An Occupation-Centered Discussion of Development and Implications for Practice

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Children's learning to do everyday activities seems so obvious that the mechanisms bringing about the development of occupations remain essentially unstudied. Therefore, occupational therapy uses developmental models from other disciplines as foundation for practice. We specialists in childhood occupations need a theory-based and empirically tested body of knowledge about the processes leading to change to inform practice and guide interventions during efficacy studies. One body of knowledge about developmental mechanisms views change as originating from within the child and informs practice centered on changing the child. Given the inseparable nature of children and their social environments and daily activities, we introduce the philosophy of contextualism and outline a potential body of knowledge about a change process that is occupation centered. An intervention arising from a contextual perspective illustrates how this way of thinking leads to occupation-centered practice that uses multiple strategies and supports a child's occupation with social participation with peers.


As experts in childhood occupations, and to address the needs of children with developmental challenges in an evidence-based manner, occupational therapists' knowledge base needs to undergo critical review regarding the assumptions about mechanisms of development. The purpose of this article is to first examine alternative ways of thinking about developmental processes and to then demonstrate how a child-development perspective, imported from other disciplines, focuses on changing the individual, and dominates our literature. The issue is to explore a way of thinking about a change process that helps us understand what brings about transformations in childhood occupations and establish occupation-centered interventions leading to children's participation in family life, educational settings, and community activities. The discussion considers a contextual view of the development of occupation, using as an example literature on how children play with blocks. A case study offers application of a contextual perspective of playing with blocks to an intervention that supports one child's ability to participate in this activity with his peers and leads to further changes in his occupation.

Multiple Perspectives of Development

Pepper (1942) proposed that different explanations about how things work reflect alternative worldviews. He used metaphors, such as machines and organisms, to describe the characteristics of these alternative ways of thinking and described differences in the knowledge created from each perspective. Lerner (2002), in a review of developmental theories, used a similar framework to differentiate among competing points of view about developmental processes. Furthermore, Super and Harkness (2003) found that alternative explanations offered by parents and service providers for children's behaviors reflected these philosophically different ways of thinking. This finding suggests that although one perspective or another may be common among a group, people sharing that view may not even be aware of why they endorse a particular way of thinking about child development.
In evaluating what is known about development of occupation, we begin by looking at two of these ways of thinking: organismic and contextual. A third perspective, mechanistic, found among behavioral psychologists (Lerner, 2002), is not discussed because, with a few exceptions (e.g., Royeen & Duncan, 1999; Watling & Schwarz, 2004), it does not appear in the occupational therapy literature about children.

Organismic

For an organismic worldview, the metaphor is an organism, a living system made up of functional subsystems (Pepper, 1942). Change occurs as the system encounters new input that originates from interacting with the environment. The system integrates the input with existing structures and, through a self-organizing process, the system becomes more complex. Lerner (2002) noted that several influential theories—such as Piagetian, neo-Piagetian, and dynamic systems—originated from this worldview. These theories focus on the individual child who draws on experiences with people and things to acquire new skills, accentuating development of functional systems within the person. The individualism emphasized by the North American culture may explain why developmental theories based on this worldview dominate Anglo-American literature on development of children (Super & Harkness, 2003; van der Veer, 2001).

Ideas reflecting the perspective of classic developmental theories from psychology are presented as a possible foundation for occupational therapy (e.g., Edwards & Christiansen, 2005; Law, Missiuna, Pollock, & Stewart, 2005), and a child-centered way of thinking is incorporated into the professional literature. A couple of examples are presented to inform readers about how this way of thinking of development is embedded in discussions about childhood. We begin with a view that focuses on interaction of the child with the environment, dichotomizing internal and external forces. The second perspective, also arising from organismic philosophy, uses a dynamic systems approach, which retains a focus on the child but depicts the child and environment relationship as transactional.

