology, which extended to observing how his own children's cognitive development occurred in a series of stages (Ültanir, 2012). He hypothesized that as children move through each distinct stage, their thought processes progress from being simplistic, concrete, and egocentric to more complex, empathetic, and abstract (Piaget, 1952). Further, through his observations of children, he concluded that cognitive development results from the interaction of environmental and genetic factors. In addition, Piagetian theory states that there is a degree to which individuals can learn and benefit from the interactions and the social transmission of knowledge, which are dependent upon their level of intellectual development. Hence, children cannot learn something until they have the cognitive prerequisites to do so, or children who are at one stage of development cannot be taught concepts of a higher stage (Piaget, 1952).

In contrast, the controlled, quantitative and observational work of Albert Bandura (2011) asserts that a triadic relationship exists between human beings, their environments, and their behaviors. Professor Emeritus at Stanford University and inspired by Western influences and ideologies, he has distinguished himself as one of the most cited psychologists in history. Social cognitive theorists hypothesize that individuals

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extract information from a variety of social experiences, such as observations of peers and adults, and verbal discourse. According to this theory, two essential components of early learning that affect the acquisition of information are observation and modeling. Research in social cognitive theory has demonstrated that children can accrue a wide range of skills simply by watching other people perform those skills, and that this approach can be a positive and effective modality for teaching. Positive or negative feedback can have a significant impact on the outcome of one's actions, affecting one's sense of self-efficacy. The application of social cognitive theory in the classroom environment places teachers in a central position as live models from which children can learn social behaviors and academic skills. Social cognitive theory also sheds light on the importance of feedback and encouragement in relation to student performance. Research has corroborated the importance of the construct of self-efficacy by demonstrating that effective instruction provided in the classroom should be specific, encouraging, and developmentally appropriate (Bransford, Brown, & Cocking, 1999).

Constructivist Curricula

In the early 1900's, Italian physician and educator Maria Montessori developed a scientific pedagogy based on her name—the Montessori method, which encourages students to be comfortable in their own environment (Montessori, 2008). Though there is no agreement about how Montessori should look in practice, there are three primary principals of Montessori education. They are observation, individual liberty, and the preparation of the environment. Dr. Montessori wrote, "The pedagogical method of observation has for its base the liberty of the child; and liberty is activity" (Montessori, 2008, p. 60). Montessori methodology is designed to help children to become

intrinsically motivated. Maria Montessori believed that children use their *absorbent mind* to grasp their surroundings and play to make sense of the things they have already observed. Montessori stressed the importance of individual choice and self-directed learning. Students are empowered to self-regulate and freely choose the activities they will work on at any given time. When free to act in a supportive environment, Montessori noted that young children (ages 3-6) were engaged in meaningful activity or work which led to competence, sociability and independence, and the desire to be a responsible, contributing member of the learning community. Montessori materials include concrete manipulatives, graphic representations, and role play (Powell, 2001). According to the Montessori philosophy, children learn discipline when they can focus on a useful task that will teach control of error (e.g., self-correction). Montessori classrooms utilize creative conflict resolution involving six principles: cooperation, the use of conflict resolution skills, caring communication, appreciation and awareness of diversity, appropriate expression of feelings, and responsible decision making. Montessori believed that this was a replication of how the real world should act (Montessori, 2008).

An investigatory approach for early childhood students is Project Approach. As the name implies, students are engrossed in projects that encompass multiple disciplines and content areas to create unique learning experiences. They are in-depth investigations based on a topic where a group of students, whole class, or independently research. The purpose of such learning is to deliberately focus on seeking answers to questions posed by peers or the teacher. The opportunities for intellectual growth lie within the opportunities for children to ask their own questions, conduct their own investigations, and self-direct—making their own decisions about activities. Young investigators are

often eager to share their work in terms of portfolios (e.g., pictures, words, questions, answers) and with their peers using block structures or other means of expression available in the classroom. Ultimately, children learn to use the necessary tools to research and investigate, to experiment and observe the results, and make comparisons to prior learning (Helm & Katz, 2011).

Developed in the early nineties, the Vygotsky influenced curriculum, Tools of the Mind, relies on the technique of scaffolding—the gradual process of transitioning from teacher modeling and assistance to independence. During scaffolding, the teacher provides guidance on how students can monitor their own actions. The four driving components of the curriculum involve external mediators, private speech, shared activities, and play. External mediators are environmental factors (e.g., interaction with others, pictures, or objects) that children use to control actions and their own behaviors. Shared activities invoke the mental processes and strategies involved in performing the task. During shared activities, young children can begin to practice self-regulatory functions by regulating other people's behaviors and actions. Play provides a context from which children perform actions while also developing the ability to self-regulate their own behavior. The limitations and rules of play (e.g., taking turns, sharing, etc.) provide the framework of choice on whether to abide and adhere, or decide to disengage or disrupt the process (Bodrova & Leong, 2001).

In conclusion, the curricula Tools of the Mind, Project Approach and Montessori view children as active participants of their own development, which is heavily influenced by natural, dynamic, self-righting intrinsic and extrinsic forces. *The Creative Curriculum,* our school district's adopted prekindergarten curriculum, is yet

another example of a constructivist curriculum. Though they all differ in terms of approaches and methodology, students are given the opportunity—through play—to grow, learn and self-regulate. The thought process of learning in the established forums reflect social constructivism, harnessing the innate desire to investigate based on curiosity and wonder of the natural differences of their peers, as well as their surrounding environment. The curriculum is didactic and, at times, dialogic in nature due to differences in action and beliefs—causing disagreements from which students must learn to cope and resolve as a group. The teachers' roles are to be partners with the students and guide them through an engaging curriculum. Teachers organize learning environments enriched in opportunities to explore and problem solve—independently and in small groups. In addition to organizing productive learning environments, teachers also record individual children's ability or inability to learn.

Methodology

This qualitative study required purposeful sampling, involving three prekindergarten teachers and thirty-four 4- or 5-year-old children. The prekindergarten teachers teach one AM and one PM session daily, and were interviewed using the semi-structured protocol delineated in Appendix A. In terms of transcription, initial coding was completed to determine similarities and differences between teacher participants during the first cycle (Saldana, 2009). The second cycle coding—pattern coding (Miles, Huberman, & Saldana, 2013) helped distinguish social constructs that emerged from the explanations of participants' experiences (Saldana, 2009). With permission from the parents, I was a naturalistic observer of students and teachers, in the context of the classroom environment. Within a timeframe of three months, for a period of six randomly

selected days of approximately two hours per class—a total of eight hours of student observation data was recorded using the GoPro HERO 3+®. I was able to capture wide angle shots of center activity, as well as review the required 5 minute intervals using the GoPro® playback features. Coding was completed via recorded observations using *The Play Observation Scale* (Rubin, 2001) based on the studies of Parten (1932) and Piaget (1962), and later used in such studies as Elias and Berk (2002) and Alessandri (1992). Field notes and interview protocol transcripts were tools for data collection purposes related to teachers. To enhance the validity of this study, data was triangulated: video-recorded observation of participants, semi-structured teacher interviews, and field notes (Lincoln & Guba, 1985) in order to determine teacher perceptions, implementation of self-regulated pedagogy and class student interactions. To ensure validity, member checking methods (Guba & Lincoln, 1994) and member content validation were used. I reviewed select video observations with the teachers to identify particular incidents, as well as discussed identifiable themes gleaned from their own interviews to further clarify and substantiate.

There were challenges to this study that have to be noted. The teacher participants did not have formal training in self-regulated learning at the time of this study. There was also a level of inference and uncertainty due to the fact that a child's goals and intentions are internally manifested. Therefore, only directly observable behaviors were coded, such as when a student builds a structure using blocks. Socially based behaviors also involve a level of uncertainty and inference because of such driving forces as preference of station, lack of familiarity or commonality with partner(s), and potential external variables that could cause change of behaviors (Veenman, 2005). In addition, there were instances

where participants and non-participants were within proximity of one another during the observations. For this study, however, no actual interaction occurred during play, rather only during instances of non-play—primarily when transitioning between centers. It is also integral to note that I entered classrooms where the participants knew me as a building administrator—potentially using the data to change or discredit their teacher methods (based on their perceptions). Hence, it was my main goal to relay a message to the students and staff that this was a reflexive environment, and I was in the classroom as merely a naturalistic observer—not to make any formal judgments based on current practices and curriculum that would impact student achievement or teacher job status.

Summary

Classrooms should be forums for transformative learning where students have the opportunity to challenge prior learning and have class time to reflect on their current ingrained beliefs and habits (Shields, 2010). This study will contribute to educational research by describing the perspectives and incorporation of self-regulated learning. Self-efficacy and student achievement will improve when children are given the opportunity to interact, experiment, and learn together.

As the extensive theories stated above conjure, there is an evident distance between student independent development level and level of potential, which can be transcended when collaborating and interacting with others, or through scaffolding of information by the facilitating teacher. The theories emphasize the importance of collaboration, playing, and conversing in order to construct knowledge—learning from others. Children are intrinsically and extrinsically driven to be intuitive—gaining knowledge, and thus are not intellectually inept, stricken without prior knowledge. Of

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course, prekindergarten students do not have the intellect and capabilities of self-regulation and introspection compared to high-school students; however, that should not deter the research community from examining the potential capacities pre-kindergarten students exhibit in terms of self-reflection, efficacy, and regulation in order to determine the potential level of cognitive ability and possible inception of such capabilities. If prekindergarten students demonstrate more capability of self-regulation and reflection than we realize, educational institutions should focus on creating a learning environment conducive to these attributes, and further research should be conducted to determine if the results are as significant in other contexts.

Thus far, metacognition and self-regulated learning at the early childhood and elementary levels has been subjectively observed in students who practice vicarious inquiry, with very little background knowledge, as well as in moments where the child needs to metacognitively monitor and regulate cognitive processes and states. The former category includes studies on verbal learning by Melton (1963) and Postman (1961), while the latter includes studies on pervasively propagating introspection and behaviors such as avoidance, lack of confidence, or concepts of confidence, engaging in further inquiry, and willingness to answer a question. Unfortunately, research on self-regulated learning, introspection and self-efficacy at the prekindergarten level is negligible. The research is minute for this topic in prekindergarten due to the perception that older children are the only students able to produce results (Whitebread et al., 2008).

Self-regulated cognitive functioning is a significant process recognized by the research community to enhance student achievement (Roebers, Cimeli, Röthlisberger, & Neuenschwand, 2012; Tamm, Nakonezny, & Hughes, 2014; Hembacher & Ghetti, 2014).

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Early childhood students as early as 3-years-old have proven to display self-regulated abilities such as the ability to infer whether they are confident enough to answer a question based on what they know. In education, self-regulated abilities lead to self-sufficient learners, self-motivated learners and learners who are willing and able to cope with failure (Elias & Berk, 2001; Perels et al., 2009).

In order to perform this study, it is necessary to explicitly rationalize the importance of exploring self- regulation in prekindergarten children. SRL is usually studied at the elementary through collegiate level, and prekindergarten aged students are often neglected in studies. Therefore, this chapter will focus on four key areas: self-regulated learning, the role of teachers in SRL, prekindergarten children and SRL, and lastly, historical perspectives of SRL. Forethought, goal setting, and self-efficacy are all components of self-regulated learning and must be further examined at the prekindergarten level.

Research on Self-Regulated Learning

Self-regulated learning (SRL) encompasses metacognition—thinking about one's thinking—motivation to learn, and purposeful action (planning, monitoring, and introspection). Self-regulated learning accentuates autonomy and control by the individual who acts toward acquiring information, accumulating expertise, and self-development (Paris & Paris, 2001). In 1979, John Flavell identified four phenomena related to SRL: a) metacognitive knowledge, b) metacognitive experiences, c) goal setting and d) subsequent actions—all cognitive strategies that have a bearing on success rate. In particular, self-regulated learners are conscious of their academic strengths and weaknesses, and use a repertoire of obtained strategies to appropriately apply to academic tasks. They believe in ongoing, lifelong learning and attribute their successes or failures to factors—effort or knowledge- or skills-base—within their control (Dweck, 2002). Lastly, self-regulated learners seek opportunities to perform challenging tasks, exert

effort and practice their learning to develop a deep understanding of subject matter (Perels et al., 2009). In part, these characteristics may help to explain why self-regulated learners usually exhibit a high sense of self-efficacy (Jacobs et al., 2002).

Self-regulated learning and introspection appear early in one's life—in a primitive form—based on the concepts and topics children already know. Research suggests that children as early as 4-years-old can be taught specific strategies, such as predicting outcomes, improving understanding through introspection, identifying failures, initiating prior knowledge, and planning ahead based on time allowances and memory (Bransford, Brown, & Cocking, 2000). As with any type of learning, self-regulation develops gradually depending on individual experiences and construction of knowledge. Development is often called adaptive expertise because it is a set of skills that can be used in real-life and across contexts and curricula (Bransford et al., 2000). Cultural norms and methods of inquiry impact each student's means of interacting with the environment. During group activities, cognitive dissonance often create arguments, which could transform into a collaborative environment of shared- knowledge making (Flower & Heath, 2000) based on teacher approach. Therefore, teachers must integrate self-regulated activities to expand children's adaptive expertise.

The Role of Teachers

Considering educational institutions are the sanctuaries for diverse individuals to learn, studies have divulged a relationship between self-regulatory pedagogy and interventions and student achievement (Lubliner & Smetana, 2005; Kolic'-Vehovec & Bajšanski, 2006; Lyons & Ghetti, 2010; Ozuru, Kurby, and McNamara, 2012; Hembacher & Ghetti, 2014). Research confirms the importance of teachers planning their

lessons and specific learning tasks, focusing on individual learner's knowledge and beliefs (preconceived notions and prior knowledge). Teachers can use this knowledge of the students to monitor and potentially change his/her individual constructs (Bransford, Brown, & Cocking, 2000). Self-regulated learning (SRL) is a constructivist, student-centered approach where students take responsibility of their own learning. Self-regulated learning—metacognitive learning along with self-efficacy—is influenced by contextual, domain specificity, and content related enticements (Scott & Berman, 2013; Paris & Winograd, 2003). It is not a pedagogical approach where learning or knowledge acquisition solely resides with the student, rather SRL pedagogy requires students to have some control—based on teacher knowledge of student strengths, deficiencies, motivations, and behaviors of their own learning.

Teachers are confronted with complex, rarely concrete challenges in life—especially when attempting to equitably educate the diverse cohort of students within a classroom. Rather than preparing a classroom where the teacher and textbooks are the sole knowledge base for students to learn in a procedural, methodical manner, teachers must be prepared and better understand how they think (Paris & Winograd, 2003). For example, Curwen, Miller, White- Smith, and Calfee (2010) examined how improving teacher's metacognition can actually improve student achievement during content area literacy instruction. The longitudinal study's results found that teachers reported the Read-Write Cycle provides an effective model of teacher professional development in the realm of executive functioning, or self-regulated learning—enabling teachers to learn how to gain a deeper understanding of content domains, becoming critical and analytical of their learning, and using constant reflection in their practice. Thus, the training

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uprooted the teachers' espoused theories, allowing them to infuse new theories in use to inspire a true democratic classroom.

