

# Children's Play: Where We Have Been and Where We Could Go

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The purpose of this article is to raise the profile of play so that it is an important domain of concern for serving children with delays and disabilities, just as are the other five domains specified in federal law. A rationale for the integration of the behavioral perspective and the constructivist perspective is presented to contribute clarity to what play is and how it is used. Definitions are offered of what play is, how play is learned, and what individuals in the field have learned about play within each perspective. Critical future directions for research are discussed.

**Keywords:** *play; play defined; play theories; play development; play assessment; play interventions*

From the vantage point of 2011, attention to the importance of play is noticeably absent in the specifications in PL 99-457 for serving young children with delays and disabilities. Although the inclusion of play might be implicit in access to a general education curriculum for preschoolers, the need to attend to and use play is not explicit. Nevertheless, it is clear in the field of early intervention and early childhood special education (EI/ECSE) that the research on play in the last 25 years has provided extensive evidence of the importance of play for assessment and intervention. It also is clear from the field of developmental psychology during the same time period that children's play activities can be identified and described, follow a sequence of development, and reveal changes in children's knowledge of objects, people, and events. These two schools of research on play have dominated the literature in the last quarter century, but they have overlapped and been mutually supportive. They have been confounded with one another, which has contributed to the confusion in the literature on play.

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Our purpose in this article is to raise the profile of play so that it is an important domain of concern for serving children with delays and disabilities, just as are the other five domains specified in federal law. An integration of the two dominant perspectives is required, which should contribute clarity to what play is and how it used. First, we describe the two perspectives and offer definitions of what play is and how play is learned within each of them. Then we review what individuals in the field have learned about play. We include interpretations of the different meanings of play in these contexts. Finally, we discuss the critical future directions for research in play.

## Two Perspectives on Play

The two perspectives on play, which have dominated the literature since the passage of PL 99-457, can be broadly characterized as the *behavioral perspective* and the *constructivist perspective*. Although the existing literature in each segment is often cited by researchers from the other school of thought, there is a need for more attention to the perspectives represented by these overlapping but different bodies of literature to understand the value of play more clearly for serving young children with delays and disabilities. Recognizing the differences in the two major perspectives does not diminish the consensus between them that play (a) is important in a child's experience, (b) provides a useful window for assessing development, and (c) is an important domain area for intervention.

### Behavioral Perspective

The behavioral segment of the literature addresses what children do (i.e., their social behavior, language, or some other developmentally important area) and how to change it productively (e.g., McConnell, 2002). The focus, given the various delays that children with disabilities express, centers on (a) describing delays in children's play; (b) considering the uses of play that make it a functional, critical goal; and (c) teaching play to children. The emphasis is placed more on how play is used and what the child is supposed to do in the play (e.g., in terms of activities or language), and less on what play is. How play is learned centers on observational learning, prompting hierarchies, and managing contingencies of reinforcement.

### Constructivist Perspective

The constructivist perspective also is concerned with observing what children can do but is more involved in addressing why children perform the way they do; that is, understanding the basis for the behavior through analysis of the underlying cognitive and developmental processes, developmental stages, and neurodevelopment (Lifter & Bloom, 1989, 1998; Vig, 2007). They ask questions like "Does the quality of knowledge and information that is available to a preschooler before they play with a toy affect how they play with that toy and are they changed in some way by that play?" The emphasis is placed on what play is and what it reveals about the developing child. It requires attention to what the child brings to the task of learning and development in play in terms of the child's construction of knowledge about objects, people, and events.

## Definitions of Play

Inconsistencies in definitions and descriptions are largely a result of different conceptualizations of play. Descriptions of play matter, especially given the assumption of play as a domain, because they are linked to how they are used in assessment and intervention activities. Currently, many descriptions of play overlap with one another. Descriptions such as “relational play,” “pretend play,” and “symbolic play” mean different things in different studies. In addition, many descriptions are confounded with developments in social behavior. For example, Parten (1932) published a play taxonomy describing the social aspects of play (e.g., solitary, onlooker, parallel, cooperative) that has become highly influential. Nevertheless, these descriptions do not convey what the child does behaviorally or cognitively in the domain of play but instead express the social aspects of the context. The value of examining play independently of developments in other domains (e.g., social) provides a measure of play that can then be evaluated in relation to other domains (Pierce-Jordan & Lifter, 2005).

For the purpose of defining what play is and how it develops over time, we suggest a focus on play with objects and not on rough and tumble play or play that is expressed on the playground. This focus permits a discussion of the importance of play and how it is learned from a constructivist viewpoint. Obviously, the knowledge children develop in their “work” with toys contributes to what they do in their engagement with other children and caregivers, but attention here is placed, first, on the child’s construction of knowledge. This focus—attention to what children do with the toys available for play—provides a continuum of evaluation of play from infancy through the preschool period. Developments in children’s ability to use objects as symbols in their play as a representation of their experiences can be examined from what children express in their play with toys. Within this continuum, we can include what has been called “object play,” “pretend play,” and “symbolic play.”