Interactionism. Davis and Polatajko (2004) proposed that occupational therapy practitioners adopt an interactionist perspective to understand occupational development. Consistent with other discussions of development (e.g., Hinojosa & Kramer, 1999), they acknowledge the contributions of both abilities and characteristics of the individual and the surrounding physical and social environment in bringing about change. The term interaction can be problematic, however. Although the term explains how internal and external variables relate, with alternative influences one set of variables inevitably is given more emphasis or explanatory importance than the other (Lerner, 2002). Davis and Polatajko appear to favor, perhaps unintentionally, internal mechanisms as the source of change in occupations when they write, “Changes in physical, psychosocial, and cognitive readiness and interest lead to occupational changes” (p. 97). In writing about behavioral change brought about by internal functions, phrases such as “readiness,” “lead to,” or “foundation for function” (Case-Smith, 2005; Hinojosa & Kramer, 1999) suggest that internal changes precede shifts in occupational performance.

Dynamic systems. Case-Smith (2005), Humphry (2002), and Kielhofner (2002) use a dynamic systems perspective and offer an alternative, child-focused perspective of what influences development of occupation. Rather than view changes in capacities as a prerequisite for new occupational performance, Humphry proposes simultaneous, reciprocal influences between occupational engagement and internal child factors. Furthermore, recognizing the importance of context, the inner and outer dichotomy is conceptualized as transactional and continuous so that the child’s occupational performance emerges in a situation-specific manner. Experiences in occupation and influence of others’ modeling, performance expectations, and assistance with difficult elements of an activity are given equal importance as intrinsic changes. A dynamic systems perspective still draws on an organismic philosophy (Lerner, 2002), where the concept of a self-organization process suggests the intentionality of the individual as the source of developmental changes. This way of thinking has contributed to top-down practice such as a cognitive approach to support the child in solving performance difficulties encountered in desired activities (Missiuna, Mallow-Miller, & Mandich, 1998; Polatajko, et al., 2001). However, although surrounding factors such as peers, parenting practices, or the socioeconomic status of the family are recognized (e.g., Case-Smith, 2005; Luebben, Hinojosa, & Kramer, 1999), the influences of these variables on development of an occupation remain relatively unexamined.

Contextual

The discussion turns to an alternative way of thinking and what constitutes our knowledge base about mechanisms that bring about changes in an occupation. With the view of how the world works reflected in contextualism, a body of knowledge about development of an everyday activity is similar to information that enables us to understand a historic event, which is the metaphor used to describe this philosophy (Pepper, 1942). As one comes to understand an event, there is an initial “gestalt,” or experience of the whole, as it stretches back in time and goes forward into the future. On closer examination, one appreciates a set of
circumstances or elements that led up to and even defines the event. Depending on the focus, an element might be the background to other elements or the center of study. Elements, however, are part of a particular situation; and although they can be identified, they cannot really be understood or studied out of context of the event. In this worldview, individuals are inseparable from the society in which they are members, as well as their current circumstances. Sociocultural psychologists (e.g., Engeström, Miettinen, & Punamäki, 1999; Rogoff, 2003; Wertsch, 1998) use this perspective to examine societal influences, cultural practices, and activities to understand how people function (Lerner, 2002). Lawlor (2003) draws on this work in her study of the social nature of engagement and encourages others to explore this way of thinking.

In the following discussion, we propose that a contextual way of thinking about development of a childhood occupation requires an appreciation that, in addition to the child’s engagement, there are societal and social elements leading up to and running through children’s involvement in activities. As the reader will discover, shifting from an organismic, child-centered view to a contextual, occupation-centered perspective of development reframes the issue from understanding the development of children to one of trying to understand the ways children take on the societal knowledge of how to use objects and carry out daily activities—those they either want to do or carry out because of others’ expectations.