Perels et al. (2009) also assessed the effects of self-regulation training on teachers to determine if they could transfer that knowledge into their pedagogical practices to benefit pre-school aged children. Teachers participated in a five-week training session, which included units on: a) getting to know each other, b) the pre-action phase of self-regulation (goal setting and planning), c) the action phase (creating a puzzle with a partner while paying attention to thought processes—own and partners—and the role of think aloud and private speech), d) post-action (discussed patterns of attribution), e) summation of the five-week training. Thirty-five kindergarten teachers and ninety-seven children participated in this German study. They examined the thought processes of a control and experimental group of preschool children by individually interviewing each child using a puppet to ask questions about how he or she could learn how to ride a bike. The idea was to determine if the student knew where and how to start, how to plan, and what to do at the end of the task. In addition to these questions, individual students were asked if he or she had aspirations to learn something else new; along with the same questions related to the bike riding scenario. Perels et al. (2009) ultimately determined that teachers who were trained to practice using their own self-regulation strategies and improve their frequency of self-reflection writing in personal diaries will help transfer their learning into the classroom to improve the overall learning environment and student achievement.

Teachers must be equipped with the three central characteristics: an awareness of thinking, use of strategies, and sustained motivation (Hartman, 2001). Awareness of

thinking coincides with Bandura (2011), who posited that self-regulation requires the interrelated processes of self-observation, self-evaluation, and self-reaction—to teach teachers and students to use metacognitive knowledge to plan, strategize, and interpret performance in order for awareness divulges effective problem solving (Paris & Winograd, 2003). The use of strategies is also part of SRL, where teachers and students are strategic, rather than *having* an arsenal of strategies. The declarative, procedural, and conditional knowledge one possesses allows for conditional responses to the learning (Paris, Lipson, & Wixson, 1983). Even more importantly is sustained motivation—one's motivation to learn based on self-perceived ability to successfully perform a task—to establish positive attitudes, deter avoidance behaviors, and handle challenges without fear of failure.

Prekindergarten Students and Self-Regulation

In 2002, Elias and Berk wanted to evaluate the theoretical assumption that self-regulation is a fundamental characteristic of successful interaction with the learning environment and academic achievement. Fifty-one three- and four-year-old students (24 three-year-olds, 27 four-year-olds) attending two day-care programs were observed to determine whether there was a correlation between self-regulation and socialization. The classroom environment was set up into stations, similar to our *Creative Curriculum* model for play: kitchen, dress-up, dolls, blocks, Legos, puzzles, paints, and books. Observations of play were completed in the housekeeping and block stations, while transitioning, detached bystander behavior, aggressive behaviors, and talk irrelevant to the actual play activities were not coded as play. The participants were observed at two different time periods—in the fall and again in the spring.

In 1990, Smilansky and Shefatya used a measurement tool to evaluate the level of play based on five specific elements, as well as the extent of sustained dramatic play. Entitled the *Smilansky Scale*, Elias and Berk (2002) coded sociodramatic play, complex sociodramatic play (CSD), and solitary dramatic play. The sustainability time period was determined by Smilansky and Shefatya (1990) to be 5 minutes, though Elias and Berk (2002) coded in intervals of thirty seconds during a 10 minute period because "…play often changed several times during a 5 minute period…" (p. 223). The six play elements are: a) imitative role-play (e.g., ironing clothes, cooking); b) make believe with substitute objects (e.g., blocks as cars); c) make believe actions and situations (e.g., creative, imaginative play out of the confines of context); d) interaction (e.g., collaborative imaginative play with joint make believe goal and props); e) verbal communication (e.g., verbally role play-acting with an object; and f) sustaining dramatic play episode without a break. Clean-up periods and circle times were deemed integral for observing self-regulation because of internalization of procedures based on goals and collectively complying to the direction of the teacher.

Alessandri (1992) later modified the coding system to apply notations every thirty seconds within a five-minute period, with increasing degrees of self-regulation and cooperative efforts. Students were rated on a scale of one to six: 1) interferes efforts to complete task, 2) refusal to clean up and stop play, 3) does not participate, 4) assists with supervision, 5) participates in clean up with other children and without proximal supervision, 6) completely cleans up without help form others and supervision. In terms of circle time, students were measured according to level of attention: 1) inattentive and disruptive, 2) inattentive with no overt disruption, 3) attentive and may even participate.

The results indicated that the more a child is actively engaged in complex sociodramatic play, the better their future self-regulatory skills were during the second observation. In contrast, the students who preferred solitary dramatic play showed less progress in self-regulation. Solitary play is a complex form of play engagement under certain conditions where playmates are not available, and therefore, he or she must generate imaginative play activities. In the presence of peers, however, fantasizing independently might be perceived as a representation, or propensity to engage in socially unacceptable behavior, as well as potential marginalization by peers, or a preoccupation with emotional instability to the point where the student feels the need to act out or seek comfort in solitary play.

In an atypical classroom setting, the work of Lyons and Ghetti (2013) and Coughlin, Hembacher, Lyons and Ghetti (2014) propagated the continuation of Hembacher and Ghetti's (2014) goal to study whether preschool age students were able to be introspective on how accurate their memory was when participating in an interactive computer pictorial program. In order to determine the metacognitive ability to be introspective, Hembacher and Ghetti (2014) analyzed eighty-one students: twenty-seven three-year-olds with the mean age of 42.83 months (SD=2.88), twenty-eight four-year-olds with the mean age of 53.47 months (SD=3.21), and twenty-six 5-year-old students with the mean age of 65.11 months (SD=3.09). The participants were required to complete a perceptual discrimination task where each student had to pair pictures according to perceptual similarity or relative semantic classifications. The students were given the opportunity to disclose or conceal their answers, as well as sort their responses into two separate boxes, one in which the student assumed would be used to evaluate

them, and one where the student felt the question and answer would be discarded. Prior to the controlled experiment, students engaged in a retrieval- training task where they participated in four trial sessions to become oriented of the task demands—touching the image on the screen. At this point of the experimentation process, they were able to receive feedback from the instructors and then completed a three-point Likert confidence scale based on facial expressions, ranging from "not so sure", "kind of sure", and "really sure" (Hembacher & Ghetti, 2014). The subsequent experimental sessions allowed the students to visit the laboratory complex on two separate instances—with a separation of one week between sessions. Both trials' procedures were structured identically, except for a difference in stimuli equating to a total of forty test trials. Both computer assessments were approximately thirty minutes long, including an encoding task where thirty black and white pictures were displayed on the touch screen monitor—to be paired based on semantic or perceptual similarities. Within a time allotted period of 2,000 milliseconds each, half of the images were shown once and half were displayed twice in a random format.

The results of Lyons and Ghetti's (2013) study suggested that students, when given the opportunity to not answer a question, did so due to a lack of confidence for answering incorrectly compared to known correct responses. In 2014, Hembacher & Ghetti's distinction between studies was that all students had to respond. Therefore, the results portrayed a higher proportion of accuracy for repeated items (M=.89, SD=.13) compared to single items presented once (M=.82, SD=.12). Therefore, 3-year-old children had little doubt answering questions that they were or became familiar with over the course of the test. Three-year-old children were able to regulate their thinking to

determine the best possible answer—or whether to answer in other studies—based on level of self-efficacy (Eccles & Wigfield, 2002).

Similar to Hembacher and Ghetti (2014) and Lyons and Ghetti (2013), Balcomb and Gerken (2008) analyzed 3-year-old children's ability to access memory to guide responses to nonverbal, visual matching tasks of animals. Prior to the examination, twenty-five children aged three years, five months to three years, seven months watched a movie in a laboratory based on the related items. For experiment one—memory-monitoring test—the children had to match one picture to its corresponding pair based on memory. They were shown a picture of the animals from the movie, an arrow, the corresponding object mate, and a "foil" object—a distractor. Each child was asked what the animal likes, then immediately following the question, the object mate and foil disappeared. The child had to either click on the animal to begin the matching task (matching the animal with the object mate) or the arrow to decline. Positive feedback was given for correct answers and negative feedback for selecting the foil. The second experiment was a separate recognition task, assessing memory on all eleven tested items.

As Balcomb and Gerken (2008) predicted, children were more accurate on accepted items (M=80%, SD=22) compared to those who declined (M=61%, SD=39). Experiment two had twenty-nine participants in the same age bracket as experiment one. For this task, the participants only had one of the animal pairs to determine a potential match. Again, an item analysis revealed accuracy on accepted items (M=78%, SD=22) than decline (M=56%, SD=22). Lastly, Balcomb and Gerken (2008) wanted to determine if any variables such as forgetting, lack of self-efficacy, or interference caused a discrepancy in the data. Therefore, experiment three involved the memory performance

of 27 three-year-olds (within the same age bracket) when taken immediately following the movie. Their task was, again, to match the animal with its pair. As was the case with the first two experiments, there was a foil displayed. The controlled difference between experiment three and the first two experiments was the removal of the 'opt out' option. For children who accepted all trials, the data came exclusively from the memory-monitory task. The children who declined all trials, data were retrieved from the recognition test. The percent correct for experiment three was lower than experiment two (M=64%, SD=21). Yet again, this study suggests children have implicit access to internal states of knowledge at young ages, which guide their learning, even earlier than three years old.

The studies portray *the ability* of implicitly tracking what a child knows and does not know begins "…very early in life" (Balcomb & Gerkin, 2008, p.758). "These experiments indicate that young children are able to demonstrate evidence of implicit memory-monitoring…before the age…they can verbalize about their knowledge' (p. 758). In experiments one and two, children who demonstrated better memory recognition than children who either over- or underestimated their ability to memorize suggested a potential correlation between memory and control and monitoring processes. The study's three experiments portrayed "…metacognition…[as a] process on which it acts, such that performance in one domain is inherently linked to performance in the other" (p. 758).

Cognitive Development in Students

Action theorists say *what you believe is who you are*—what you do and become (Ajzen, 1991; Chapman, 1984; Frese & Sabini, 1985; Kuhl, 1984). Goals and intent produce a certain type of behavior—whether it is avoidance, boisterous, self-sufficient,

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confident, or defiant. Throughout the history of studying self-regulation, age has been an important factor in determining sample population and research design. Nevertheless, important questions about the emergence and early development remain unanswered, as the majority of research has excluded younger children. In large part, this exclusion is due to prevailing views that young children have extremely limited metacognitive skills. This view may be based on findings indicating striking deficits in older children's ability to monitor and regulate their mental activity (Flavell, Green, & Flavell, 2000; Lockl & Schneider, 2004), or alternatively the participants' ability to verbalize, perform measurable assessments, or have the luxury of years of formal education could lead to the plausible inference that young children's self-regulatory skills may be extremely limited.

Current educational theory portrays a correlation between self-regulation skills and the development of early academic skills (Welsh, Nix, Blair, Bierman, & Nelson, 2010; Bull, Espy, Wiebe, Sheffield, & Nelson, 2011; Fuhs, Nesbitt, Farran, & Dong, 2014), as well as other productive life outcomes (Moffitt et al., 2011). Emerging research suggests that not only are school-entry self-regulation skills important for the development of academic skills, but growth in self-regulation skills may be associated with growth in academic skills (Fuhs et al., 2014; McClelland et al., 2007; Welsh et al., 2010). Although it appears that self-regulation is malleable and can be affected by prekindergarten experiences, currently little is known about whether a curriculum implemented on a broad basis could facilitate the development of self-regulation.

The most recent curriculum such as Tools of the Mind is designed for students to independently monitor, or self-regulate, without teacher mediation. This is made possible, again, through teacher modeling and scaffolding of information—for students to be aware

of specific rules and how to curtail unproductive behaviors (e.g., not sharing, not adhering during role playing), as well as how to correct the actions and behaviors of others in a positive manner. Imholz and Petrosino (2012) noted in their longitudinal study of Tools of the Mind that although the curriculum is challenging due to recurrent teacher observational notes leading to less teacher-student interaction (compared to prior program and curricular demands), according to the teacher participants, student behavioral, cognitive and academic skills improved despite the increase in demands and expectations.

As Imholz and Petrosino (2012) stated in their study, Tools of the Mind is still a new program and the benefits—if any—may only be noticed once the student participants move through second and third grade. The fact of the matter is that self-regulation did show improvement in student achievement and interaction, which create a positive classroom climate. Therefore, self-regulation is an integral cognitive process that benefits all levels of education, so why not start introducing the concept in prekindergarten? Students can then carry the skills necessary to achieve not only in school, but life.

Summary

The literature presents intriguing results from the teacher's knowledge and role in establishing a classroom that embraces self-regulation, and opportunities to express introspection and self-efficacy. In terms of teaching, a sense of awareness and methods of assessment appear to be integral concepts to solidify and activate self-regulation in students. As Bandura (2011) stated regarding his social cognitive theory, "a functional consciousness involves purposive accessing and deliberative processing of information for selecting, constructing, regulating, and evaluating courses of action" (p. 3)—self-regulation. Furthermore, Bandura (2011) strongly feels that "the human mind is

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generative, creative, proactive, and reflective, not just reactive" (p. 4).

Functional domains such as creativity, vibrant discussion, and harnessing the beliefs and fruitful knowledge that comes with such great diversity in a democratic society are also at stake. Students are often rewarded for conforming; such as for obtaining rote- knowledge and strategies for how to take a test using low-level recall skills. Now, one could argue that education is transforming into a more comprehensive learning environment, with assessments and evaluations becoming more formative in nature, including the occasional benchmark test to determine understanding levels. However, the prevalent power structures impacting education—federal and state mandates, a globalized competitive market, high-stakes testing, teacher accountability and tenure reform—impose salient and unostentatious pressures on curriculum and instructional pedagogy. The ability to learn the proper skills to regulate and have a sense of awareness and control—self-regulation—transforms a student into a being with a vast network of information and knowledge. Prior knowledge and cognitive abilities enhances achievement by providing the necessary skills for a student to self-regulate and reflect on learning (Kolic'-Vehovec & Bajšanski's, 2006; Hembacher & Ghetti, 2014; Lyons & Ghetti, 2010; Ozuru, Kurby, and McNamara, 2012; Lubliner & Smetana, 2005). In order to provide a platform for emphasizing the importance of providing a rich learning environment to develop self-regulated learners, I—as a research practitioner and leader want to collaborate and share the findings to inspire and motivate our prekindergarten teachers.

Chapter Three

Methodology

This study explored prekindergarten student self-regulated learning, self-reflection and self-efficacy. I wanted to observe the prekindergarten classrooms, in their current context, and decipher how *The Creative Curriculum* evoked self-regulation. In conjunction with analyzing 4-or 5-year-old students in their natural environment, I wanted to investigate the prekindergarten teachers' perceptions of self-regulated learning in terms of their students' abilities to think and reflect on their thinking, for Zimmerman (1995) concluded that the very context a teacher creates impacts student ability to self-regulate.

Setting

The Cassidy School District ranks consistently in the bottom ten percent of New Jersey Public Schools for per-pupil expenditures, which currently is $13,046−lowest for District Factor Group B (C. D. Bronkowitz, personal communication, October 25, 2014). This qualitative study was conducted at Brennen Elementary School in Southern New Jersey, which houses approximately 150 prekindergarten students. There are a total of six pre-kindergarten sessions (three AM and three PM), with three prekindergarten teachers and three instructional aides. Our district is considered District Factor Group (DFG) B, with over fifty percent of the students living in poverty, receiving free or reduced breakfast and lunch (R. Chichec, personal communication, February 10, 2015). *The Creative Curriculum*, a play-based learning experience, is a framework exclusively used in our prekindergarten program and minimally infused as a center in kindergarten due to the extensive and intense rigor of our reading, writing, and mathematics curricula. Close

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observation of student interaction within their context, as well as interviews and discussions with teachers regarding self-reflection, student evaluation, and curriculum provided a depiction of how prekindergarten students and their teachers respond in a social cognitive learning environment.

