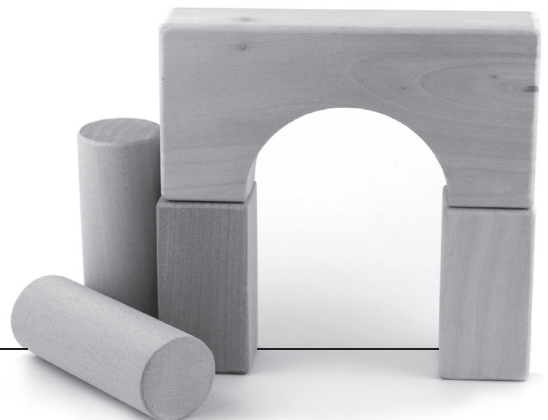




Research Foundation: *The Creative Curriculum*®



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At the heart of *The Creative Curriculum* is knowledge of child development theory and careful consideration of the latest research in the field of early childhood education. Used to inform and shape the *The Creative Curriculum* and the guidance offered to teachers, the research base ensures that teachers know not only what and how to teach children but *why* particular practices are effective. By understanding the theory and research behind how children's knowledge, skills, and behaviors progress over time, teachers are better able to support children's development and learning. *The Creative Curriculum* highlights the important balance between applying a general knowledge of child development with the particular knowledge a teacher gains by forming a relationship with each child and family.

Until the 20th century, little scientific attention was given to studying how children develop and learn. In the past 75 years, however, research has provided a wealth of information about childhood as a separate and distinct stage of life with its own characteristics. That research informs developmental and learning expectations for young children in early childhood education programs (Berk, 2009).

Early childhood professionals make decisions about the education of children based upon three types of information (Copple & Bredekamp, 2009):

- child development and how children learn
- the individual strengths, needs, and interests of each child
- each child's family and community cultures



The Creative Curriculum for Preschool is based on five fundamental principles. They guide practice and help us understand the reasons for intentionally setting up and operating preschool programs in particular ways. These are the principles:

- Positive interactions and relationships with adults provide a critical foundation for successful learning.
- Social–emotional competence is a significant factor in school success.
- Constructive, purposeful play supports essential learning.
- The physical environment affects the type and quality of learning interactions.
- Teacher–family partnerships promote development and learning.

This paper summarizes the major theories and research that helped Teaching Strategies identify these principles; each of these influences our understanding of child development and learning and informs our recommendations to teachers.

Teacher–Child Interactions and Relationships

American educator, philosopher, psychologist, and theorist John Dewey explored education as a social process (Dewey, 1897). He thought that children learn best when they interact in a rich environment with other people (Mooney, 2000; Rushton & Larkin, 2001). Through the responses they receive from others, children attach value and social meanings to their activities. Dewey urged that the classroom be organized as a community in which children learn in collaboration with each other and their teachers.

Russian psychologist Lev Vygotsky also explored social interaction and concluded that it is crucial to children’s learning (Vygotsky, 1978). He found that children need to talk about problems in order to solve them and talk about concepts in order to understand and apply them. In his theory, thought and language are intertwined. Vygotsky used the term *zone of proximal development* (ZPD) to describe the range of a child’s learning about a particular experience. The lower limit of the zone represents what a child can do independently; the upper limit is what a child can do with the help of others who have more advanced skills.

The process of helping a child build knowledge and understanding is called *scaffolding*. Just as a scaffold helps a builder reach a high roof, *scaffolding* helps a child perform skills at a higher level than he or she could by working independently. Teachers’ verbal directions, physical assistance, and probing questioning help children figure out how to approach learning tasks, improve skills, and acquire knowledge. As a child discusses a problem or task with an adult, the

adult supplies language to assist the child. The child gradually internalizes the language, and more mature thinking develops. Vygotsky taught that teachers need to be expert observers of children, understand their level of learning, and find ways to extend their learning.