Development of an Occupation

In illustrating what constitutes a body of knowledge about development of an occupation from a contextual perspective, we examine literature regarding a particular form of play, making things with blocks. We start by describing the sequence of different structures that children create. Subsequent discussion centers on what is known and unknown regarding the mechanisms that contribute to this development. Changes are thought to originate from multiple synergistic forces that are conceptually presented as (a) the work of communities and caregiving practices that create occupational opportunities, (b) the social influences and interpersonal transactions surrounding activities, and (c) a self-organizing process that underlies engagement in occupation. Together these inseparable forces are thought to bring about development of occupations (Humphry, 2005). In this perspective the individual, as a self-organized system, is an element in transaction with other parts of the overall process. The discussion considers how well existing literature explains what fosters development of block play and identifies information (or the lack of it) of particular concern for occupation-centered services.

To identify the body of knowledge about development of block play, the first author used a database, PsycINFO, to carry out the initial literature search, limiting it to studies that involved preschoolers and were published in the last decade. These criteria generated only a few resources so that the search was not limited by the year of publication. Reference lists from articles and chapters broadened the resources, identifying some classic work from the first half of the 20th century. The literature on block play represents the scholarship of two other disciplines, developmental psychology and early childhood education.

In general, and consistent with an organismic way of thinking, developmental psychologists examine children’s play as windows into their mental, perceptual, and social development (Pellegrini & Bjorklund, 1998) and infer that observed behavioral differences reflect development of new psychological functions. The progression—from sensorimotor, functional object, constructive, and pretend or dramatic play—reflects a psychological interpretation. Transitions in cognitive capacities and greater abstract thought distinguish these different forms of play. Thus, constructive activities from a psychology perspective form an intermediate step between functional object use and pretend play (Christie & Johnsen, 1987).

Early childhood educators, noting the relationship between play and development of cognitive, language, social, and emotional functions, value play as a means of supporting development of the capacities needed to be successful in school (Johnson, Christie, & Yawkey, 1999). The literature categorizes play by the intrinsic capacities the activities are thought to enhance, such as gross motor, manipulative, and creative. Many studies (e.g., Kontos, Burchinal, Howes, Wisseh, & Galinsky, 2002; Tonyan & Howes, 2003) use a classification scheme in which building with wood blocks is classified as creative, while constructing things with interlocking bricks is categorized as manipulative. Therefore, information about playing with wooden blocks is merged with observations of other preschool activities such as making things in the art center and pretend play. The discussion here includes concepts and findings from studies that pooled information across different forms of activity when relevant to our overall understanding of development of block play.

Literature on Block Play

What is made. Conrad (1995) found that only 15% of the literature on block play addressed observable, age-related changes in building. Books on blocks primarily focus on how children build with unit blocks (Hirsch, 1984;
Provenzo & Brett, 1983; Wellhousen & Kieff, 2001). Unit blocks are made of wood, with set proportions so the main unit is a certain size; other blocks in the set are then half, double, or quadruple this size. Johnson (1933/1984), Guanella (1934), and Forman (1982) report an early phase of building is stacking blocks in a tower and, a little later, aligning blocks in a row. In the next phase, children build a wall or set rows beside each other to make a floor. A third phase appears as children create spaces (e.g., windows) and build bridges or arches. After connecting walls in the final phase, children make things with internal spaces. The enclosures then might be covered or additional pieces may be used to decorate the structure or represent a feature of the thing being built. Older children use more blocks and combine them in more ways than younger ones (Stiles-Davis, 1988), and school-age children create more real-life replicas of things (Reifel & Greenfield, 1982).

The literature summarized here offers a sequence of change in what children build that occupational therapists could use in a general developmental approach (Hinojosa & Kramer, 1999). Development, however, is not as linear or invariant as the preceding description makes it appear. The emergent and situated nature of occupational performance is illustrated by the fact that size, shape, or visual characteristics of blocks influence what children do and when some forms of block play appear (Guanella, 1934; Nicolopoulou, 1991). Although there is a linear relationship between structural complexity and age (Gregory, Kim, & Whiren, 2003; Guanella, 1934; Reifel & Greenfield, 1982), these sources of variability could explain why age is not typically associated with the different phases of building.