Lifter and Bloom (1998) provided a definition of play that provides a framework for evaluating what play is and how it develops:

Play is the expression of intentional states—the representations in consciousness constructed from what children know about and are learning from ongoing events—and consists of spontaneous, naturally occurring activities with objects that engage attention and interest. Play may or may not involve caregivers or peers, may or may not involve a display of affect, and may or may not involve pretense. (p. 164)

The central aspect is that play consists of *spontaneous, naturally occurring activities with objects that engage attention and interest*. Three additional components that are often associated with definitions of play (Rubin, Fein, & Vandenberg, 1983) are not required: the involvement of caregivers or peers, displays of affect, and the involvement of pretense. Accordingly, this definition affords an analysis of play separate from aspects of social and emotional development, broader than pretense, and not requiring other people. In sum, play is what children do with toys that engage their attention and interest, regardless of whatever else is going on and whoever else is present. Moreover, young children usually spend a lot of time playing with toys.

Recently, Burghardt (2011) offered a set of five criteria that are essential to defining and recognizing play:

Play [1] is incompletely functional in the context in which it appears; [2] is spontaneous, pleasurable, rewarding, or voluntary; [3] differs from other more serious behaviors in form (e.g., exaggerated) or timing (occurring early in life before the more serious version is needed); [4] is repeated, but not in abnormal and unvarying stereotypic form (e.g., distressed rocking, pacing); and [5] is initiated in the absence of acute or chronic stress. (p. 17)

Although this kind of definition is useful for characterizing playful activities, it does not lend itself to an observation system for the purpose of evaluating children's progress in play for assessment and intervention. Alternatively, attention to what children do with toys within the larger context that Burghardt (2011) described provides a more precise yardstick of evaluation.

The definition offered by Lifter and Bloom (1998) conceptualizes the child as an active participant in constructing knowledge about objects, people, and events through play. The assumption in *spontaneous, naturally occurring activities with objects that engage attention and interest* is that attention and interest go beyond looking at and touching the toys available for play; rather, children also are actively interpreting the properties of the toys and how the toys can be related to other toys to express what the children know and are learning in their everyday experiences. This perspective of *play as interpretation* is consistent with theories of play put forth by Piaget (1962) and Vygotsky (1933). At the same time, the child is developing within a social-cultural context that includes caregivers, siblings, and peers, which contributes to what is interpreted (Göncü & Gaskins, 2011). Play as interpretation requires attention to what the child brings to the task of development and learning: capacities to make sense of ongoing events.

Research has revealed that children pay more attention to activities that are “developmentally new” than to those activities that are relatively well known (Bloom & Tinker, 2001). Such results support the assumption of active interpretation in play; children actively contribute to what they attend to in their play. The results also suggest that identifying this level of understanding in a child's progress in play for children with delays—assessing the level at which activities are developmentally new—might facilitate the active engagement in learning to play. Understanding these processes might contribute to more efficient methods of interventions.

The constructivist perspective, which is inherent in the definition, supports the descriptive studies of the play of children developing without disabilities. Children's developments in play with objects (i.e., toys) were identified in longitudinal and cross-sectional descriptive studies primarily during the 1970s, 1980s, and 1990s (e.g., Belsky & Most, 1981; Lifter & Bloom, 1989). Play was conceptualized as a process in development, with the developing child as an active participant in the process. Studies revealed the presence of qualitatively different play activities from infancy to the preschool period, providing evidence for a developmental sequence in play. The results demonstrated that changes in play occur with development and that these changes could be operationalized and charted. Interpretations focused on the children's development of knowledge about objects and

events that progress from general object knowledge to more specific object knowledge (Lifter & Bloom, 1989). Also included was attention to children's development of the capacity to represent their experiences in play and to use symbols in their play (Bloom & Tinker, 2001; Lifter & Bloom, 1998; McCune, 1995), all of which supported play as its own domain of development.

Table 1 provides an illustration of play categories that were identified in some of the descriptive studies. The columns represent the sequences of categories that were revealed within these longitudinal or cross-sectional studies. The horizontal organization represents the correspondence of play categories according to approximate age of emergence for the children. What can be seen is the diversity of descriptions across studies. In addition, it is not clear when pretend or symbolic play begins, again given the different descriptions of symbolic play. Furthermore, there is considerable variation in terms of how differentiated the category of symbolic play is. For some studies it is one large category and for other studies it is more finely subcategorized. It is from such studies that researchers from EI/ECSE derived descriptions of play to characterize the play of children developing with delays and disabilities, to assess children's play, and to identify targets for intervention, described in the next section. Obviously, the variability of descriptions created problems for any kind of consistency across studies.

### **What Have We Learned About Play for Serving Children With Delays and Disabilities?**

Three significant findings have emerged over the last 25 years from play research in EI/ECSE. First, children with disabilities show delays in play when compared with children with typical development. Second, play is a functional goal and an important developmental domain for young children with special needs. Third, interventions using systematic adult prompting and focusing on developmentally appropriate play goals are effective for increasing the play skills of young children with special needs. Each will be discussed, along with implications and inconsistencies that have arisen across studies in terms of what play is and how it is used.