Purpose

The purpose of this qualitative study was to understand the prekindergarten teachers' perceptions of self-regulation and also gain an understanding of how pre-kindergarten students regulated their learning based on subsequent actions. In order to ascertain data to gain an understanding, data was analyzed through an emic lens to determine emerging themes after coding the perspectives of the participants.

Participant Selection

Teacher participants were selected using purposeful selection (Maxwell, 2013)—strictly prekindergarten teachers. Teachers had to review and sign a written consent form (Appendix E) prior to participating in the study. The three teacher participants were experienced with implementing *The Creative Curriculum* and responsible for the facilitation of daily instruction. Purposeful selection was necessary considering this study focused on prekindergarten. Using systematic selection, I received written parental consent for 34 of the 150 prekindergarten students to observe and analyze during the AM and PM sessions. Prior to the study, students in the three classrooms received information and consent form for parents or guardians to review and sign. Only upon receipt of the signed consent form (Appendix F) were students able to participate in the recorded observations.

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Research Questions

Since the purpose of the study was to explore and understand pre-kindergarten teacher perceptions and how pre-kindergarten students self-regulate, my research questions were: a) *What are the perceptions of prekindergarten teachers regarding self-regulation and self-efficacy?* b) *What behaviors do prekindergarten students exhibit when they are self-regulating?*

Data Collection

Prior to completing the study, I completed the required CITI training and fulfilled the requirements of the International Review Board. I presented the initial proposal to select committee members from Rowan University as part of a rigorous benchmark process. Lastly, I composed and received written consent from all participants to perform this study. I was able to proceed with the study once all requirements were successfully completed.

Data collection consisted of naturalistic observations of students and semi-structured interviews of teachers. As a researcher immersed in prekindergarten classrooms, I wanted the students and teachers to feel that I was a part of the natural daily contextual experiences. I observed center times for students to identify specific behaviors, conversations and actions (Elias & Berk, 2002). The student observations were strictly focused on determining not only student self-regulation, but also self-efficacy—if observed. Therefore, engaged and disengaged behaviors were documented and recorded on video. Engaged student behaviors include sustained play, collaborative imaginative play with mutual goals, active participation and clean up without adult assistance (Alessandri, 1992; Elias & Berk, 2002). Disengaged behaviors include being a bystander,

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interfering with goal achievement, unproductive or distracting behaviors (e.g., aggressive, yelling, temper tantrums, etc.). Students confident and interested in the learning activity will perform the task and often make multiple attempts to solve—if they fail—to achieve gratification.

In order for teachers to feel comfortable and participate in a collegial, emergent learning experience resulting in this study, I began by holding a brief information discussion on my interests of observing *The Creative Curriculum* implementation and subsequent student interactions involving play. For the purpose of this study, field notes and interview protocol transcripts were used for data collection purposes related to both teacher and student behaviors. For triangulation in data collection, data was collected three ways: via video-recorded observation of participants, via semi-structured teacher interviews, and via real-time field notes (Lincoln & Guba, 1985). To ensure validity, member checking methods (Guba & Lincoln, 1994) and member content validation was used, asking teachers to identify particular incidents as they happened or on the videotapes of their own classes, or by identifying themes gleaned from their own interviews.

The videotaped semi-structured interview questions (Appendix A) were influenced by the extensive reading and research on self-regulation and self-efficacy. To ensure the integrity of observations (e.g., avoid teachers knowing precisely what was observed), teacher were debriefed following the study. Teachers discussed their beliefs on self-regulated learning, student self-efficacy and effective instruction when answering the semi-structured interview questions. Hence, in hearing the perspectives and practices of prekindergarten teachers, I hoped to ascertain whether their views of self-regulation

coincided with the actual implementation of practices within the classroom. In terms of naturalistic observations, using the GoPro HERO 3+®, the school district provided consent to spend a select amount of time on this study. I was able to observe 34 students, over the months of February, March and April 2016, for a period of six randomly selected days. As depicted in the figures for this study, the GoPro HERO 3+® enabled this researcher to capture wide-angle video clips of students engaged in the various forms of play. The total amount of student observable behavior documented using audio- and videotape recordings was over eight hours.

It was critical to maximize student participant observation time so all behaviors were documented. It was also important for this researcher to be cognizant of the inevitable intermingling of participant and non-participant students during times of transition and in centers. Even though this occurred, the video recordings were carefully conducted to not include non-participants and there were no documented instances of participants and non-participants engaged in group play for this study.

Data Analysis

The primary sources of data for analysis were the student observations, field notes and teacher interviews. Once the teacher consent forms were collected, and the information discussion and tape-recorded interview sessions were completed, I reviewed all the data—reading the transcripts, reviewing field notes and listening to interview tapes prior to transcribing—to organize a rough draft of notes and determine potential emergent themes (Maxwell, 2013). For the teacher interview transcripts, Charmaz (2006) recommended initial coding as an effective method for first cycle coding transcripts (as cited in Saldana, 2009). This method allows researchers to meticulously analyze the

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transcripts, line by line, to determine similarities and differences between the four

participants. The second cycle coding—pattern coding (Miles, Huberman, & Saldana,

2013) distinguishes social constructs that emerged from the explanations of participants'

experiences (Saldana, 2009). I analyzed the experiences and motivations of

prekindergarten teachers to determine potential self-regulation markers in the context and

coded accordingly. The emergent themes exposed similar terminology used by teachers,

or specific actions relative to decision-making, as described in action, behavior, and

social theories, for the student participants. Common themes included *how teachers*

established the learning environment and *established parameters*, as well as *how students*

responded to the parameters. *Teacher modeling*, *child development* and *age* were also

themes coded for the three interviews (see Table 4). Reliability was performed by

comparing observation notes with a second coder who was also Rowan doctoral student

with experience in these methods. Sample sections for each of the student and teacher

videos were compared among coders to determine reliability in video coding and in

collapsing codes into themes. As a means of member checking, teacher participants were

able to view observation video to verify identified modes of play and further define the

context.

Once the parent consent forms were collected, naturalistic student observations

were conducted based on *The Play Observation Scale* (Rubin, 2001). *The Play*

Observation Scale was chosen for this study since it provides the researcher with the

various types of play observed during self-regulation. GoPro HERO 3+® software was

used to review the student observation video recordings, as well as create clips relevant to

the findings. Individual student behaviors were analyzed using *The Play Observation*

Scale and verbal phrases were organized by keywords into a comprehensive codebook. To organize the data, the codebook was categorized based on social and cognitive play, or non-play behaviors. Social play can be observed in three forms: group (collaborative), parallel (independent, but within 3 feet of a peer) or solitary (isolation). In addition, cognitive play defines the intent—games-with-rules, functional (jumping, singing), constructive (building), dramatic (pretend play) and exploratory (examination). Non-play was coded during times when students transitioned between centers, spoke to adults, or were observed not participating in centers or activities (onlooker behavior). The emergent data was carefully analyzed to determine possible tangential experiences that could benefit the overall understanding of prekindergarten self-regulation, as well as the influence teachers have on this important process. Ultimately, the data collected was inductively coded for pragmatic purposes to get a true portrayal of the prekindergarten teachers' perceptions of self-regulation, as well as further understand how prekindergarten students regulate their learning.

Positionality/ Ethical Considerations

Despite the fact that I am an administrator in the same building as the prekindergarten staff and students, I do not observe or frequently interact with the students and staff compared to their principal and other supervisory staff. I disclosed to the purposefully selected staff that I was acting in the capacity of naturalistic observer/ researcher. My desire was to become part of the social context from which I studied—the notion of reflexivity. As a researcher, Kvale (2006) portrayed an intriguing notion that participants may not totally disclose or even refuse to share due to an imbalance in power between a researcher searching for answers and participant's indulging in discussions that

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may cause him/her to feel uncomfortable. Therefore, even though I am extremely appreciative of what appears to be open, honest dialogue, I did recognize that the participants may not have completely disclosed all information due to fear of sharing with administration, a potential unwillingness to disclose specific professional or systemic inadequacies, or faulting other colleagues with someone unfamiliar.

Summary

In order to study self-regulated learning in a prekindergarten classroom, it was important to observe student behavior according to *The Play Observation Scale* (Rubin, 2001) and interview the teachers responsible for instruction. Prekindergarten students at The Cassidy School District are exposed to the components of *The Creative Curriculum* for 2 hours 30 minutes per day, so it is crucial to maximize the amount of time students spend in a social learning environment to improve cognitive growth. Therefore, the results from this study will be shared with district administration and prekindergarten teachers in hopes of improving the overall program.

Chapter Four

Results

The focus of this research study was to examine teacher perceptions of self-regulated learning, as well as prekindergarten student self-regulated behaviors in a learning environment based on *The Creative Curriculum*. In qualitative research, data analysis is a process of categorizing information into common themes to develop meaning of the data. A qualitative researcher uses his or her knowledge of current literature, theory and practice to organize and understand the data collected.

Context

The creative curriculum. The theory and research behind *The Creative Curriculum* framework focuses on the learning environment, what children learn, how children learn and develop, the family's role and the teacher's role. The developmental continuum of *The Creative Curriculum* consists of four main areas: social-emotional, cognitive, physical and language development. The curriculum requires teachers to assess students based on objectives within the four areas. *The Creative Curriculum* also requires teachers to maintain ongoing, authentic student assessment based on frequent observation. The objectives for language and social-emotional development delineate specific circumstances related to social play and building relationships with peers. Therefore, it is an expectation for students to develop the ability to engage in dramatic play and learning with other prekindergarten students while in centers strategically organized around the classroom (Figure 2). In addition to academic development, the continuum notes the progression of socialization from playing near other students (parallel) to interacting with others in a group; seeking an adult to resolve conflict to

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cooperating with others and seeking compromise without adult assistance. Students are also assessed on their ability to empathize—helping others in need and recognizing the feelings of their peers. Hence, *The Creative Curriculum* is designed to foster a self-regulated, self-efficacious learning environment through play.
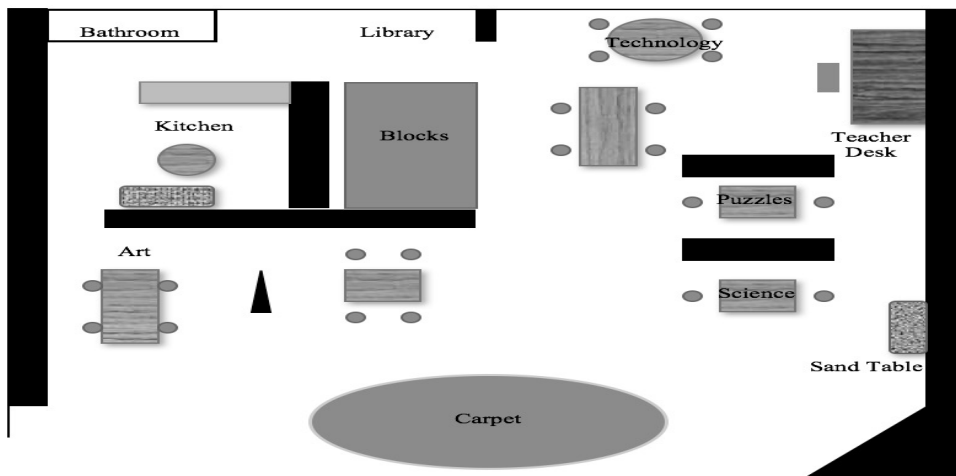
Figure 2. Prekindergarten classroom layout.

Figure 2 is a map of how the Cassidy School District's prekindergarten classrooms were structured at the time of this study. According to *The Creative Curriculum*, centers are organized around the classroom allowing for free choice of up to four students per area, without straight pathways for students to run and roam (L. Regan, personal communication, June 9, 2016). To start and conclude each day, the students drop off or gather their belongings and move to the carpet for opening exercises (e.g., attendance, calendar, discussion) or closing reflection. The remainder of the day is scheduled for organized play in up to five centers available each week. The eight centers

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organized around the classroom are: kitchen, puzzles, science, technology, smartboard, library, blocks and art. Certain centers are available based on unit topics (e.g., geometric shapes and puzzles).

Figure 3. Interactive mathematics game.

The three classrooms did differ—with slight variations in the positioning of certain centers. In one classroom, the sand table was in the back of the classroom and blocks next to the technology center in front of the classroom, due to positioning of the door, smartboard and cabinetry. The classroom teacher, Ms. Barkley, was also the only noted teacher to incorporate the interactive smartboard into a choice for centers. In Figure 3, Ms. Barkley is teaching a student how to add fish to the bowl until she is able to get the correct answer provided. Considering the observations are only a small sample size of the overall school year, this does not mean that the other two prekindergarten teachers do not use the smartboard as a center.

Figure 4. Free choice.

Every center was arranged so it was isolated from the other areas of the classroom. For example, the kitchen area in Figure 4 had movable book shelves that formed a barrier from the art and block centers. Students were given twenty minutes to participate in any center opened by the teacher. When rotating, students had one minute to choose a center based on individual preference and if there was an available spot. As depicted in the figure above, a sign was posted at each center where up to four students could attach their name tags to play. If the center was unavailable, the student had to move on to another center. All three classroom teachers allowed students to remain in the center for an additional twenty minutes if they did not wish to rotate.

Student Observations

At the time of the study, the average age of the student participants was 5 years 3 months. The youngest student was 4 years 7 months and the oldest was 5 years 6 months. Class sizes ranged from twelve to fifteen students for the morning and afternoon sessions. Twenty-three percent (34 students) of the total prekindergarten population of 150

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students was observed for this study. A total of 100 five minute observations were recorded, analyzed and coded according to *The Play Observation Scale* (Appendix B). Every observation was recorded in 5 minute segments. The 5 minute segments were reviewed and coded based on cognitive and social play, or non-play behaviors. In a codebook, student participants were listed as pseudonyms for confidentiality. In addition, video clips were edited to distort participant images. If there was a time of transition where the student engaged in a different behavior, it was coded accordingly (Figure 5). All coded behaviors were compiled and organized into the categories: parallel, group, or solitary play.

Table 1

Sample Entry of Student Observations

Student Name	Date of Observation	Type of Play	Duration	Description
Angelina	April 21, 2016	Parallel-Constructive	2 minutes 14 seconds	Angelina was coloring at the art table with one other student. She was using markers and crayons.
		Parallel-Dramatic	4 minutes 30 seconds	After transitioning for 45 seconds, Angelina was pretending to cook food and talk on the phone at the kitchen center. There were three other students at the center.

Table 1 is an example of a student who demonstrated two different types of play within a 5 minute timeframe. "Angelina" was observed and coded as engaged in parallel-

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constructive play since she was completing an art project independently, but within close proximity to other peers in the same center. She did not interact or collaborate with her peers for the 2 minutes 14 seconds of observation. "Angelina" then transitioned (non-play) for 45 seconds to the kitchen center where she was observed and coded as parallel-dramatic. Three other students were also at the same center, yet for the next 4 minutes 30 seconds, she participated in pretend play independently.

Social play. Self-regulated learning was observed and documented throughout this study. The student participants were observed engaged in parallel, solitary, and group play dependent on the center and peer behavior. As *The Creative Curriculum* standards continuum denotes, preschool age students entering prekindergarten are expected to engage in solitary or parallel play. The continuum delineates goals based on a developmental progression to more complex social play where students construct, problem solve or engage in dramatic play in groups. The prekindergarten students participated independently or with peers to choose a center, establish goals, and manipulate the environment to accomplish set goals. For example, students who chose the kitchen center were observed engaged in various forms of dramatic play—either while socializing with peers, within distance of other students, or alone. It was also evident that types of play were influenced by contextual factors. The blocks and sand centers encouraged constructive play, where they built and disassembled structures. Technology and science centers fostered exploration together or independently. The following figures are examples of the three observed behaviors within the context of different centers in the three classrooms.