A limitation to this work on the developmental sequence is that why children's constructions change is not clear. Typical of an organismic approach, change was seen as a product of repetition and practice (Zervigon-Hakes, 1984), as if individual children direct their own learning. By adopting a contextual approach to development of occupation, we expand the domain of concern to see development of everyday activities as embedded in and inseparable from societal effort to offer occupational opportunities and social processes that are part of participation in everyday activities.

Niches created to foster block play. Hirsch (1984) and Provenzo and Brett (1983) describe how European and Anglo societies have made blocks for children for more than three centuries. Play, however, was something that filled children's time and kept them occupied until they were old enough for more worthwhile endeavors (Davis, Polatajko, & Ruud, 2002). In the middle of the 19th century, effort turned to preparing young children for formal education, and block play took on new importance (Wellhousen & Kieff, 2001). The majority of the comments in the literature about blocks relate to setting up classroom space and meeting curriculum goals with blocks (Conrad, 1995). Adams and Nesmith (1996) report that 82% of the teachers responding to their survey saw blocks play as an important part of their curriculum. The teachers believed that the activity encouraged creativity, self-concept, fine motor skills, and social interaction. Teachers reported that they capitalized on children's interests in building with blocks by embedding literacy or math activities in the block area (Adams & Nesmith, 1996; Stroud, 1995). The literature reflects a tradition of encouraging children to play with blocks, and offers insight into what functions parents and educators believe this form of play serves. The anecdotal literature (testimony from experienced teachers) illustrates how people invest importance in a childhood activity and pass along practices that become the norm in a sociocultural group.

Interpersonal processes leading to development. Despite endorsing blocks as important toys for children, the educational literature does not examine how preschoolers learn to combine blocks to make something or what changes the structures that they produce. If left alone with blocks, does a child learn to stack, align, and then build a house? In light of the socially embedded nature of childhood, Humphry (2002) suggested that observation and imitation are important elements in the acquisition of an occupation. Children's interest in being socially occupied and negotiating their place in a group leads to a variety of interpersonal connections during activities (Broadhead, 2001; Hakkarainen, 1999; Lawlor, 2003), and the hierarchy of children's social interactions [progressing from unoccupied onlooker, solitary, parallel, associative, and cooperative peer interaction (Coplan & Rubin, 1998)] does not capture the dynamics of preschool children's interactions during activities and overly simplifies social participation. Preschool children primarily engage in parallel, socially aware activities (Broadhead, 2001), alternating between doing things beside one another, being an engaged onlooker, and joining in bouts of social cooperative play (Robinson, Anderson, Porter, Hart, & Wouden-Miller, 2003). Watching, imitating, and playing near each other give children important opportunities to learn about an activity, practicing elements of an activity before negotiating interpersonal processes in shared play.

Few studies examine interactions among children during block play. Observations reported by Reifel and Yeatman (1991) captured the subtle, indirect influence among children in changing the form of play. In their observation, two preschool boys appeared in parallel, noninteractive play as they made their own structures and
talked only to the teacher. However, incidental comments by other children, aimed at the teacher, led one boy to alter his building theme. Peer influence on block building became more direct when two other boys joined one of the original boys and together created new play scenarios. The original pigeon became a birdcage and then a moneybox as the theme of their play changed. In essence, children use expressive communications and actions to create a shared occupation, coconstructing different forms of pretend play where building block structures support their play (Broadhead, 2001; Ross & Rogers, 1990). In playing together, children embellish their structure with new meaning. Shared activities seem so important that when children appeared uncertain, peers spontaneously modeled what to do or pointed to blocks to support participation of less experienced classmates (Johnson-Pynn & Nisbet, 2002). Thus, social participation—being aware of and playing with one another—expands children’s ideas about what could be made with blocks and how to combine blocks into a structure.