Newer research also shows the importance of teacher–child relationships (Rudasill & Rimm-Kaufman, 2009). Children’s ability to form positive relationships with adults is important to their social development and academic success (Bronson, 2006; Howes, 2000; Paleromo, Hanish, Martin, Fabes & Reiser, 2007; Pianta, 1999). We now know that relationships do not just provide a context for learning; they actually affect the physical structure of the brain (Shore, 1997). Nurturing and positive interactions release chemicals that promote brain development. The quality of these relationships predict children’s social–emotional competence, persistence, enthusiasm for learning, and academic success (Clifford, Barbarin, Chang, Early, Bryant & Howes, et al. 2005; Hamre & Pianta, 2001; Howes, 2000; Pianta, Howes, Burchinal, Bryant, Clifford & Early, et al., 2005). High-quality social interactions benefit all children, regardless of family or economic background, and they are associated with the positive development of literacy and other academic skills (Mashburn, 2008). Warm, supportive relationships encourage children’s motivation, engagement, self-direction, cooperation, and positive attitudes toward school (Birch & Ladd, 1997; Howes, Burchinal, Pianta, Bryant, Early & Clifford, et al., 2008; Pianta & Steinberg, 1992).

Supportive relationships with teachers and other adults can also help children overcome the challenges of living in circumstances that put them at risk developmentally and the effects of early negative relationships. (Masten, Best & Garmezy, 1990; Howes, 2000). Since the 1970s, research on resilience has focused on children who develop well despite hardships. Perhaps the most significant result of this work has been to challenge the assumption that children who grow up under the threat of disadvantage and hardship are doomed to a life of problems. Research has shown that children can develop the strengths and skills necessary to deal positively with adversity (Paleromo, Hanish, Martin, Fabes & Reiser, 2007). This research has also begun to provide information about the kind of help that these children need to thrive. Not surprisingly, the research notes the importance of teachers.

Relationships with primary caregivers and teachers also affect children’s relationships with their peers (Howes, Hamilton & Matheson, 1994; Katz, Kramer & Gottman, 1992). Close teacher–child relationships seem to encourage the development of children’s prosocial skills (Paleromo, et al., 2007). Children who have secure attachment relationships with primary caregivers and teachers have an easier time interacting with peers, forming positive relationships, and being a part of a group.

Social–Emotional Competence

Well-known psychologist Erik Erikson explored the cultural and social aspects of development that influence a person’s actions and interactions throughout life (Erikson, 1950; Erikson, 1994; Hamre & Pianta, 2001). Erikson’s psychosocial theory, called the “Eight Ages of Man,” begins at birth and continues through old age. Each stage builds on the resolution of conflict during earlier stages. During the first six years, children are challenged by the conflicts of *trust vs. mistrust* (infancy), *autonomy vs. shame and doubt* (ages 1–3), and *initiative vs. guilt* (ages 3–6). Erikson described what adults need to provide at each stage in order to help children confront challenges.

Trust develops when a child’s experiences show that the world is safe, reliable, and responsive to his or her needs. Infants who receive consistent and loving care learn to trust. Mistrust develops when infants cry and get inconsistent responses, are not always fed when they are hungry, and are not comforted when they are hurt. *Autonomy*, or independence, is acting with will and control. It involves a sense of one’s power that is built on the foundation of trust described in Erikson’s first stage of development. Children develop autonomy when adults give them a chance to do things on their own. When adults make excessive demands or criticize in ways that devalue children’s efforts, children learn to doubt their abilities. Developing *initiative* means responding positively to challenges, taking on responsibilities, enjoying accomplishments, and becoming purposeful. In this stage, children direct their energy toward tasks and begin to develop a sense of future possibilities. Children with initiative are eager to try new materials and ideas. Guilt can set in when adults belittle children and their work.

Newer research has established compelling links between social–emotional development, behavior, and school success (Raver, 2002; Zins, Bloodworth, Weissberg & Walberg, 2004). Emotional understanding is critical to positive social relationships and peer acceptance (Denham, von Salisch, Olthof, Kochanoff & Caverly, 2002; Eisenberg, Fabes, Shepard, Murphy, Guthrie & Jones, 1997; Hubbard & Coie, 1994; Hyson, 2003). Children who can interpret emotional signals accurately are more likely to respond appropriately to others and are less likely to become angry and aggressive (Webster-Stratton & Herbert, 1994). The more adults acknowledge children’s emotional reactions and explain emotional signals, the better children become at interpreting them (Berk, 2006; Denham & Kochanoff, 2002).