Figure 5. Art center.

The predominant mode of play observed was parallel. An example of parallel play was observed in the art center (Figure 5). For this assigned task, students were required to color a picture of their favorite hobby. All recorded observations for this study were of students completing an art project independently within three feet of their peers. The only student interaction observed was with another instructional staff member or during times of transition to another center.
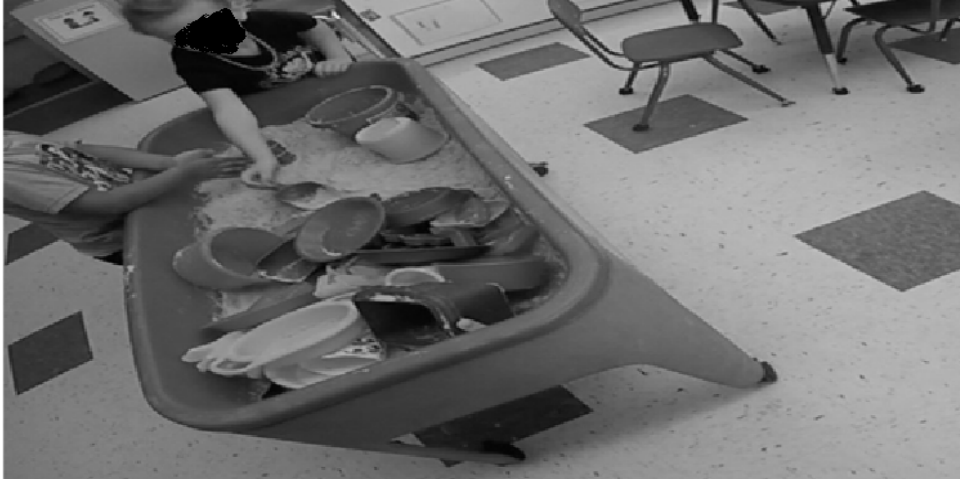
Figure 6. Sand center.

Figure 6 is a representation of group play in Ms. Barkley's classroom. In the picture, two students were actively engaged in building a sand castle—placing the sand in the colored buckets and digging a trench around the exterior of the structure. While constructing, the two students were discussing where the castle should go, where the other shovels, buckets and materials should be placed, and how they will participate. For this observation, the students successfully created and demolished a sand castle together without direction from Ms. Barkley or the support staff member.

Figure 7. Blocks center.

Figure 7 represents an example of solitary play. The prekindergarten student was building a structure in the blocks center. He was completely isolated from the remaining students in the classroom. The student placed his name tag on the center sign and played alone—without interaction—for the entire 5 minute observation.

Cognitive play. Parallel, group and solitary play describe the types of interaction or socialization that occur between peers—if any. In conjunction with social play, cognitive play defines the intent of a student when participating in a chosen activity. Dramatic play, a commonly observed type of play for this study, involves a student engaged in pretend activities. Constructive is a term used to describe when a student's goal is to build a structure or object. Exploration, another commonly observed behavior, is where students examine an object or read through a book.

Figure 8. Solitary-exploratory play.

Figures 8, 9 and 10 provide specific examples of cognitive play based on *The Play Observation Scale* (Appendix B). The student in Figure 8 was observed examining butterfly larvae. This science center provides a real-life example of an insect's life cycle—culminating with an outdoor activity to release the butterflies in the wild.

Figure 9. Group-dramatic play.

Based on the data collected, the kitchen center (Figure 9) often facilitated dramatic play. The four students in Figure 9 were observed discussing and choosing their desired task for the center. "Doug" wanted to take care of the baby dolls while sitting on the couch. "Brenda" was sitting near the pretend cash register, talking on the phone, and ordering food from "April", the cashier. Lastly, "Amanda" decided to clean the floors with a mop while talking to the group about the importance of keeping a clean area. The behaviors in this area often exemplified daily life.

Figure 10. Group-constructive play.

In Figure 10, "Joe" and "David" were observed discussing how to build a structure to resemble the plastic play house. Their goal was to create a multilevel building with four rooms: a kitchen, bedroom, living room, and bathroom. They organized the materials (blocks, furniture, and figurines) and assembled the building together, starting with a strong foundation and two floors of space partitioned into rooms.

Table 2

Types of Play Observed

Play Category	Times Observed ($n = 100$)
Parallel	**71**
Constructive	35
Dramatic	25
Exploratory	8
Games-with-Rules	2
Functional	1
Solitary	**15**
Constructive	5
Dramatic	4
Exploratory	3
Games-with-Rules	1
Functional	
Group	**14**
Constructive	9
Dramatic	5
Exploratory	
Constructive	
Games-with-Rules	
Functional	

Behavioral trends. A total of 100 individual student observations were video recorded and coded according to the Play Observation Scale (Appendix B). As depicted in Table 2, 71% of the observations involved parallel play. Parallel play is a subcategory of social play in which students play independently, but are within 3 feet of a peer, which is commonly observed during the beginning stages of early childhood education (Bodrova & Leong, 2001). Considering students were able to choose the center activity, they primarily played in the center independently within the vicinity of his or her peers.

Parallel-constructive (36%) and parallel-dramatic (26%) were the prevalent behaviors during play. While at centers, students engaged in building or creating (constructive), as well as participating in pretend play (dramatic).

Independent play was also evident during student observations in the form of solitary play. Fifteen percent of the observations portrayed students playing constructively (5%), dramatically (4%) or in games-with-rules (3%) while in isolation at a center. In terms of prekindergarten students playing together in group play, 14% of the total observations recorded constructive (9%) or dramatic play (5%). According to the student observation data, 4- and 5-year-old students were mostly engaged in parallel play, where they were within close proximity of peers, but played independently. Overall, the prominent forms of cognitive play—whether near peers, in isolation, or within a group— were constructive and dramatic play. The students desired to build or engage in pretend play, which was consistent across all six sites observed.

Another evident trend over the course of the observations was individual student tendencies relative to type of social play. When a student was engaged in a type of social play during the initial observation, the subsequent observations were found to be the same 38% of the time (13 out of 34 students). Out of the remaining 21 students who were not observed routinely participating in one type of social play, 17 students were noted as changing on only one occasion (81%). The reasons for a change included transitioning to another center and student absences (e.g., friends were not available to play). For example, "Paul" was observed engaged in parallel play 5 out of 6 times. The one observation entailed "Paul" playing in the kitchen alone (solitary) after transitioning from

another center. In total, 88% of the students observed participated in either parallel or solitary play for all or most of the observations—noted as only altering on one occasion.

      Contextual implications. Throughout the recorded hours of student observations, it was evident that the established classroom environment and procedures promoted engaged, sustained play. However, the complex socially constructive behaviors (group play) that were expected to be predominantly observed at the time of this study were only occasionally witnessed. This may be due to the fact that prekindergarten is a half day program and students were not exposed to *The Creative Curriculum* in its entirety. During transition time, students predominantly remained in their first center or quickly moved to another center with minimal loss of time. The students quickly decided which center to transition to based on whether or not their friend wanted to go to the center and if there was an open spot at that particular area. During centers, the teachers either walked around the room to monitor or worked with a small group on individual assessments or assigned tasks (Figure 11).

Figure 11. Small group instruction during centers.

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In Figure 11, Ms. Barkley was assisting students with spelling their names for a project while a support staff member was one-on-one with a student working on an iPad. The remaining students were in centers, playing with blocks, the kitchen or creating puzzles.

The three prekindergarten classrooms observed were structured to include eight separate centers. For any given day, one or two of the centers were purposefully closed to foster further student decision-making. Every day, students chose centers to attend and play based on whether they were open and if there was an available spot to play—each center allows for four students total. Table 3 details the eight centers: kitchen, technology, art, blocks, sand, puzzles, science, and library, along with the types of play that were observed.

Table 3

Types of Play Observed at Each Center

Play Category	Kitchen	Technology	Art	Blocks	Sand	Puzzles	Science	Library
Parallel								
Constructive		1	23	7	5			
Dramatic	19		1	5		1		
Exploratory		5					1	2
Games-with-Rules		2						
Functional	1							
Solitary								
Constructive				1	1	3		
Dramatic	2			2				
Exploratory		2					1	
Games-with-Rules		1						
Group								
Constructive				1	6	2		
Dramatic	3			2				

As evidenced by Table 3, self-regulated learning is influenced by contextual, domain specificity, and content related enticements (Scott & Berman, 2013; Paris & Winograd, 2003). The aggregated data in Table 3 reinforces this notion that the environment impacts the decisions students make in terms of what center to attend, as well as what type of play will be performed. For example, the art and block center manifested constructive behaviors, whereas the students primarily engaged in dramatic play at the kitchen area. The students enjoyed creating pictures on construction paper using paints, crayons, glue, and glitter. They would sit at a table of four to complete the independent tasks. At the kitchen center, the students would pretend to vacuum, attend to a baby doll, cook, talk on a plastic phone, or play at the toy cash register. With the exception of three observations, most of the activity was solitary or parallel. Although group play was the least observed behavior (14%), the blocks center primarily fostered constructive and dramatic tendencies through building and imaginary play.

The individual observations were no longer than 5 minutes and all behaviors coded as play or non-play according to definition were documented (Alessandri, 1992; Smilansky & Shefatya, 1990). There were two additional times that were not recorded in the tables since they were both incidents of non-play behavior where the students sat alone, refusing to participate in centers activity—considered unoccupied, solitary behavior. Adult-student interaction—also considered non-play—was coded as *conversation with adult*, accounting for two occasions totaling four minutes of observation time. During the observations, the teachers were instructing small groups or assisting individual students who were not participants, while the remainder of the class was in centers (Figure 11).

The kitchen and art centers were the most popular activities during the day—together totaling 50% of the observations. The block center was also a prekindergarten favorite, totaling 23% of the student observations. Interestingly, science, puzzles, and classroom library were the least desired centers through choice—totaling 8%—and were also closed to the students during most of the observations. The teachers explained that the centers are opened during specific units of study (e.g., bugs) where centers supplement and reinforce the learning through hands-on activities. The library (Figure 12) is often utilized during read aloud times, which were only observed on two occasions as centers during this study.

Figure 12. Classroom library.

Teacher Interviews

In addition to the student observations, the three prekindergarten teachers facilitating instruction were interviewed using a semi-structured format. Three of the five prekindergarten teachers were interviewed and participated in this study. Ms. Thomas

was completing her fourth year teaching prekindergarten. Prior to teaching, she was an aide in prekindergarten for three years. Ms. Barkley was finishing her eleventh year as a prekindergarten teacher and Ms. Regan was in her first year as a prekindergarten teacher—tenth year in early childhood. Ms. Regan taught the previous nine years in kindergarten and also has six years teaching in a private Catholic school. The teachers' levels of experience and differing backgrounds provided a basis for classroom instruction, as well as a platform when discussing their beliefs during the interviews.

The interview protocol (Appendix A) was designed to determine whether teacher perceptions and opinions relative to self-regulation and instructional practice corresponded with actual classroom implementation. The teachers participated in the semi-structured interviews separately. The discussions were approximately 30 to 40 minutes in length and offered insight into the daily experiences of teaching prekindergarten students. To evoke genuine, thoughtful responses, the teachers did not have the opportunity to view the questions prior to or discuss the interview with their peers. The transcripts were then coded to determine patterns and themes (Saldana, 2009). Appendix D provides a sample of coded transcripts from the interviews.

The three semi-structured interviews with the prekindergarten teachers unveiled the dynamic relationship between teacher, curriculum, and learning environment. The teachers were well-versed in the curriculum, programs, and materials provided through training, subsequent annual workshops and weekly grade level meetings. Teachers explained in detail that by establishing a learning environment through hands-on centers, technology, and leveled, age-appropriate literature, students will learn how to self-regulate. By modeling and scaffolding information, prekindergarten students learn

foundational academic information and socially acceptable behavior based on established parameters. As the year progresses and individual children develop, the students begin to self-regulate through experience interacting with peers and adults. When coding, the common themes that emerged centered on the important components of *The Creative Curriculum*, establishing parameters and learning environment, reinforcing and modeling desired student behaviors and actions, and sharing experiences as a prekindergarten teacher. Some of the contextual factors that affected daily instructional practice included the lack of time to reflect, amount of student assessments required, the use of *Teaching Strategies GOLD®*, parental support, student development, and the impact of a split session prekindergarten program.

Contextual implications. Available time and program demands were common obstacles taking teachers away from instructional opportunities. For this study, the teachers believed that even though play is scheduled during the 2 hours 30 minutes of time at school, there should be more time for students to interact and participate in free choice centers. Instead, students are required to develop foundational literacy and mathematical skills according to *Teaching Strategies Gold®*, a program aligned to the concepts and theories behind *The Creative Curriculum*. Teachers felt that *Teaching Strategies Gold®* is very thorough and provides parents with in-depth information on student progress. *Teaching Strategies Gold®* requires teachers to input observations of individual students based on thirty-eight objectives ranging from subject area knowledge to physical, social-emotional, and cognitive development (Appendix C). Within each objective, there are subcategories called dimensions, specifically detailing certain observable behaviors. There are color-coded bands—a continuum of expectations based

on child development and learning which assist in guiding teachers through the progression of teaching based on current student knowledge, understanding, and ability.

As a teacher participant stated below, *Teaching Strategies Gold®* is very time consuming. The task of inputting information into the program goes beyond the allocated daily preparatory time, interfering with time needed for further instruction or centers. Below, is a detailed description of what is required from the program:

For example, to enter an assessment on rote counting.... I have to document the number that each child counted to "Mason rote counted to 14." Then, I have to enter each child's level on the chart. The chart is divided into levels ... not counting yet (NY), attempts to count (level 2), counting to 10 (level 4), counting to 20 (level 6), counting to 30 (level 8), and then beyond (each level also has an "in between level"). After that assessment is completed for each child, I have to go in to a separate section to finalize. Once all assessments are finalized, I can begin to create the family conference form (report card). To do so, I have to select each assessment area that I want on the Family Conference Form (and whether or not I want to include the objective/dimension). After selecting the areas/assessments, I have to edit/revise as needed. Once it is saved, I can select enter type a narrative, or add additional information for parents and select skills/areas that they can continue to work on with their child. Then the forms are ready for printing (C. Thomas, personal communication, June 8, 2016).

It was evident from the interviews that the teachers found value in using the program. They felt it was a good tool to communicate expectations and progress to students and parents. The data reports were considered valuable when holding parent-teacher

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conferences because the information is comprehensive and detailed. The teacher participants believed, however, that the program was "…just time consuming. It's not even hard, it is just remembering who is where (H. Barkley, personal communication, June 9, 2016). By removing certain steps to input student data and streamlining the process, the teachers believed the program would not require as much time—thus allowing for more teacher-student contact during the school day.

Teachers also mentioned how contextual factors hindered their ability to incorporate certain desired instructional strategies, as well as allot time to reflect on daily practice. For example, Ms. Thomas stated in her interview, "…with all of the paperwork, I always feel like I'm always on the wheel and I can't get much done" (personal communication, June 8, 2016). The teachers indicated how the half-day program does not allow enough time for reflection, student learning, and complex play. Students enter the room in the morning, participate in opening activities, attend two free choice centers and conclude the day. During that time, the teachers are taking students for individual and small group instruction or assessment. Upon further discussion, all three teachers felt that an additional twenty uninterrupted minutes per day would be adequate for reflection, as well as help improve instructional practice and lesson planning.