The influence of adults on block play appears to vary. First, adults introduce topics that reappear in the themes children incorporate into their free play with blocks (Reifel & Yeatmann, 1991). However, teachers approach children’s play from a rational perspective, valuing it for what children can learn, and at the same time believing that children’s play should be fun, internally motivated, and spontaneous (Hakkarainen, 1999). Ireson and Blay (1999) observed these mixed expectations about block play in action when teachers invited children to play and then introduced academic content. For example, after suggesting that children build something, a teacher asked them to count the blocks in what they were building. Children either ignored the teacher’s requests or stopped playing with blocks. As Wing (1995) discovered, when adults expected children to do something specific, children experienced the activity as work rather than play. Other studies found that children tend to be less creative or use language at less sophisticated levels with teachers present than when they play with one another (Kontos et al., 2002; Leseman, Rollenberg, & Rispeens, 2001). Only when coached in how to verbally scaffold children’s block play did adults increase the complexity of structures children built (Gregory, Kim, & Whiren, 2003).

Exploring what happens when children play together, a contextualized way of thinking about the development of block play, suggests that important developmental mechanisms come into effect when children share in an activity. In their collaboration, children make novel structures and rise to the performance challenge of coordinating their building with the efforts of others. Unexpectedly, the role of adults in helping children master new forms of block play is ambiguous. At this point the literature suggests intriguing possibilities about the social circumstances shaping development of an occupation.

Intention and self-organization. Our examination now considers literature that might inform us about how children, by building things with blocks, bring about further development of their block play. Social interactions influence what children intend to do or the criteria they use to judge the outcomes of their efforts, causing them to reorganize intrinsic capacities to perform an activity in a different manner (Humphry, 2002). A contextual perspective of an unfolding activity goes further to argue the transactional nature of occupation and that children interpret occupational opportunities in light of previous experiences and present circumstances. By viewing the child’s intention as intertwined with the surrounding context, this perspective does not support the concept of an inner drive separate from the experienced and interpreted situation. However, the research about children’s intentions arises from organismic assumptions. With the organismic assumption that intentions rest within children, researchers typically studied what children make or say about what they want to make after the adult removes a child from his or her peers and everyday environment. From a contextual view, the following literature provides incomplete understanding of children’s intentions and their experiences of meaning found in block play.

Young children (2 to 3 years old) explore material such as blocks, clay, and crayon (Lysyuk, 1998) and appear interested in creating patterns rather than building something (Nicolopoulou, 1991). Thus, initially combining blocks, one on top of another, offers a young child an opportunity to make a new form (Forman, 1982). Stopping the actions—when the stack falls or is knocked down—contributes to consciousness about the activity (Dewey, 1939/1958). Thus, replicating the actions supports learning about building and suggests that the young child organizes performance skills around the making process, not the resulting structure. Indeed, the adult that asks, “What are you making?” may confuse a child intent on stacking blocks.

It is not clear how children take on the idea that the purpose of playing with blocks is to make something. The literature tracks changing expressions about intentions. Initially, verbal expressions of intentions occur only occasionally and while children build or when they finish (Zervigon-Hakes, 1984). Older preschoolers name what they are going to make more consistently and often articulate their intentions before they start (Lysyuk, 1998). Even then, children appear to reflect on possibilities and can discover another reason for making something, announcing while they build that they are now making something else.
(Nicolopoulou, 1991). Like other literature about child development, the studies of intentionality used cross-sectional designs, informing us about age-related differences, but not addressing what brings about a desire to construct or create more real-life replicas.

In a self-organizing system, another source of change is the alteration of performance-limiting child factors or intrinsic capacities (Humphry, 2002). As intrinsic capacities hold nonlinear relationships to emerging occupational performance, combinations of different intrinsic capacities determine performance at different points in an unfolding activity. As a result, from a contextual and dynamic system view, what the child does cannot be meaningfully deconstructed into separate skills. The literature applies an organismic perspective that appears to assume it is possible to identify separate subsystems, but the direction of influence varies. At times authors assume block play is the medium through which children develop their perceptual or problem-solving capacities (Caldera et al., 1999; Pepler & Ross, 1981); whereas others presume that mental, spatial reasoning, or perceptual capacities limit what children build or the complexity of their structures (Forman, 1982; Goodson, 1982; Stiles-Davis, 1988).