Kindergarten teachers rank self-regulation—the ability to control one’s emotions and behavior and to resist impulses—as the characteristic most necessary for school readiness. They indicate that more than half of their children lack effective self-regulatory skills (Rimm-Kaufman & Pianta, 2000). Children who regulate their emotions positively do better in

school and have an easier time getting along with peers (Bronson, 2000; Ponitz, McClelland, Jewkes, Conner, Farris & Morrison, 2008). Children tend to develop stronger self-regulation skills when they are in adult-supported, rather than adult-directed, play situations. Supporting, rather than directing, their behavior gives children the best chance to develop their own regulatory skills (Berk, Mann & Ogan, 2006).

Social competence—the ability to build positive relationships with others—affects school adjustment and academic success (Ladd, Birch & Buhs, 1999; Riley, San Juan, Klinkner & Ramminger, 2008; National Research Council and Institute of Medicine, 2000; Wentzel & Asher, 1995). Some children’s interactions put them at risk for developing negative relationships with peers and psychological difficulties (Buhs, Ladd & Herald, 2006; Ladd, 2006). Once children develop negative reputations, they are likely to be rejected by their peers unless adults intervene (Black & Hazen, 1990; Kaiser & Raminsky, 2003). Teachers play a key role in helping children develop positive peer relationships. Creative learning activities, such as dramatic play, block play, and open-ended art activities, provide opportunities for children to build positive relationships with peers (Wishard, Shivers, Howes & Ritchie, 2003).

Research also shows that early prosocial behaviors, such as cooperating, consoling, helping, and sharing, predict later academic achievement (Caprara, Barbaranelli, Pastorelli, Bandura & Zimbardo, 2000). Children are more likely to use prosocial behaviors when their teachers use positive guidance strategies and a curriculum that emphasizes the value of community (DeVries, Haney & Zan, 1991; Schmidt, Burts, Durham, Charlesworth & Hart, 2007).

Constructive, Purposeful Play

Jean Piaget, a Swiss psychologist and developmental theorist, recognized the importance of play and its role in the development of logical thinking (Piaget, 1972). According to Piaget, play serves many purposes and provides an excellent vehicle for learning. By handling many different materials, children learn to observe, compare, sort, and sequence. Their knowledge grows as they experiment, make discoveries, and modify their current thinking to incorporate new insights. A recent study supports Piaget’s theory that play is linked to learning. When 4-year-olds were provided opportunities to engage in high amounts of child-initiated, free-choice activities supported by a variety of equipment and materials to explore, the study showed that at age 7 those children outperformed their peers who did not have such opportunities on cognitive and language tasks (Montie, Xiang & Schweinhart, 2006).

Lev Vygotsky examined the social aspects of children's play and theorized that children think in complex ways (Shore, 1997). As children play, they make rules, use symbols, and create narratives. Vygotsky thought that adults and more knowledgeable peers enhance a child's ability to learn through play because they model and encourage more advanced skills. He found that children talk to each other during social play about what they want to do and how they are going to play. He thought that such talk enhances self-regulation.

Newer research supports Vygotsky's theories. Complex sociodramatic play is linked to the development of self-regulatory competence and may be particularly beneficial for children who are impulsive or less advanced in self-regulatory development (Elias & Berk, 2002). Private speech, or self-talk, is an important part of developing self-regulation skills. Kraftt and Berk found that the private speech of 3- to 5-year-olds was more likely to occur during open-ended activities, especially dramatic play, than in closed-ended tasks with predetermined goals (Kraftt & Berk, 1998). Smilansky and Shefatya found that children who engaged in high levels of sociodramatic play in preschool performed better in later school years than peers whose preschool play was less mature (Kim, 1999).

Researchers have found that, in addition to being linked to self-regulation skills, constructive, purposeful play is associated with other positive outcomes (Bergen, 2002). Play can support memory development. As children act out real-life scenarios, they use information they remember to make meaningful connections. Children's play with toys can aid their effective use of recall strategies as they organize the toys into meaningful groups based on their play (Newman, 1990). Playing with story-related dolls during children's enactment of stories was found to aid narrative development and narrative recall (Kim, 1999).