When observing the three prekindergarten classrooms and discussing daily practice with teachers, it was apparent that they encounter the same phenomena and internal questions teachers across all grade levels and subject areas face. How do you maximize student progress and growth with the finite amount of resources and instructional time, as well as current level of professional development? How do you balance the demands of administration, State regulations and curriculum with the realities

of the daily classroom regimen? How often should you assess student growth without infringing on time needed for learning? When do you intervene during student learning and when do you allow students to learn from each other? These are all longstanding questions and predominant dilemmas pondered by modern historical educators and researchers. Although they are tangential for this particular study on self-regulated learning, they are duly noted as all impact instructional practice and student learning.

Table 4

Common Themes in Interview Transcripts

Code	Number of Times Referenced	Definition
Teacher Establishes Environment	29	The teacher adopts and implements *Creative Curriculum*—establishing a learning environment of cooperative learning and choice.
Student Response To Parameters	25	A student or students' response to teacher expectations and classroom rules (According to teacher).
Teacher Establishes Parameters	15	The teacher incorporates a classroom management plan to establish rules, procedures and expectations.
Teacher Opinion	15	The teacher's opinions or beliefs on prekindergarten education.
Teacher Reinforcement	10	The teacher notes specific examples of when students are reminded of expectations and rules.
Student Age	10	Reference to student age and potential ability.
Superfriend Program	6	Teacher notes opportunities when "Superfriend" program is referenced to reinforce positive behavior and remind students of classroom rules.
Curriculum Fosters Choice	6	*The Creative Curriculum* stipulates opportunities for students to choose from various centers or areas of play.

Emergent themes. Table 4 details common themes identified from the teacher transcripts. The consensus from the grade level teachers participating in this study was the belief that early childhood students should be given more opportunity to play, or more importantly time to self-regulate. They felt that mandates and curriculum demands disseminated from government entities and administration impact all grade levels and interfere with further chances for students to engage in more complex social learning like group play. Teachers often referred to the change in family dynamics—where students are living in divorced households, in poverty or with a guardian—as a major factor that has hindered the social-emotional progression of students. In addition, teachers expressed how parents' or guardians' situational obstacles or constraints (e.g., job responsibilities, terms of custody, abuse or neglect, and lack of financial or intellectual capital) hinder communication or collaboration between home and school.

Another common theme that resonated from the teacher interviews was the availability of a private preschool program to 3-year-old children. For a fee ranging from $500 to $1500 per month, parents can pay for their children to participate in a program to prepare them for public early childhood education. The preschool is not affiliated to our public schools, but has been identified by the teachers as a contributing factor to the successful development of their students. The teachers explained how students who attended the program have an evident advantage over non-attendees—equipped with academic and social-emotional foundational skills necessary to succeed during the initial stages of prekindergarten. Unfortunately, with over 50% of the students living in poverty, parents are financially constrained from sending their children to the private school (R. Chichec, personal communication, February 10, 2015). Thus, the teachers at Brennen

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Elementary are experiencing progressively more low academically performing students, as well as counterproductive, noncompliant behaviors than ever before. Considering the fact that this appears to be an advantage for students attending a structured learning environment at 3-years-old, future studies should focus on student differences in schooling.

During the interviews, teachers also expressed the quandary of seeking balance on a daily basis—when to intervene during student interaction, how often to assess students, how to engage and properly communicate student progress with parents, and how often they should reflect on instructional practice—fundamental questions teachers ask across grade levels. Although it was evident that the teachers understood the methodology and concept of self-regulation, they were not familiar with current terminology. As the interview progressed for all three teachers, they explained in more detail what self-regulation looks like. For example, Ms. Barkley stated,

> I feel like they are self-regulated with the fact that they know when they come in, they can check in, they know that when the music is on, they know they have to move. They know when to take their card to go to another center (personal communication, June 9, 2016).

Teachers believed that for students to self-regulate, they must learn from a model, as well as apply and develop skills through experience and reinforcement. Ms. Thomas reaffirmed this notion stating, "They know that they can only play in certain centers based on the number of students and open centers. It establishes a sense of independence" (personal communication, June 9, 2016). Ms. Regan added,

> I try to model the behaviors I want from them. I have noticed that some of the

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students still are all about themselves…They need to learn how to get along, working together and following the rules. They can then learn more from each other (personal communication, June 8, 2016).

As essential components to a productive self-regulated learning environment, teachers often referred to the progression of student learning, change in learning environment structure, and established parameters or classroom management over the course of the school year. Ms. Regan explained how she incorporated self-regulated learning in the classroom:

> When we started out this year, my aide and I would call them back to mini centers to kind of train them on how to work with each thing and how to do centers. As the year went on, we gave them more choices, more centers (personal communication, June 8, 2016).

The early childhood's positive behavior support program, "Superfriends" was a reoccurring initiative identified when discussing self-regulation. Ms. Thomas stated,

> …in November, we start the whole Superfriend program, which is the positive behavior support that helps them to self-regulate and interact with others, not so much the classroom routine and then we eventually fade that out and now it's all we have to say is "Are you being a Superfriend?" (personal communication, June 9, 2016).

Expectations for center time and the importance of allowing students the opportunity to plan their day—free choice of centers based on the established parameters—were also discussed. Ms. Thomas, Ms. Barkley and Ms. Regan all articulated the challenges of approaching situations where students were reluctant or

disengaged without disrupting the opportunity for students to self-regulate. Ms. Regan provided one example:

> I have one little boy who doesn't speak much. For the first half of the year, he watches. He doesn't want to play. When I say, "Why don't you play with so- and so- or draw [a] picture?" he would go and hide. I would kind of draw him out and have him come over with the rest of the class. Actually, he just decided that for the last two weeks of school, he was going to play with each other (personal communication, June 8, 2016).

The teachers believed that *The Creative Curriculum* afforded the opportunity to determine individual levels of self-efficacy primarily during center time. Students can be observed asking a variety of questions to determine the answer, demonstrating avoidance behaviors, or attempting to answer without fear of failure. As Ms. Thomas stated,

> This time of year, I see a lot of comparing—a lot of copying. Like, they are four-years-old and don't have a level of confidence yet…There is such a huge range depending on developmentally and ability. There is a range in when they are born. I think some kids feel, "I want to try to get to that level" and "I will never get to that level" and feel self-defeated (personal communication, June 9, 2016).

For students to be self-efficacious, a positive, supportive learning environment must be established. As one teacher explained, "…I do not want to push them, but encourage them. I don't want them to freak out [if they do not understand]. I want them to feel comfortable" (H. Barkley, personal communication, June 9, 2016). Students need to feel comfortable asking for help from peers or adults, as well as when taking risks. In general,

the teachers believed they were able to gain a sense of student capabilities, and students also become more aware of their abilities compared to their peers.

Teachers' espoused theories, beliefs and experiences were noted throughout the transcripts. To promote a positive, efficient learning environment in prekindergarten, the teachers emphasized the importance of instilling morals. During our discussion regarding student learning and interaction with peers and teachers, Ms. Barkley stated, "I really try to establish that kindness is a big thing for me. Treating each other with respect" (personal communication, June 9, 2016). Student age and child development were consistent responses when discussing self-regulation, ability and readiness. When discussing times for students to learn from each other and times to intervene, Ms. Barkley said,

> … I feel like some of the higher-learning [older] kids do that where they try to
> solve the problems themselves whereas some of the lower-level [younger] ones
> will be immediate, "Ms. B., can you come over to help me." It's hard to not
> intervene because you don't want anyone to get hurt. You don't want it to escalate
> (personal communication, June 9, 2016).

Ms. Barkley admitted during the interview that this was an area she could improve, allowing students more opportunities to learn from peers. Ms. Thomas and Ms. Regan, two teachers with less years of prekindergarten experience, also questioned the amount of intervention and guidance they should provide to maximize a self-regulated learning environment—citing such factors as student safety, parent complaint, administrator demands, and changes in student behavior. All were in agreement that information

dissemination and learning must continue to be scaffolded, guided, and reinforced based on ability and readiness.

In addition to establishing opportunities for students to plan and learn, the teachers explained how they incorporated goal setting and time for reflection. At the conclusion of every class observed, the students returned to the carpet in front of the classroom. The teachers led a brief discussion reflecting on what was learned from the curriculum and during play. The process was explained as follows:

> Yes, it has to be very guided and targeted to what you want them because at this age they are all over the place. We try to sum up that after anything we do, like a mini-center we always ask "What did you do? How did you do it? Why did you do it?" I think it's very important that they understand that (L. Regan, personal communication, June 8, 2016).

This is yet another example of how prekindergarten students require guided practice and modeling to accomplish a task. Teachers explained that even though reflection is essential to review and reinforce daily learning, students need to answer specific questions. As is the case with the established parameters in centers, the classroom structure and routines provide students with protocol to successfully complete assigned tasks. Thus, establishing the foundation for independence and self-regulatory skills.

Summary

Student observation and teacher interview data portrayed how a complex sociodramatic environment promotes self-regulated learning. The teachers explained how teacher modeling, reinforcement and guidance, and scaffolding of specific skills and information can facilitate a vibrant learning environment. According to the teachers and

the results of this study, the prekindergarten students progressed from demonstrating non-play and solitary play behaviors at the beginning of the school year, to more complex forms of sociodramatic play in groups at the time of this study in the spring. In terms of cognitive play, 62% of the observations detailed students engaged in dramatic or constructive play. With the toys or materials in the classroom, the students used their imagination to reconstruct real-life scenarios. It was evident that on an operational level, self-regulation and reflection occurred after internalizing the modeled behaviors established and reinforced by their teachers and peers. Imaginative play provided opportunity for students to make decisions about rules, assigning roles, and activity development.

Teacher support, classroom environment and establishment of social norms improved the likelihood of students to demonstrate time on task, productive play (Berk, 2001). The teachers were not only the primary deliverers of instruction, but also the facilitators of encouragement when students were uncertain or afraid to fail. As Ms. Barkley said during the interview,

> I do think it's important because that [setting goals] plays on their confidence because if they have a goal—they want to write their name—that makes them feel good about themselves…We try to encourage them to go play with somebody else if they want to be with a certain friend, or if they want to be on their own (personal communication, June 9, 2016).

Students interacted with the environment—teachers, peers, materials—to construct learning and develop a knowledge-base to prepare for future experiences. As an influencer of behavior and learning, time is needed for students to interact and observe

one another, to share ideas and encounter new theories and philosophies. The sense of relevance and relatedness are integral to the learning, establishing high engagement, competency and improved self-efficacy.

Although the idea of *free choice*—based on the philosophy and theoretical framework of *The Creative Curriculum*—was incorporated into daily lessons, there was an evident necessity for teachers to intervene and assist when they feel necessary. When to assist students during centers is an area of instructional decision-making that appears to be based on teacher discretion and differed between the three classrooms. Despite Ms. Regan being new to prekindergarten at the time of this study, it appears her experience in kindergarten has impacted daily instructional decision-making. Where students may have more opportunity to experience disagreement, conflict, and opportunities to learn from each other in Ms. Regan's class, Ms. Barkley admitted she needs to intervene during those situations. Hence, teacher beliefs and knowledge regarding curriculum and instruction, as well as child development, age, and progress within the classroom weigh heavily on everyday instructional decisions. These differences, however, did not appear to translate into variances in self-regulatory behaviors observed in the three classrooms.

Chapter Five

Discussion

This chapter will discuss the implications of the study's findings, offer

suggestions for using the results of this research and conclude with recommendations for

further study.

Introduction

This research study examined data on teacher perspectives and student behaviors

relating to self-regulation. Bandura's social cognitive theory was the principal theoretical

framework for this research study. Self-regulated learning is considered an integral

component of student growth and achievement. Self-regulated learners generate thoughts,

feelings, and behaviors to attain their learning goals (Schunk, 2001; Zimmerman, 2001).

They cognitively regulate by planning, cataloging, monitoring, and evaluating their

learning processes. They also regulate their behaviors by selecting and reconfiguring

physical environments conducive to learning. In theory, teachers need to establish social

cognitive learning environments where children are provided time and opportunity to

interact within diverse, social contexts—fostering collaboration and collective inquiry

(Bandura, 2001). In addition, students must be afforded time to self-reflect and build self-

efficacy in a comfortable social learning atmosphere.

Teacher perceptions. The first research question this study attempted to answer

was, "What are the perceptions of prekindergarten teachers regarding self-regulation and

self-efficacy?" Using semi-structured interviews, the researcher examined responses

detailing their approach to teaching prekindergarten students, specifically in regards to

self-regulated learning. Although teachers were hesitant and provided vague answers

when answering the question, "What is self-regulated learning?" they were able to explain the concept in detail during the progression of the interview. Teachers often referred to the importance of modeling expected behaviors and scaffolding information in order for students to successfully perform tasks independently, with a partner, or in a group.

All three teachers believed student learning and reflection must be guided, emphasizing that otherwise, students would be engaged in conflict, unproductive play and reflecting on everything but the day's lesson during closing discussion. They believed that the current structure and procedures provide opportunities for students to progress over the school year to eventually demonstrate the ability to self-regulate in various situations. With the use of varied centers, teacher-guided lessons at the carpet or in group, and during reflection, teachers are able to gain a sense of student self-efficacy and willingness to take risk.

Allowing students to apply the skills learned in prekindergarten appears to be the quintessential model for self-regulated learning. Student age, classroom experience, and development were all expressed as areas where prekindergarten students differ—leading to a classroom of varied abilities and behaviors. Teachers were able to provide specific examples of when they observed students working through problems (e.g., sharing crayons) and identified specific students who continued to struggle independently, always requesting help from the teacher. Ms. Barkley admitted that she intervenes too frequently—not allowing students to problem solve as often as she could. Teachers expressed fear of escalated behaviors, repercussion from parents, and loss of instructional time as reasons of uncertainty for when to intervene.

The teachers detailed the progression of the school year leading up to when the researcher observed in the Spring. They explained how students were introduced to one center in September. Procedures and expectations were explained and reinforced throughout the year. At the beginning of each week that followed, the students were able to participate in one additional center. Once all centers were introduced, the teachers managed which centers remained open and which ones were closed based on the units taught. The teachers modeled expected behaviors and observed student learning and interactions informally and formally, using *Teaching Strategies Gold®.* The "Superfriends" positive behavior support program provided incentive for on-task, compliant behaviors and was also introduced at the beginning of the year and phased out by December. Students wrist bands were hole punched for demonstrating positive, cooperative behavior and accomplishing certain assigned tasks. Students were given tangible rewards once the wrist band was completely hole punched. The teachers explained that by December, students are usually able to comply with classroom procedures without the program's rewards. Teachers then reinforce appropriate behavior using verbal praise and other reward systems for the remainder of the year.

Overall, the teachers believe *The Creative Curriculum* is an age and developmentally appropriate program that allows students to learn through play. The teachers described how their students have progressed to more complex self-regulated behaviors—collaborating to accomplish goals and resolving conflict without adult assistance. As a former kindergarten teacher within the district, Ms. Regan believes *The Creative Curriculum* should be utilized more in kindergarten rather than the current block schedule, which according to her, "…resembles fourth grade." Based on interests and

availability, prekindergarten students are able to choose a center and play for ten minute intervals scheduled during the day. The students place their name tag at the center if there is an opening. At the conclusion of the twenty minutes, the bell rings and they can either move to another center or remain. The teachers believe that the students are able to experience content and learn life lessons through centers. The students learn how to share, be creative and explore using science kits, technology or under teacher guidance. The teachers have the flexibility to pull students for small group exercises or individual assessment while the remainder of the class participates in centers. In addition, each classroom has an instructional aide to assist during play or when the teacher assigns a task.