**Nature of Our Knowledge Base**

Pierce (1997) observed that reliance on literature of other disciplines about child development reinforces a reductionist perspective, challenging occupational therapy practitioners who seek a holistic understanding of occupation. Although a dynamic-system view of occupational performance overcomes a focus on functions within a child, it perpetuates a way of thinking about the child as the sole agent of his or her development (or lack of it). The too-narrow focus on the child does not occur if we recognize an alternative way of thinking that helps us envision children as embedded in complex societal and social situations that lead to development of their occupations. However, when context cannot be thought of as a general background to occupation, a highly contextual understanding of the circumstances that create an occupational opportunity and development of a childhood occupation appear more situation specific. In this case, the body of knowledge regarding broad areas of occupation such as play (e.g., Case-Smith, 2005; Knox, 2005) does not provide sufficient information to guide practice, and activity-specific information is needed.

The discussion of block play through the lens of contextualism suggests interweaving mechanisms that bring about changes in this occupation. Appreciating what brings about development of an occupation shifts the focus of activity analysis from a series of perceptual motor issues (Luebben et al., 1999) to multiple situated and interpersonal areas of concern. The following case study illustrates how a focus on developing a child's occupation, in the context of adult expectations and peer interactions, is translated into an intervention program.

**Case Study: Matthew**

The case study briefly describes Matthew and the context for the block play. Results of an analysis of Matthew's block play and the process of intervention are presented. As change mechanisms, the sociocultural niche, interpersonal dynamics, and the child factors are intentionally identified for the sake of clarity and explicitness in the application. However, when a contextual way of thinking about development guides clinical reasoning, these interdependent developmental mechanisms are considered almost simultaneously.

**Background**

Matthew is a delightful and intelligent 4-year-old boy who likes books, trucks and cars, and music. Diagnosed at 28 months with autism spectrum disorder, Matthew attends a full-day inclusive preschool program. His parents consented to his participation in this study, which took place in a classroom of 4-year-olds with nine typically developing children and two other children with special needs. There were a teacher and two teacher's aides for his classroom. Physically, the environment is typical of many childcare programs, with play centers for dramatic play/housekeeping, large blocks, small blocks, and sensory play. Areas are also set aside for reading or listening to music, writing or drawing, and computer use. The classroom routine includes periods of indoor free play, more structured play and learning activities, outdoor play, circle time, meal time, and nap time.

Elements of the sociocultural niche, such as the teacher's expectations and beliefs that support block play, reflect characteristics described in the literature. The teacher sees block play as a valuable activity for exploration, learning, and enjoyment, and encourages children to build with blocks. Matthew's mother identified using blocks as an important goal when his younger brother started to build with blocks, and she saw Matthew's classmates use blocks while he watched. Both teacher and parent believed that the interpersonal processes that occur during block play would be beneficial for Matthew. However, they noted that he interacted with peers primarily with adult support, and they hoped he would increase independent social engagement. At the same time, everyone agreed that socialization with peers would support and expand Matthew's block play.
Assessment and Intervention

Matthew's strengths include good language and vocabulary, excellent ability to use visual cues in his environment, interest in and willingness to engage in some activities with peers, and manipulative skills adequate for age-appropriate play. These assets contribute to Matthew’s interest in participating in block play with peers as well as his capacity to do some block play. Activity analysis suggested that performance-limiting factors include difficulty with the ideation and planning stages of praxis, fluctuations in his engagement with peers, and mild sensory modulation issues (he is particularly sensitive to auditory input).

When his parents, teacher, and occupational therapist (the second author) collaborated in addressing Matthew's ability to engage in block play with his peers (and his younger brother at home), it became clear that he needed increased opportunities and an environment that afforded additional supports. The teacher decided to use “buildings” as a classroom curriculum theme for a 2-week time period, so that both ideas and methods for building became the focus of circle times and structured activities. Building, in turn, appeared more often in the children's free play at different centers and as they played outside. In this manner the team enriched experiences of meaning for Matthew and his classmates, increasing everyone's awareness of building and using blocks in play.