Play also is associated with children's positive social skills and approaches to learning. Researchers Fantuzzo and McWayne found that the peer-play competence of preschoolers was associated with their motivation to learn, task persistence, autonomy, and prosocial behavior (Fantuzzo & McWayne, 2002). Literacy-enriched sociodramatic play centers encourage children to help each other and effectively support collaborative literacy learning (Stone & Christie, 1996).

Play also provides the context for foundational learning in content areas (Fantuzzo & McWayne, 2002; Steglin, 2005). Through play, children explore mathematical ideas and construct literacy understandings. They develop understandings about science and technology concepts and learn fundamental process and inquiry skills. Play is also an important avenue for learning in social studies and the arts.

Important characteristics of sociodramatic play, such as varied vocabulary, extended discourse, and explanatory talk, facilitate children's language and literacy development (Dickinson & Tabors, 2001). Play is linked to oral language development (Davidson, 1998), learning decontextualized language (Howes & Matheson, 1992; O'Reilly & Bornstein, 1993; Sigel, 2000), and symbolic thinking (Charlesworth, 2008; Kim, 1999). Playing with words, or word play, supports children's phonological awareness (Fernandez-Fein & Baker, 1997). Dramatic play contributes to children's development of abstract thinking, imagination, and language skills, and it supports their school adjustment (Fantuzzo & McWayne, 2002; Levy, Wolfgang & Koorland, 1992). When adults enter children's play thoughtfully, they can scaffold children's learning and promote more advanced levels of cognition and language (Gmitrova & Gmitrova, 2003).

Infants and children from all socioeconomic backgrounds and cultures play (Trawick-Smith, 2006). Culture and family background, previous experiences, and the presence of a disability are factors that influence what children play, how they play, and with whom they play (Berk, 2009; Charlesworth, 2008). Children are more comfortable with what is familiar, and they may be hesitant to participate in play if nothing in the classroom resembles their home environment (Heisner, 2005; Levy, Wolfgang & Koorland, 1992; Trawick-Smith, 1998).

In addition to being linked to self-regulation skills, studies have found that purposeful and productive play is positively related to

- memory development (Levy, Wolfgang & Koorland, 1992)
 - symbolic thinking (Davidson, 1998; Kim, 1999)
 - positive approaches to learning (Levy, Wolfgang & Koorland, 1992)
 - positive social skills (Corsaro, 1988; Levy, Wolfgang & Koorland, 1992)
 - language and literacy skills (Berk, 2009; Kim, 1999; Levy, Wolfgang & Koorland, 1992)
 - math skills (Berk, 2009; Kim, 1999; Levy, Wolfgang & Koorland, 1992)
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Interacting With the Environment

Both Dewey and Piaget explored how the physical environment, including materials, affects children's learning. Dewey proposed that children learn best in a stimulating environment that is designed according to the interests and experiences of the children in the classroom (Clifford, Barbarin, Chang, Early, Bryant & Howes, et al., 2005; Hamre & Pianta, 2001). Teachers must observe carefully in order to plan engaging educational experiences that help children develop new skills and learn more about the world.

Piaget theorized that children construct knowledge through action (Davidson, 1998; Hamre & Pianta, 2001). He thought that children's curiosity about the world around them drives their learning. As described by Piaget, learning is a dynamic process with a number of stages. In the *sensorimotor* stage, which begins at birth and lasts until about age 2, babies learn through simple motor behaviors and by reacting to what they experience through their senses. At about age 2, children enter what Piaget called the *preoperational* period. During this stage, which lasts throughout the preschool years, children begin to notice the properties of the objects they explore. However, their observations are limited to only one attribute of an object at a time.

Piaget explained that children must engage in tasks actively in order to develop and learn. Children seek and process new information on the basis of what they already know (assimilation). They also modify their thinking in order to make sense of new information and experiences (accommodation) (Kraftt & Berk, 1998). By handling materials of different sizes, shapes, and colors, children eventually learn to sort, classify, compare, and sequence. Their knowledge grows as they experiment, make discoveries, and modify their earlier way of thinking to incorporate new insights.