Prekindergarten student behavior. The second research question this study attempted to answer was, "What behaviors do prekindergarten students exhibit when they are self-regulating?" This researcher participated in naturalistic observations of individual prekindergarten students using the criteria delineated in *The Play Observation Scale* (Appendix B). Considering this study was completed in the spring after five months of exposure, I anticipated that complex group play would be the primary mode of student interaction and behavior. The prevailing form of play, however, was parallel. Students would report to a specific center with a friend or friends and begin to engage in building, playing with cars or cooking food independently, but within close proximity of his or her peers. Seventy- one percent of the observations entailed parallel play where—even though considered social play—there was no interaction between peers. Cooperative group play accounted for fourteen percent of the total observations for this study. Vygotsky's (1978) social constructivist theory reaffirms the notion that play—

independent (e.g., self-talk) and with others—conjures self-regulated learning and introspection. In only two undocumented instances were students disengaged and unwilling to participate in center time. The remaining observations involved engaged, solitary play (15%) where students were involved in one of the centers for the entire 5 minute timeframe.

Developmentally, many of the prekindergarten students observed may not be completely ready for cooperative group play. Research has posited the notion that there are stages to play, ranging in progression from solitary to parallel to group. When given ample opportunity to engage in play over early childhood years, students mature and naturally develop the ability to participate in group play (Bodrova & Leong, 2001). As children interact with peers and the learning environment during play, they gain valuable skills to engage in social environments, as well as build background knowledge to self-regulate accordingly. Recent studies have endorsed the importance of play during recess—when structured and productive—in social and academic growth (National Association of Early Childhood Specialists in State Departments of Education, 2002).

Students may choose to work alone rather than group play to accomplish a specific goal. Dependent on the context of center, a student may be focused on playing independently and consider a playmate as a distraction from accomplishing a specific task (Rogoff, 1990). For example, the art center predominantly exhibited parallel behaviors (24%) due to the fact that students were required to complete art projects independently. Therefore, the students sat next to their peers while using paper, markers, crayons and glue to create art. There was only one time when a student was helping another to finish a project, however that was allowed by the teacher. The kitchen center,

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complete with imaginary food, dolls, clothes, utensils, and cash register allowed for dramatic play (Scott & Berman, 2013). Nineteen percent of the total observations in the kitchen center were parallel. The students observed were with friends, however, engrossed in imaginative play resembling everyday life experiences—independently caring for a baby, cooking food, or having a phone conversation with another person. Fourteen percent of the total observations were group play. The block center (8%) did foster an environment where students worked together to build as well as play with cars. Students were observed collaborating to create the strongest, best structures to bear the brunt of future destruction or for housing imaginary people and cars. Conflict was not observed, rather students were able to productively collaborate while in group play. Hence, it was evident that the students who participated in this study could self-regulate—demonstrating the ability to quickly choose a center, establish goals and outcomes based on the specific area of play, manipulate the learning environment to achieve the goals (cognitive play), and choose whether to interact with peers or play alone (social play).

Limitations

There were four main challenges to this study that must be noted. As evidenced from the interview transcripts, the teacher participants did not have formal training in self-regulated learning at the time of this study. Also, there was also a level of inference and uncertainty when reviewing the observations considering a child's goals and intentions are internally manifested. Only directly observable behaviors were coded, such as when a student cooks a meal using the plastic food and utensils in the kitchen center. Socially based behaviors also involve a level of uncertainty and inference because of

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driving forces such as preference of center, lack of familiarity with partner(s), and potential external variables that could cause change of behaviors (Veenman, 2005). For example, despite the attempt to maintain a natural context during observations, students were still very aware of my presence. During the initial observations especially, students attempted to engage in conversation or cautiously watch me video record while playing. This may be the reason why student conflict was not observed during this study. Lastly, it is important to note that I observed classrooms where the participants knew me as a building administrator—potentially using the data to change or discredit their teacher methods (based on their perceptions). Therefore, it was important to convey the message to the students and staff that the goal was to create a reflexive environment, and daily routines and actions were observed in standardized context. I explained to the participants that I was in the classroom as merely a naturalistic observer—not to make any formal judgments based on current practices and curriculum that would impact student achievement or teacher job status.

Implications

  Leadership and teacher practice. It is imperative for leadership and teachers to maximize student cognitive growth by incorporating more opportunities for students to engage in team-building, collaborative tasks during the split session days. It was evident during the observations and interviews that the prekindergarten students are not exposed enough to authentic, project based learning as delineated by *The Creative Curriculum.* Also, teachers are restricted from providing such enriching activities to promote complex social learning due to limited time and mandates (e.g., assessments, administrative directives, alternative projects). Students with limited to no self-regulatory skills have

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difficulty socializing and developing problem-solving skills. As is the case with basic academic skills, students who are not provided enough opportunity to practice and refine their self-regulatory skills will continue to struggle throughout life. Hence, there must be more time allocated and centers designated explicitly for complex social learning.

In addition, there is very little time during the school day to reflect on instruction. Since there is a split session schedule, a one-hour window in the middle of the day is allotted for teachers to eat, plan, discuss and input student data into *Teaching Strategies Gold®.* All three teachers have varied espoused beliefs due to different backgrounds and levels of experience that impact instructional decision-making. This translates into daily instructional practice differing across the grade level, impacting student learning. Teachers in such situations would benefit from time observing peers in another classroom, as well as having the time to further reflect and plan.

Lastly, video recorded observations can be invaluable tools for not only research purposes, but also to improve teacher practice. School leaders can use video recording to illustrate best practices for instructing prekindergarten students and to improve interrater reliability between observers. By reviewing recordings, observers can compare findings and refine accordingly. For this study, all three teachers requested to review the video of their interviews as well as of student play. Considering that this study required member checking for validity, the teachers gained invaluable observation data on student outcomes and current teacher methodology. Videotape recording is a practice that district administration encourages; however, it only occurs in extremely rare occurrences.

Curriculum. The teachers feel pressed for time when balancing play, guided lessons, and other daily requirements into 2 hours 30 minutes. Even though sight words and alphabet are introduced and reinforced as part of the phonics program in prekindergarten, kindergarten teachers are complaining students do not have the necessary acquisition of alphabet letters and sight word vocabulary to be successful for the grade level. During the research, it was evident that classrooms varied in terms of reading materials and educational opportunities. Certain rooms allowed for students to play on the interactive smart board as a center, or provided leveled books focused on specific themes for a unit, or did not allow time for students to peruse the classroom library.

As Ms. Regan explained in the interview, *The Creative Curriculum* does not require the use of a calendar to expose students to the days of the week and promote a sense of time, yet she uses it in daily instruction. Perhaps the prekindergarten teachers should be given more time to discuss best practices, as well as review and refine the current curriculum. Professional development opportunities on *The Creative Curriculum* implementation and self-regulated learning would be beneficial for the prekindergarten teachers to teach the curriculum with fidelity.

Considering that the teachers have varied beliefs, styles, and strategies for implementing *The Creative Curriculum,* and levels of prekindergarten experience, it would be beneficial for the teachers to collaborate on a more frequent basis. As stated in the interviews transcripts, the break in between sessions allows enough time for lunch, inputting assessment data and brief discussion—not at the level of collaborative decision-making that is effective. Teacher collaboration in professional learning communities

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facilitates focused discussion on such important topics as: research-based best practices, child development, early intervention, and program implementation. Though teachers vary in espoused theory and practice, collaborative decision-making provides educators with a platform to openly discuss and further refine a program in the best interests of the students—a task that is difficult to accomplish in isolation (Putnam, Gunnings-Moton, & Sharp, 2009).

Recommendations for Future Research

The topic of prekindergarten students' ability to self-regulate is important and should continue to be investigated. It is possible that additional findings on self-regulated learning will not only positively impact early childhood education, but classrooms of all ages. Self-regulation is a topic with broad potential for future study—including play therapy, child, adolescent and adult behavior, and intervention. There are many possible topics and areas of focus that could be researched on this broad topic.

This study focused on teacher perceptions and self-regulated learning in prekindergarten students. Another study may return to this topic; however, focus on researching over an extended period of time. Students and teachers could be observed starting in September, detailing the progression of instructional practice and student behaviors throughout the entire school year. This study could further reinforce the notion that prekindergarten students are able to self-regulate, as well as investigate the stages of play and identify scaffolding and modeling techniques noted by this study's teachers, which were deemed necessary to promote a self-regulated learning environment.

Another possible study could be longitudinal in nature, exploring the same subjects over the course of several years. In this format, a researcher can determine if

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students are able to self-regulate in prekindergarten, examine how and why, and explore how individual students behave when progressing through kindergarten and possibly other early childhood years. Teacher perceptions can also be researched to gain a sense of beliefs across grade levels and further delve into the delicate balance between play and the demands of learning specific subject areas. This study could also examine potential variances between students who attended private preschool prior to prekindergarten compared to students who enter public school without prior schooling experience. The research and results could potentially provide more insight into student self-regulatory skill development starting at age three.

On a national level, more evidence on prekindergarten students and self-regulation is warranted. Prekindergarten education remains a widely discussed topic—many districts remain without a program. The importance of such a program for the public is often considered low priority or overlooked due to funding. In this district, it remains a half day program due to lack of resources (e.g., teachers, funds, materials). Perhaps if researchers continue to produce results like this across the country, legislators will further promote the importance of early childhood education. District early childhood programs can be observed, focusing on student behaviors in order to determine if there is an improvement in self-regulated learning when students are exposed to a prekindergarten curriculum. Researchers can also examine the different types of curriculum and programs.

The three studies would continue the discussion in the research community regarding the importance of self-regulation and early childhood learning. Studies have shown the impact of early childhood education on student learning, it remains a question

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as to what exactly are the best practices? Within the three classrooms, there was variation in teacher beliefs, students, and instructional strategies. By focusing on additional students of differing backgrounds, socioeconomic status and school districts, the research will have a more complete picture of the benefits of specific programs offered, as well as how self-regulated learning can be promoted in the classroom.

Conclusion

Going beyond the realm of everyday academics, students who are able to self-regulate have a functional consciousness from which they can select, construct, and evaluate certain courses of action (Bandura, 2011). Research suggests that a self-regulated learning environment fosters the development of self-regulation skills; therefore, promoting growth in academic skills (Fuhs et al., 2014, Hembacher & Ghetti, 2014). Students demonstrating the ability to learn the proper skills to regulate and have a sense of awareness and control acquire a vast network of information and knowledge. This knowledge and ability extends beyond the curriculum—allowing students to function in a variety of situations—successfully preparing them for life.

Sociodramatic play and constructivist teaching encourage student learning from their peers and learning environment. Although teachers model and scaffold, students are encouraged to participate in activities that inspire creativity, imagination, and interaction. These experiences promote skill development for coping with failure, handling conflict, productively collaborating, and making decisions (Berk, 2001). Whether play is solitary, parallel or in group, students are regulating their behaviors based on context and goals.

In order to function in life as adults, students must learn the necessary skills to self-regulate. They need the opportunities to reflect and identify areas where they are confident and proficient. Students must experience moments that are unfamiliar, building upon previous background and skills. More importantly, they need to be able to cope with difficult situations and failure while attempting to put forth effort, rather than be crippled by fear. Self-regulated learning is an education about oneself and how to interact with others. It is an established set of skills and habits that manifest future life experiences and decisions. If students are not given the opportunity to engage in meaningful play, they will struggle for the remainder of their academic and professional existence.

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Appendix A

Interview Protocol

Thank you for taking the time to meet with me. As you are aware, I am interested in prekindergarten learning. Considering I am very interested in your perspective as a member of a very important grade level, I have a series of questions I would like to discuss with you. If at any time you wish to refrain from answering, withdrawal from our conversation, or ask me questions, please feel free to do so.

1. In your view, what is self-regulated learning?

2. Do you feel that you incorporate self-regulated learning in your classroom now? Why? Why not?

3. Why do you think your classroom is set up for prekindergarten students to play?

4. Do you think students learn more from their peers or you? Why?

5. When do you think your students focus and make cognitive decisions the most, during circle time or at the stations?

6. Do you feel it is important for students to reflect on learning? Why?

7. Do you feel you have enough time to reflect on your teaching and how it impacts student learning?

8. Do you feel that you have the opportunity to determine self-efficacy, or gain a true sense of your students' abilities? If so, how? If not, how do you think this can be done?

9. Do you think it is important for students to set goals in prekindergarten? Why? Why not?

10. Do you think it is important for students to experience failure? If so, how do you address avoidance or irregular behaviors?

THE PLAY OBSERVATION SCALE (POS)

Kenneth H. Rubin Center for Children, Relationships, and Culture University of Maryland (Revised 2001)

THE DEVELOPMENT OF THE PLAY OBSERVATION SCALE

Early observational investigations of children's free play preferences often focused upon the formulation of social participation hierarchies. Thus, in a now classic study, Parten (1932) discovered that social participation among preschoolers increased with the child's age. Parten defined six sequential social participation categories: unoccupied behavior, solitary play, onlooker behavior, parallel play, associative play, and cooperative play. Preschoolers' modal play preference from 2 1⁄2 to 3 1⁄2 years was parallel play, and from 3 1⁄2 to 4 1⁄2 years was associative play.

A second major early source of information concerning children's play behaviors stemmed for Piaget's (1962) classification of three successive stages according to the degree to which play remains purely sensorimotor or has some bearing on thought itself. Smilansky (1968) elaborated upon the original Piaget categories and labeled them as follows: (a) functional play—simple repetitive muscle movements with or without objects; (b) constructive play—manipulation of objects construct or to "create" something; (c) dramatic play—the substitution of an imaginary situation to satisfy the child's personal wishes and needs; and (d) games-with-rules—the acceptance of prearranged rules and the adjustment to these rules. The four types of play have been thought to develop in a relatively fixed sequence with functional play appearing ontogenetically first in infancy and games-with-rules last (during concrete operations). Studies, however, have indicated that constructive and dramatic play develop simultaneously and follow the same developmental course (Rubin, Fein, & Vandenberg, 1983).

The Play Observational Scale (POS) described in this manual represents an attempt to relate the two long-standing play hierarchies, the one social (Parten, 1932), the other cognitive (Piaget, 1962). Researchers have shown that the scale has proven useful in determining (a) age and sex differences in children's play; (b) SES differences in play; (c) effects of ecological setting of play; (d) individual differences in play; and (e) the social contexts within which the various forms of cognitive play are distributed. The scale has also been used to identify both extremely withdrawn and aggressive children who are "at risk" for later psychological difficulties. More recently, researchers have used the POS to study behavioral associations with temperament, attachment relationships, parenting, and children's peer relationships. Investigators have also used the POS in studies of handicapped and learning disabled children. An abbreviated and selective biographical list of studies in which the play scale has been used is included in this manual.

DEFINITIONS OF PLAY AND NON-PLAY CATEGORIES

When coding a child's behavior the first decision the observer must make is whether the behavior is play or non-play. The coding sheet is divided into play and non-play categories. The cognitive play categories (functional, constructive, dramatic and games-with-rules) are nested within the social play categories (solitary, parallel and group). One non-play behavior, exploration, is also nested within the three social play categories. Thus, there are 15 possible nested behaviors (solitary-functional, solitary-constructive etc.). The remaining non-play categories are unoccupied behavior, onlooker behavior, conversations with teacher and/or peers, transitional, aggressive, rough-and-tumble, hovering, and/or anxious behaviors.