The therapist also observed the interpersonal processes, the ideas and comments that children offered during block play, the variety of ideas, and the changes in intended end products. The entrance and exit of individual children in the block play area caused change in structures built, use of additional materials (toy animals, etc.), and the sophistication of both the process and the product. Matthew watched these transactions with interest, and he appeared to be trying to figure out how to engage with the blocks and with his peers. However, he continued to build only when an adult was present to structure the activity for him. Despite his teacher's attempts to draw in and use peers in the idea formation stage, Matthew had difficulty identifying what he wanted to build. His interactions with peers were brief and peripheral to the actual activity, building with blocks. Clearly, in light of his praxis and difficulties interacting with peers, the interpersonal processes that contribute to development of block play did not provide enough support for Matthew. The team also realized that the area for block play during free play time allowed several children to be in this area at once, creating noise that Matthew found uncomfortable, given his mild sensory processing issues.

Therefore, creating a social situation in which Matthew engaged in block play became one of the concerns of the occupational therapist. Another objective was to compensate for his difficulty with the ideation and planning stages of praxis. Building on Matthew’s ability to use visual information (line drawings, symbols, and some words) and his interest in books, the occupational therapist and teacher took steps listed in the Appendix to foster block play and interactions with peers. Within 3 weeks, Matthew, in the company of two or three peers, built small block structures his classmates could identify. While this was generally parallel participation, occasionally he spontaneously told others about his building and made simple comments about their buildings, confirming that Matthew engaged in socially aware, parallel play.

In time, Matthew demonstrated an interest in building specifically with small interlocking bricks. Because the team also wanted to encourage generalization of block play and incorporate more peer interaction, step-by-step photos and text were made into a book. The first book described building a rocket, another newly acquired interest. Matthew made an easy transition from the floor maps, which required little spatial interpretation, to using three-dimensional photos to guide his building. Matthew acted excited about building complex structures with interlocking bricks; and as his experiences of meaning and his intentions changed, he began to experiment with more sophisticated building on his own, with both these and other building materials.

To further interpersonal processes the occupational therapist created new “How to Build” books that were used...
both in the classroom and at home. These building stories described specified tasks for two or more people (e.g., How to Build a Three-Headed Monster: A Project for 3 People). After several more weeks of intervention, his mother reported that Matthew and his brother were using the books as guides but making up their own structures. In time, Matthew needed only occasional and minimal adult support to build some variety of structures in cooperation with one or two peers, using their ideas as well as some of his own.

Discussion

The strategies in the case study arose from a contextual way of thinking about development of an occupation, which stands in contrast to an organismic child-centered perspective. Recognizing the transactional elements of occupation avoids thinking of fine motor and praxis skills as prerequisite to building with blocks and goes beyond teaching Matthew how to solve building problems. In planning an intervention to encourage development of an occupation, the activity analysis considers what Matthew needed in order to learn about doing the activity. Introducing building as a curriculum theme altered the situation and fostered block play, increasing all the children’s exposures to the activity and making existing building opportunities more salient. The interpersonal processes supporting the development of block play existed; however, because of the unique attributes of Matthew’s diagnosis, peer interactions needed grading and the block area was structured in a different way to support his play with classmates. In the intrapersonal sphere, idea and planning aids allowed Matthew to put his intentions to build into action alongside his peers. Furthermore, once Matthew started to build with blocks, the occupational therapist and other team members coached him on how to socially participate in the activity. In this way, his social participation and building became mechanisms of change and he made new structures with his brother and peers.

Although the presentation of developmental mechanisms and the intervention appears here in discrete “chunks,” the process of thinking is quite dynamic and contextual elements supporting development of an occupation are interwoven. From the second author’s perspective, attending to Matthew embedded in a classroom where block play occurred created a flow of observation, integration, problem solving, intervention, and observation again that occurred without clear lines or transitions. For Matthew, the process seemed similarly seamless and dynamic, so that small changes in his behavior led to slight changes in the situation, which then created a new, but manageable, demand on him. Therefore challenges, once met, created yet more change.