While more recent research shows that child development is more fluid and more tied to specific content knowledge than Piaget's stages suggest, it confirms that learning takes place through positive interactions between and among children and adults as children interact in their physical environments. The layout of the physical environment helps children know what is important, what they are to do, and how they might do it. It can support or undermine children's attention and persistence. It can contribute to children's self-regulation when it is arranged so that children can function independently as they select activities and obtain and put away materials (Mooney, 2000). High-quality physical environments may be especially important for children who experience social and economic risks and may serve as a protective factor for these children (Mashburn, 2008).

Over the past 20 years, scientists have studied the neurological aspects of how children learn. These studies confirm that early experiences affect brain development. Nurturing, stable relationships and linguistically and cognitively rich environments contribute positively to healthy brain development and learning (Black & Hazen, 1990).

Partnerships With Families

Dewey wrote about how the values and cultures of children's families and communities extend into life at school (Clifford, et al., 2005; Hamre & Pianta, 2001). To ensure continuity and give meaning to what is learned at school, teachers must become very familiar with children's everyday lives. Dewey thought that children's home lives must be considered when teachers plan their curriculum.

Developmental psychologist and theorist Urie Bronfenbrenner argued that children develop within a variety of interconnected systems (Bronfenbrenner, 1979; Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006). These systems are dynamic and interactive, and each system has a powerful impact on a child's development. Important learning settings for a preschool child include the home, neighborhood, and early education program. Bronfenbrenner thought that the developmental potential of each setting is enhanced when there are supportive links and open communication among the people in those settings. Dewey's and Bronfenbrenner's research lends support for frequent family involvement and communication between families and teachers.

Positive teacher–family relationships are reciprocal and characterized by mutual respect and the exchange of ideas (Copple & Bredekamp, 2009). Reciprocal relationships are crucial in helping families support their children's enthusiasm for and engagement in learning (Mooney, 2000). A positive relationship is particularly important when a family's home culture and socioeconomic background differ from that of the teacher (Ray, Bowman & Brownell, 2006).

Family participation involves both formal and informal connections between families and their children's educational programs. Families are not likely to be open to parent education or other involvement unless teachers establish positive relationships and engage families in supportive and culturally responsive conversations (Mooney, 2000; Kelly & Barnard, 1999).

Theory and four decades of research underscore the importance of a strong partnership between each family and the early childhood program. Numerous studies document the academic benefits to children of a family–school–teacher partnership. When families are involved, children do better. These findings hold true regardless of the educational

background or income level of the parents (Henderson & Berla, 1994). Indeed, a successful home–educational program relationship can even overcome the negative effects of poverty. Moreover, these benefits are sustained over time (Weiss, Caspe & Lopez, 2006).

Family–school bonds can enhance children’s problem-solving skills and social competency, and reduce aggression at home and at the educational program (Ou, 2005). Strong family–school connections can be formed through family participation in preschool-based activities and regular communication between families and teachers. Participation might include attending family–teacher conferences, extended class visits, and helping with class activities. Such participation has been positively linked to child language, self-help, social, motor, adaptive, and basic school skills (Marcon, 1999). The frequency of parent–teacher contact has also been found to have a positive effect on children’s preschool performance (Izzo, Weissberg, Kaspro, & Fenrich, 1999).

Family engagement in a child’s early educational experience is important because it increases the parents’ knowledge of their child’s program and can demonstrate to the child the value they place on schooling (Mooney, 2000). Not only can strong family–school connections promote positive child gains during the preschool years, but research shows that the benefits extend well into the future (Barnard, 2004; Clements, Reynolds & Hickey, 2004; Graue, Clements, Reynolds, & Niles, 2004; Mantzicopoulos, 2005; Miedel & Reynolds, 1999).

Research also underscores the need to reach out to fathers and other extended family members (McBride, Dyer, & Rane, 2008). Participation by fathers is linked with both school readiness and children’s emotional self-regulation (Dower & Mendez, 2005).

Conclusion

The field of early childhood education has made great strides in identifying the building blocks of later school success. *The Creative Curriculum* uses these building blocks as the foundation for its philosophy, the objectives for children’s learning, and guidelines for teaching and working with families. *The Creative Curriculum* helps teachers interact with children in ways that promote development and learning, foster children’s social competence, support children’s learning through play, create rich environments for learning, and forge strong home-school connections. By meaningfully translating research into practice, *The Creative Curriculum* gives educators the tools they need to help all the children in their classrooms succeed in school and in life.

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