1. Social Play

When coding the social play of the focal child it is important to note (1) the proximity of the focal child to any other children in the area, and (2) the attentiveness of the focal child to his/her playmates.

(A) Solitary Play: The child plays apart from other children at a distance greater than three feet (one meter). S/he is usually playing with toys that are different from those other children are using. The child is centered on his/her own activity and pays little or no attention to any children in the area. If the child is playing in a small area the three-foot rule is often not applicable. In such cases the observer must rely upon the relative attentiveness of the child to others in his/her social milieu.

(B) Parallel Play: The child plays independently; however, the activity often, though not necessarily, brings him/her within three feet of other children. If the child is very attentive to others while playing independently, parallel play is coded regardless of the distance between the focal child and the other children. S/he is often playing with toys that are similar to those that the children around him/her are using. The child usually seems to be somewhat aware of, and attentive to, his/her playmates, and frequently engages in "parallel speech" (i.e., verbalizing his/her own thoughts for the benefit of the other children). In short, the child plays beside, or in the company of, other children but does not play with his/her companions.

(C) Group Play: The child plays with other children and there is a common goal or purpose to their activity. They may be following one another in a functional activity, or they may be organized for making some material product, striving to attain some competitive goal, dramatizing situations of adult or group life, or playing formal games. Whatever the activity, the goals are definitely group- centered.

2. Cognitive Play

In order to code the cognitive play level of a given activity the observer must first decide upon the child's intent or purpose as s/he engages in that activity.

(A) Functional Play: This is an activity that is done simply for the enjoyment of the physical sensation it creates. Generally speaking, the child engages in simple motor activities (e.g. repetitive motor movements with or without objects). Specific examples are climbing on gym equipment; pouring water from one container to another; jumping on and off a chair; making faces; singing or dancing for non-dramatic reasons; ringing bells and buzzers, etc.

 (B) Constructive Play: The definition of constructive play is the manipulation of objects for the purpose of constructing or creating something. Pounding on playdough for the sensory experience of the pounding is considered to be functional play; however, pounding for the purpose of making a "pancake" is coded as constructive. Similarly, pouring water in and out of containers is a functional activity; however, pouring water into a series of containers for the purpose of filling each container to the same level is a constructive play behavior. It can be seen, therefore, that one major distinction between functional and constructive activity concerns the child's goal during play.

Additionally, construction may manifest itself as teaching another how to do something. This differs from exploration because the child already knows how to perform the task. For example, the target child *shows* another child how the elevator on an action figure

activity set raises and lowers.

(C) Exploration: Exploratory behavior is defined as focused examination of an object for the purpose of obtaining visual information about its specific physical properties. The child may be examining an object in his/her hand or may be looking at something across the room. Also, if a child is listening to a noise or listening for something his/her behavior is coded as exploratory. As previously mentioned, this behavior has been nested within the social play categories because it can occur in solitary, parallel, or group situations. Generally, reading is coded when a child is reading or leafing through a book, or is being read to by a teacher or other person. Reading, or being read to, is a considered a constructive activity.

(D) Dramatic Play: Any element of pretense play is coded as dramatic. The child may take on a role of someone else, or may be engaged in pretend activity (e.g., pouring pretend water into a cup and then "drinking" it). S/he may also attribute life to an inanimate object (e.g., making a doll talk).

(E) Games-with-Rules: The child *accepts* prearranged rules, adjusts to them and controls his/her actions and reactions within the given limits. The child and/or his/her playmate(s) prior to the onset of the game may have decided upon these rules. There must be an element of competition either between the focal child and other children, or with him/herself. To illustrate, two children who are taking turns bouncing a ball against a wall are not necessarily engaging in a game-with-rules activity even if they have decided that dropping the ball constitutes the end of a turn. However, if these children are counting the number of bounces successfully completed before the ball is dropped and are trying to beat the other child's (or their own) previous score, then they are playing a "game-with-rules".

Non-Play Behaviors

The following behaviors are those that are not coded as play.

(F) Unoccupied Behavior: there is a marked absence of focus or intent when a child is unoccupied. Generally, there are two types of unoccupied behaviors: (1) the child is staring blankly into space; or (2) the child is wandering with no specific purpose, only slightly interested, if at all, in ongoing activities. If the child is engaging in a functional activity (e.g., twisting hair or fiddling with an object) but is not attending to the activity, then the child is coded as being unoccupied. If it is judged that the child's mind is on the functional activity, the behavior would be coded as "functional".

Similarly, a child may be surveying the playroom. At first glance, it may look as thought the child is unoccupied, however the child may actually be visually exploring his/her environment. It is important to distinguish between truly without focus, and actually looking at something (e.g., a poster, a camera, etc.), which would represent exploratory behavior.

(G) Onlooker Behavior: When onlooking, the child watches the activities of others but does not enter into an activity. S/he may also offer comments, or laugh with the other

children, but does not become involved in the actual activity.

(H) Transition: Transition is coded when a child is setting up a new activity or moving from one activity to another. Examples are walking across the room to watch an activity or to get a drink of water, setting up a game, tidying up an activity, or searching for a desired object.

(I) Active Conversation: Conversation involves the verbal transfer of information to another person. Parallel and private-speech do not fall under this category as neither represent attempts at communication. Conversation is coded when a child is being spoken to by another child and is actively listening in order to respond or follow directions, and is also coded when more than one child shares laughter (eye contact must be made). However, a child who is listening to someone else's conversation but is not specifically being spoken to *is coded as engaging in onlooker behavior instead of conversation.*

(J) Conversation with a peer is differentiated from conversation with a teacher or adult.

Aggression: Aggression refers to non-playful agonistic interaction with another child. Included are hitting, kicking, grabbing, threatening, etc.

(K) Rough-and-Tumble: This is a specialized type of play that involves playful or mock fighting, running around in a non-organized fashion, or playful physical contact (e.g., tickling).

The following are three examples are illustrations of behaviors for which rough- and-tumble is coded:

Example 1: Two children are sitting on the floor. One leans over and playfully flicks the other on the head. The second child laughs and returns the gesture.

Example 2: Two children are pretending to be "super heroes". At one point they engage in a "battle" and tussle on the floor.

Example 3: A group of children are playing "house". One child, who is pretending to be the family dog, has been "bad", and is being spanked by the mother.

(L) Hovering: Hovering behaviors often begin as onlooking. However, hovering is onlooking at very close proximity to the activity the focal child is watching. A child who is watching another(s) and approaches to within three feet and frequently appears to want to join in play, but is wary of doing so, is double coded as hovering.

(M) Anxious Behaviors: Behaviors indicating anxiety include crying, whining, and nail biting. Anxious behaviors include automanipulatives such as hair twisting, foot wiggling, nail biting, etc. Children displaying these types of behaviors would be double coded as anxious. For example, if a child refuses to let his/her mother leave him/her in the playroom for the experiment, anxious behaviors would be checked during those time intervals.

(N) Uncodable Behaviors: Uncodable behavior is coded when one of the following occurs: (a) the observer is unable to see what the child is doing (e.g., the child is off camera for an extended period of time or the lights are turned out during an interval); (b) the child leaves the room due to circumstances not in control of his/her will (e.g., s/he has to go to the bathroom); or (c) the experimenter or an adult enters the playroom for a portion of the freeplay session. Uncodable should never be coded with any other coding categories (i.e., do not double code when the child is "uncodable").

The uncodable category was devised simply as a reference to time segments during which the child's play behavior cannot be observed, and therefore, cannot be coded.

(O) Out of Room: Out of room is coded when the child leaves the room on his/her own accord (e.g. the child is too upset to stay in the room (crying) or the child leaves the room to go to see his/her mom). If the child leaves the room because he/she is upset/anxious this is double-coded as out-of-room and anxious for as long as the child is out of the playroom. However, if the child leaves the room because he/she is goofing around (wants to find the experimenter to tell him/her that s/he is bored), only out-of-room would be coded.

BEHAVIOR Solitary

Parallel

Group

Functional

Constructive

Dramatic Games-with-rules

Exploratory Reading Unoccupied Onlooker

GOAL OR INTENT

to engage in an activity entirely alone, usually more than three feet (one meter) away from other children.

to engage in activity beside (but not with other children, usually at a distance of three feet or less.

to engage in an activity with another child or children, in which cognitive goal or purpose

is shared amongst all group members.

to experience sensory stimulation through simple, repetitive muscular movements.

to create or construct something.

to dramatize life situations or bring life to an inanimate object.

to engage in a competitive game- type activity following pre- established rules and limits.

to obtain visual or auditory information from an object.

examining, exploring books and related materials

there is complete lack of goal or focus during this behavior.

to watch (or to listen to) the behaviors and activities of other children.

SUMMARY OF PLAY AND NON-PLAY BEHAVIORS

Transition

Conversation Aggression

Rough-and-Tumble Anxious Behaviors Hovering

to prepare for, set out activity, or to move from one activity to another.

to communicate verbally with others.

to express displeasure, anger, disapproval through hostile means.

playful physical activity. display of wary/fearful behaviors. onlooking at a close proximity.

INSTRUCTIONS FOR USING THE POS

1. The observer should watch the target child for 30 seconds before beginning to record behaviors in order to become familiar with contextual cues regarding the child's behaviors. The target child is observed for a 10 second interval. The next 5 to 10 seconds are spent coding *the predominant activity* observed by placing a checkmark in the appropriate column on the coding sheet. The observer should attempt to keep the length of this coding time (or "off" interval) as close to 5 seconds as possible. Thus, it will take 1 1⁄2 to two minutes to obtain one minute of recorded observations. In order to obtain a valid measure of the child's general play styles, we recommend that only up to five minutes of the child's behavior be recorded on any given day.   We suggest that a *minimum* of 15 minutes of POS data be gathered.

2. When the child is involved in any interaction with another child or children (i.e., group play, conversation, aggression rough-and-tumble) the names of the focal child's playmates should be recorded in the appropriate space at the right-hand side of the coding sheet.

3. For any of the above-mentioned interactions the *affect*, that is, whether the interaction was positive (+), neutral (0), or negative(-) should also be noted in the appropriate column.   A positive interaction is one that is prosocial in nature and will ultimately leave the playmate with a good feeling. This includes help-giving, guidance, praise, affection, reassurance, protection, gift-giving, overt compliance or acceptance of directions and gifts, warm greetings, smiling and laughing, invitation to play, permission giving, promises of reward, joke telling, etc.

A negative interaction is defined as an agonistic or anti-social act that will make the playmate feel unhappy, bothered, and frustrated, etc. Examples include overt noncompliance, disapproval, rejection, blaming, teasing, insults, quarreling, yelling, ignoring, taking or damaging property, physical attack, and threats.

Neutral interactions are the everyday, commonplace interactions that occur between children and that involve contain none of the above prosocial or agnostic behaviors. Theses interactions are frequently communicative in nature and often involve an exchange of information or ideas.

These *affect categories* are drawn directly from Furman, Rahe, and Hartup (1979).

SELECTING THE DOMINANT BEHAVIOR

During each 10-second interval, only one behavior is coded. If more than one behavior occurs during a 10-second interval, the behavior expressed for the majority of the time sample is coded. If behaviors are of the same length, the observer "codes up"

(i.e., s/he 1. 2. 3. 4. 5. 6. 7. codes the most mature social and/or cognitive category). The hierarchy for "coding up" is as follows:

Any *Group* behavior supercedes all other behaviors. (Group Games>group drama>group construction>group exploration>group functional).

Conversation

Parallel Play – within parallel play the same cognitive hierarchy is used as in example 1 (e.g., drama>construction).

Solitary – within solitary play the same cognitive play hierarchy is used as in example 1(e.g., drama>construction).

Onlooker Unoccupied Transitional

Aggression, anxious behaviors, hovering, and rough-and-tumble are not included in the above described hierarchy. They are coded every time they occur. If aggression lasts longer than any other behavior in a 10-second interval, then only aggression is coded. However, if it lasts less then another behavior, both aggression and the other behavior are coded.

The same procedure is used for rough-and-tumble play.

RELIABILITY

Inter-observer reliability has been reported in many of the sources listed in the bibliography. Percent agreement has ranged from approximately 80%-90%. Kappas computed on various data sets have been uniformly high.

SOME HELPFUL HINTS

1. *Solitary vs. Parallel Play*: As previously mentioned, a distance of three feet (one meter) is considered to distinguish between solitary and parallel play. However, the three-foot proximity rule is not absolute. In some situations, the observer must consider other factors when deciding whether to code a behavior as solitary or parallel. For example:

The focal child is playing at a table and a second child is playing on the floor within three feet of the focal child, but they are back to back and are paying no attention to one another.

In this situation, the focal child's play would be coded as solitary because of the complete absence of attention to the other child.

If the play space is limited, i.e., if the children are playing in a very small room and/or there is only one table at which they can play, they may not have any choice but to be within three feet of one another. In this situation, the observer must rely on the absence of parallel speech by the target child, and the child's position at the table relative to other children at the table.

2. *Parallel vs. Group Play*: In some situations it may appear as if a number of children are engaged in a group activity when actually they are playing in a parallel manner. For example:

Two children are going to build a house together out of "Lego" blocks. One decides to take some "Lego" blocks and build a garage for the house, while the other works on the house itself.

In this example the children are actually engaging in parallel play because at this point they have two separate goals for building with Lego. One child's goal is to build a house, while the other child intends to build a garage to attach to the house. When the time comes that they have finished their separate constructions and are joining the two together (i.e., when they have a common goal) they will be engaging in group play.

Similarly, in a dramatic situation when two children are play-acting the roles of "mommy" and "daddy", they are coded as engaging in group-dramatic play. However, if "daddy" goes to "work" and the "mommy" stays "home" their play may be reduced to parallel-, or even solitary-dramatic play levels depending on their proximity to each other and the extent to which they engage in mutually directed communication.

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3. *Parallel vs. Rough-and-Tumble Play*: As previously noted, rough-and-tumble play refers to playful physical contact or mock fighting *with* another child. This implies that rough-and-tumble play, by definition, occurs in group situations only. However, in the following examples the behaviors of the focal children cannot be considered to be rough-and-tumble in nature.

Example 1: The focal child rushes over to another child (who is coloring a picture) and pretends to engage in a sword fight with him. The second child completely ignores the focal child and continues drawing.

Example 2: The focal child has a paper airplane and is throwing the airplane at children around her. She throws the airplane at a passing child, runs, picks it up and throws it at another child.

In both of these examples there is no common goal between the focal child and his/her playmates; consequently, the activities are not coded as rough-and-tumble play. Therefore, in the first example, the focal child would be coded as parallel-dramatic, and the second as parallel-functional. If, during these intervals, the second child had joined the focal child, rough-and-tumble play would have been coded.

4. *Constructive Play vs. Transitional*: While setting up or getting ready to do an activity is generally considered to be transitional behavior, sometimes the setting up stage constitutes a type of activity in itself. For example, if a child elects to play with a toy hospital s/he may spend a great deal of time putting the hospital beds and equipment in specific places in the hospital before commencing dramatic play. Indeed, this "setting up" may be the only activity the child does with the hospital. In this case constructive play is coded instead of transitional activity. It may be said, therefore, that setting-up which is not merely preparation but does, in fact, involve some creativity, is considered to be constructive play. Other examples include dressing dolls, snapping together train tracks or road pieces on which a car or train will "drive".