Conclusion

We suggest that framing development through an organismic lens that focuses on the child and makes ecological information of secondary importance generates a body of knowledge of limited benefit to occupational therapy practitioners. Adopting a contextual perspective of development, however, creates an appreciation that societal efforts, cultural practices, and social interactions, as well as individuals engaged in occupations, form inseparable elements of a change process. The contextualized description of developmental processes suggests a number of interdependent mechanisms. These forces for change warrant further study in order to build a comprehensive multifaceted picture of what occurs when people perform new activities. In building this body of knowledge, fundamental areas of inquiry include (a) how developmental mechanisms vary between activities, (b) the interplay of individual attributes with developmental mechanisms that produce individual variations in occupational performance, and (c) the pattern of mechanisms leading to changing occupations across an individual’s life span. Arising from these insights will be strategies to systematically enhance the effect of developmental mechanisms in order to support the acquisition of new occupations and transformations in occupational performance. As illustrated, when occupational therapy practitioners reflect on the interconnectedness of elements of a situation, a person, and an occupation, they design both elegant and effective interventions that directly support participation.

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References


A developmental approach (3rd ed.). Mahwah, NJ: Lawrence 
Erlbaum.

Pierce, D. (1997). The power of object play for infants and tod-
dlers at risk for developmental delays. In L. D. Parham & L. 
S. Fazio (Eds.), Play in occupational therapy for children (pp. 

Pepler, D. J., & Ross, H. S. (1981). The effects of play on con-
vergent and divergent problem solving. Child Development, 
52, 1202–1210.


Polatajko, H. J., Mandich, A. D., Missiuna, C., Miller, L. T., 
to daily occupational performance (CO-OP). Part 3. The 
protocol in brief. Physical and Occupational Therapy in 
Pediatrics, 20, 107–123.

Syracuse, NY: Syracuse University Press.

Reifel, S., & Greenfield, P. M. (1982). Structural development 
in a symbolic medium: The representational use of block 
constructions. In G. E. Forman (Ed.), Action and thought: 
From sensorimotor schemes to symbolic operations (pp. 

block play. In B. Scales, M. Almy, A. Nicolopoulou, & S. 
Ervin-Tripp (Eds.), Play and the social context of development 
in early care and education (pp. 156–172). New York: 
Teachers College Press.

Wouden-Miller, M. (2003). Sequential transition patterns of 
preschoolers’ social interactions during child-initiated play: 
Is parallel-aware play a bidirectional bridge to other play 

New York: Oxford University Press.

kindergarten: Analysis of social negotiation during peer play. 
Early Child Development and Care, 64, 15–26.

Royeen, C. B., & Duncan, M. (1999). Acquisition frame of re-
ference. In P. Kramer & J. Hinojosa (Eds.), Frames of reference 
Philadelphia: Lippincott Williams & Wilkins.

spatial grouping activity. Developmental Psychology, 24, 
522–531.

Stroud, J. E. (1995). Block play: Building a foundation for liter-

Super, C. M., & Harkness, S. (2003). The metaphors of devel-

children spend in a variety of child care activities: Association 
with environmental quality, ethnicity, and gender. Early 
Childhood Research Quarterly, 18, 121–142.

van der Veer, R. (2001). The idea of unit of analysis: Vygotsky’s 
contributions. In S. Chariklin (Ed.), The theory and practice 
of cultural-historical psychology (pp. 93–106). Aarhus, DK: 
Aarhus University Press.

Watling, R., & Schwarz, I. S. (2004). Understanding and imple-
menting positive reinforcement as an intervention strategy 
for children with disabilities. American Journal of Occupa-
tional Therapy, 58, 113–116.

Wellhousen, K., & Kieff, J. (2001). A constructivist approach to 

University Press.

children’s perceptions of work and play. Early Childhood Research 

development in construction play: Stages of development. 