Secondly, some constructive activities have transitional behavior nested within them. For example, when drawing, painting, or building with blocks a child has to take some time to select new markers, refill his/her paint brush, get another block, etc. If these activities last for very short periods of time in between long constructive periods then they are *not* considered to be transitional. Rather, they are considered to be part of the constructive activity. However, if, for example, a child draws for three or four seconds but then spends the rest of the 10-second interval selecting a new colour, transitional activity is coded. In other words, if this type of behavior is predominant in a 10 second interval it is considered to be transitional.

5. *Dramatic vs. Functional Play*: It is sometimes very difficult to tell if a child is engaging in dramatic or functional play; (e.g., a child is pushing a toy car around the floor). In this example, the observer must use contextual cues to help make a decision regarding the type of play behavior to code. The most obvious clue is whether the child is making any playful sounds – engine noises, tires squealing, etc. If so, then the behavior is coded as dramatic. Similarly, if the child seems to be driving the car along a "road", or is

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driving the car over to pick up some "passengers", then dramatic play is coded. However, if there are no contextual cues available, or if the action seems to be for sensory stimulation only (as in aimless pushing and pulling of a truck along the floor), the observer should code functional play.

6. *Dramatic vs. Constructive Play or Transition*: In some situations a child is engaging in an activity that would normally be coded as constructive or transitional [e.g., putting plates out on a table (constructive); putting playdough into a cupboard (transitional)]. However, if the child is, at that point, in a dramatic role or is engaging in some types of pretense play, then these behaviors are coded as dramatic. In the above two examples, this applies if the child is in fact pretending to be a "mommy" who is setting the table, or is actually putting the playdough in the "oven". Again, it is important to try to discern the purpose behind the child's actions.

7. *Games-with-Rules*: There is a tendency to code any activity that involves a board game as game-with-rules. However, a child can use a board game in a number of ways that do not involve competition or following pre-established rules. For example, if the game has a buzzer or a bell, the child may spend time "buzzing" or "ringing" merely to enjoy the sound. This would be coded as *functional* behavior.   A child who finds the actual games-with-rules aspect of the board game too complex or difficult may simplify his/her use of the board game to a constructive type of activity. For example, one game currently on the market requires children to put a number of varied shapes into corresponding places on a board during a set period of time. If the child does not stop the game timer before "time has run out", then all the pieces that have been put into their designated positions are ejected. A child who tries to "beat' the timer or his/her pieces or others' previous completion times is engaging in games- with-rules. However, if the child is merely putting the pieces in their appropriate positions without use of the timer, then s/he is treating the game as a puzzle rather than a game; his/her behavior is coded as constructive.

Also, some board games must be set up before game-playing can commence. There may be cards or pieces, etc., which must be put into specific locations, or piece of equipment may need to be wound or set in some way. If these activities are done in preparation for playing with the game in some manner then "transition" is coded; if the activities are carried out for their own sake then construction is coded.

8. *Games-with-Rules vs. Onlooker*: A child will watch an on-going game for one of two reasons: (1) S/he is not actually playing the game him/herself but is interested in watching it; (2) S/he is involved in the game-playing and is waiting for his/her turn. In the first example, the child is not an active participant; therefore s/he is coded as onlooking. However, in the second example, the child is actively involved in the game, in spite of the fact that s/he is, at the point in time, merely watching the others take their turns. Group-games-with-rules is coded

On the other hand, if, instead of watching the game while waiting for his/her turn, the child in the second example is watching some other activity or engaging in some other behavior, then that other behavior is coded.

9. *Conversation*: A. *Parallel Speech*: As previously mentioned, parallel speech, or verbalizing one's thoughts and/or actions to no one in particular, is not coded as conversation. It is sometimes difficult to tell if a child is merely verbalizing to him/herself or is, in fact, attempting to speak with another child. Some clues that may help the observer to decide if a child is communicating are:

1. the focal child refers to the other child by name or by the pronoun "you";

2. the focal child asks a question or makes a demand of the other child;

3. the focal child establishes eye contact with his/her playmates when   speaking.

B. *Dramatic and Game Speech*: In group situations some forms of speech may be communicative in nature, but are required in the maintenance of the ongoing group play activity. For example, in group-dramatic play it is necessary for the play characters to talk to one another. Similarly, during a group game activity, there is a certain amount of talking that goes on in order to maintain the interest in and momentum of the game (e.g., "It's your turn."; "I got a four."; "You always beat me."; etc.). As such, communication during dramatic and game activities is not coded as conversation because they are an implicitly part of the group activity. On the other hand, if the target child, while engaged in a group-dramatic or group-game session, speaks to a child about a totally unrelated matter, then peer conversation is coded.

C. *Active Listening*. In order to code active listening (i.e., conversation), the observer must be certain that the focal child is being spoken to and is listening for the purpose of replying or following directions. Some clues that the child is actively listening are:

1. the focal child establishes or maintains eye contact with the speaker;

2. the focal child responds in some manner to the other child when that child has finished speaking.

10. *Exploratory vs. Onlooker Behavior*: As previously mentioned, the major distinction between these two behaviors is that exploration involves receiving visual or auditory information from an object, while onlooking refers to receiving visual information regarding another person. In the following example it is possible to confuse the two behaviors.

The focal child is watching another child drawing a picture. The "artist" stops drawing and moves his hand back from the picture, while the focal child continues to look at the drawing.

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In this example, the target child is, *at first*, engaging in onlooker behavior. When the second child stops drawing, however, the behavior of the focal child becomes *exploratory* in nature because s/he is no longer watching the person, but is instead examining the picture. If the focal child's attention had moved with the other child himself when he stopped drawing, then this behavior would represent a continuation of onlooking.

11. *Simultaneous Activities*: It is possible for a child to engage in two activities simultaneously. For example, a child may be walking toward a group of children (transitional) and watching them at the same time (onlooker). Similarly, a child may be drawing a picture (constructive) and singing (functional) all at once. In a situation such as this it is important that the observer should make a strong attempt to determine the focus of the child's attention. In the first example, the child is probably concentrating on the activity of the children s/he is watching; therefore *onlooker* is coded.

The second example is more difficult to code and depends on contextual cues (i.e., is the child just lightly humming bits of songs while drawing or is s/he singing loudly and pausing in his/her picture making to sing choruses). At any rate, the observer should make a strong attempt to determine the focus of the child's attention. If this is impossible, *the "code-up" rule* should be invoked.

Similarly, a child may converse with another and engage in another behavior simultaneously. If the "other" behavior is of a *group play* nature (e.g., group exploration or pretense), it is the group play category that is coded. One only codes *conversation* when it occurs in the absence of play or other ludic activities.

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Appendix C

Teaching Strategies Gold ® Objectives

Literacy	Mathematics
15. *Demonstrates phonological awareness*	**20.** *Uses number concepts and operations*
a. **Notices and discriminates rhyme**	a. **Counts**
b. **Notices and discriminates alliteration**	b. **Quantifies**
c. **Notices and discriminates smaller and smaller units of sound**	c. **Connects numerals with their quantities**
16. *Demonstrates knowledge of the alphabet*	**21.** *Explores and describes spatial relationships and shapes*
a. **Identifies and names letters**	a. **Understands spatial relationships**
b. **Uses letter-sound knowledge**	b. **Understands shapes**
17. *Demonstrates knowledge of print and its uses*	**22.** *Compares and measures*
a. **Uses and appreciates books**	**23.** *Demonstrates knowledge of patterns*
b. **Uses print concepts**	**Science and Technology**
18. *Comprehends and responds to books and other texts*	**24.** *Uses scientific inquiry skills*
a. **Interacts during read alouds and book conversations**	**25.** *Demonstrates knowledge of the characteristics of living things*
b. **Uses emergent reading skills**	**26.** *Demonstrates knowledge of the physical properties of objects and materials*
c. **Retells stories**	**27.** *Demonstrates knowledge of Earth's environment*
19. *Demonstrates emergent writing skills*	**28.** *Uses tools and other technology to perform tasks*
a. **Writes name**	
b. **Writes to convey meaning**	

Appendix D

Sample of Teacher Interview Codebook

Teacher Response	Code
The older ones who have been to preschool understand more than others where I have to continue to intervene and explain.	**Student age**
We see it a lot when they are first starting school. Like the only child in the family, so we have to explain when they ask, "well why can't I play there?" It's their first year in school for a lot of them, so it takes time to self-regulate themselves.	**Student development**
So at the beginning of the year, we do a lot of hands-on and work with puppets to role play so they can get to the point where they work with other students to say "Oh, well you play with the blocks now and I will play with them when you are finished".	**Teacher modeling**
We try to emphasize using their words rather than taking toys away from their classmates.	**Teacher reinforcement**
What you see in September compared to the end of the year is a big difference.	**Progression over the year**
Where you see a lot of crying and not sharing, you now see typical four or five- year- old behavior for the most part.	**Student Age**

Appendix E

Teacher Consent Form

Department of Educational Services and Leadership

"A Study of Self-Regulated Learning and Self-Efficacy in Prekindergarten Students"

**Informed Consent for Interviews or Interviews with Record Reviews
(Expedited Review with identifiers)**

You are invited to participate in a research study about understanding and examine data on prekindergarten student behaviors and your role in promoting a self-regulated learning environment. This study is being conducted by researchers in the Department of Educational Leadership at Rowan University. The Principal Investigator of the study is Dr. Carol Thompson.

Participation in this study is voluntary. If you agree to participate in this study, you would be interviewed for about one hour. The number of participants in the study is three prekindergarten teachers and fifty prekindergarten students.

I understand that I will be asked to participate in an audio and videotape recorded interview and brief information discussion. I also understand that I may be occasionally asked questions or review videotape of my students as a means of validating observable behaviors. Lastly, I understand that I may be videotape recorded during the student observation portion of the study. All written documents and videotape recordings collected for data purposes will remain anonymous for the participant; names and other identifying information will not be included in these documents. Only Leonard Long and Dr. Carol Thompson may have access to and ability to review these documents. All documents will be stored in a secure location.

I understand that these meetings will be recorded for video data purposes. I understand that my responses will be anonymous and the researchers will keep the data gathered confidential. All data will be stored on a secure SanDisk® Drive only accessible to the researcher. The only people who may review the data are Leonard Long and Dr. Carol Thompson. The recordings will be used as a reference to keep track of vocabulary use, participation, and applied knowledge. When the recordings are transcribed the participants in the recordings will not be identified individually, especially not by name.

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I agree that any information obtained from this study may be used in any way thought best for publication or education provided that I am in no way identified and my name is not used. I understand that all of the collected data is going towards research on the educational benefits of Self-Regulated Learning.

If you have any questions about this study, please contact Dr. Carol Thompson at 856-256-4500 extension 3030. If you have questions about your rights as a research participant, please contact the **Rowan University SOM IRB Office** at (856) 566-2712 or Rowan University Glassboro/CMSRU IRB at 856-256-4078.

YOU WILL BE GIVEN A COPY OF THIS FORM WHETHER OR NOT YOU AGREE TO PARTICIPATE.

I have read the procedure described above. I voluntarily agree to participate in the procedure and **I have received a copy of this description.**

Name (Printed) _____

Signature: _____

Date: _____

Principal Investigator: _____ Date: _____

Please return the form to me no later than Wednesday, April 6, 2016.

Parent Consent Form

Department of Educational Services and Leadership

Dear Parents/Guardians:

I am currently a doctoral student in the Educational Leadership Department at Rowan University, and this experience is the last step before receiving my doctoral degree. In order to fulfill the requirements of my doctoral program I have to write a dissertation by implementing a research project within a school system. I will be conducting a research project under the supervision of the Principal Investigator and my advisor, Dr. Carol Thompson. This study will take place at Warren E. Sooy, Jr. Elementary School.

The purpose of this research study is to observe student behaviors relating to self-regulation. I am requesting permission for your child to participate in this research. I selected your child because he or she is a student in the prekindergarten program.

The goal for this study is to analyze how Creative Curriculum fosters student self-regulation. We are asking the students to participate because during center time, each child in the study will be observed and videotaped as he or she participates in play. We are also asking for your permission to allow us to audio/videotape part of the research as he or she participates in play during center time. The recording(s) will be used for analysis by the research team. The study will not alter daily activities—students will be participating in the planned lessons that have been established by your child's teacher and the Creative Curriculum model. I will not be interacting with your child or asking interview questions. Students not participating in the study will play in centers; however, will not be videotaped.

The study will be over the span of two months for a period of ten randomly selected days. I will be observing select students for approximately two hours per class, equating to a total of forty hours of audio- and videotape recorded observation data. There is no cost for participating in this study. Fifty four- and five- year- old students will be observed during April and May, 2016.

The study contains minimal risk to your child because it does not involve any strenuous or dangerous activities: neither physical, mental, nor emotional. There is a reasonable possibility of the breach of confidentiality in a research study, but the Investigators will retain the videotapes at the conclusion of the study. To preserve each child's

confidentiality, students will be assigned pseudonyms and will not be identifiable. The videotapes may be viewed by your child's teacher only. All data will be reported in terms of group results; individual results will not be reported.

There is no direct benefit; however, I am hoping the results of this study will improve academic achievement and the overall learning environment of our prekindergarten program.

Your decision to allow your child to participate in this research is voluntary. Your decision whether or not to allow your child to participate in this study will have absolutely no effect on your child's standing in his/her class. You have the option to leave the study at any time. If you no longer wish your child to be in the study, please contact me at 609-567-7070 extension 100.

If you do not give consent for participation, your child will still receive the daily planned instruction in accordance with Creative Curriculum. There are no other alternatives. At the conclusion of the study a summary of the group results will be made available to all interested parents. If you have any questions or concerns, please contact me at 609-567-7070 extension 100, or you may contact my advisor, Dr. Carol Thompson at 856-256-4500 extension 3030.

If at any time during the study, either after agreement to participate or during the enrollment phase, you have any questions or concerns regarding your rights as a research subject, please contact the Rowan University Glassboro/CMSRU IRB, Office of Research Compliance at (856) 256-4078.

Thank you.

Sincerely,

Leonard Long, Assistant Principal
Warren E. Sooy, Jr. Elementary

AGREEMENT TO PARTICIPATE

Parent/Legal Guardian Consent

The purpose and procedures for this Study have been provided to you in writing. If you have any questions about this study, then you should contact the Co-Investigator and discuss the study. By signing below, you indicate that your questions have been addressed either via the consent letter or through a discussion with the investigators.

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As a Parent/Legal Guardian, I freely give my consent to have
_____ *(Minor)* **take part in this Study and authorize that his/her information as described above, be collected/disclosed in this Study.** I understand that by signing this form I am agreeing for the Minor named above to take part in research. I understand that I have a right to make a copy or receive a copy of this form upon request.

_____   _____
Signature of Parent/Legal Guardian   Date

_____
Printed Name of Parent/Legal Guardian

Please return this "Agreement to Participate" form to Mr. Long in the main office no later than Monday, April 11, 2016. If you do not wish for your child to participate in this study, you do not have to return the form.

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the purposes and procedures of this Study including all of the information contained in this consent form when a parent/legal guardian has requested information. All questions of the Minor and those of his/her Parent/Legal Guardian have been accurately answered, and I have received a signed Parental/Legal Guardian Consent, indicating the Parent/Legal Guardian has the contact information of the investigator's and read through the letter detailing the Minor's involvement and permission to be a participant in the study.

Investigator/Person Obtaining Consent:_____

_____

Signature:_____ Date:_____

_____

To the best of my ability, I have provided information about the use of audio/video in the conduct of research, including how it relates to the main purpose of the research study, and I have provided contact information of the Investigators for the Parent/Legal Guardian to contact for additional information.

Check the box here if audio/video taping will occur and information was provided to the Parent/Legal Guardian - ☐