### **Delays in Play Repertoire**

Research on the differences in the play behaviors of children with special needs was influenced by the research on the emergence of play in children with typical development described earlier. Those descriptions and sequences provided the terms and yardstick for these studies, indicating a high degree of overlap between the behavioral and constructivist traditions. For example, in the late 1970s and early 1980s, researchers were particularly interested in the differences between the symbolic play skills of children with autism, and children with Down syndrome, cognitive delays, and typical development (e.g., Wing, Gould, Yeates, & Brierley, 1977). Children with autism demonstrated fewer overall and different symbolic play behaviors. These early studies suggested how play activities were measured was an important influence on play behaviors. For example, children with autism demonstrated delays in spontaneous play conditions but increased play behaviors when the

**Table 1**  
**Select Definitions of Play Over the Past Three Decades**

Reference	Belsky & Most (1981)	Ungerer & Sigman (1981)	Lifter & Bloom (1989)	McCune (1995)	Malone (1997)
Methodology	Cross-sectional	Descriptive	Longitudinal	Cross-sectional & longitudinal	Descriptive
Participant N (Age)	40 (7.5-21 months)	16 (Mean = 24.8 months)	14 (8-26 months)	106 (8-24 months)	22 (24-70 months)
Participants' disability status	Typically developing children	Children with autism	Typically developing	Typically developing	Children with cognitive delays
	<i>Mouthing</i> Indiscriminate mouthing of materials	<i>Simple manipulation</i> Mouthing, waving, banging, etc.		<i>Exploration</i> Examines toys in indiscriminate manner	
	<i>Simple manipulation</i> Visually guided manipulation of objects	<i>Relational play</i> Nonfunctional combinations of objects	<i>Separations</i> Separates configurations of objects		
	<i>Functional</i> Visually guided and intentional manipulation of objects, extracts information	<i>Object-directed functional play</i> Functional use of objects		<i>Functional</i> Engaged with toys for the movement and repetition of the movement	
	<i>Relational</i> Integrating two or more materials in an inappropriate manner				
	<i>Functional-relational</i> Integrating two or more objects in an intentional manner		<i>Given combinations</i> Recreates object combinations		<i>Construction</i> Puts toys together or organized the toys in some type of spatial format
	<i>Enactive naming</i> Approximate pretense without confirmation		<i>General combinations</i> Creates various object combinations	<i>Presymbolic</i> Child recognizes the function of an object	

(continued)

**Table 1 (continued)**

Reference	Belsky & Most (1981)	Ungerer & Sigman (1981)	Lifter & Bloom (1989)	McCune (1995)	Malone (1997)
	<i>Pretend self</i> Pretense behavior directed toward self with confirmation	<i>Self-directed functional play</i> Functional use of objects directed at self		<i>Self-pretend</i> Self-related pretend activities	<i>Pretend</i> Plays with toys in a make-believe manner with pretense, role-taking, or representation
	<i>Pretend other</i> Pretense behavior directed toward other person or object	<i>Doll-directed functional play</i> Functional use of objects directed at dolls <i>Other directed functional play</i> Functional use of objects directed at others <i>Symbolic substitution</i> The use of one object as if it was another <i>Symbolic-doll as agent</i> Use of a doll as an independent agent of action	<i>Specific combinations</i> Preserves unique conventional characteristics of object in configuration	<i>Other-pretend</i> Pretend behaviors at others' activities or having others enact pretend schemes	
	<i>Substitution</i> Using a meaningless object in a creative manner	<i>Symbolic-attributes</i> The creation of objects or people having no physical representation in the immediate environment			
	<i>Sequence pretend</i> Repetition of a single pretense behavior with a minor variation	<i>Sequences</i> Related functional or symbolic acts		<i>Combinatorial pretend-single scheme</i> Single pretend schemes related in sequence with several agents	<i>Single scheme</i> Repeated single action

(continued)

Table 1 (continued)

Reference	Belsky & Most (1981)	Ungerer & Sigman (1981)	Lifter & Bloom (1989)	McCune (1995)	Malone (1997)
					<i>Unordered multischeme</i> Two + unrelated actions are combined
				<i>Combinatorial pretend-different scheme</i> Different pretend schemes related in sequence	<i>Ordered multischeme</i> Two + actions are related in a sequential manner
	<i>Sequence pretend substitution</i> Using a substitution behavior within a pretend sequence			<i>Hierarchical pretend</i> Pretend plan apparent, one object substituted for another, or doll is given attributes	
	<i>Double substitution</i> Two materials are transformed into something they are not				



observation procedures included adult prompting. In the late 1980s, researchers replicated these studies with particular attention to how play activities were measured (i.e., the types and frequency of adult prompting). Ungerer and Sigman (1984) found that children with disabilities displayed delays in play skills and children with autism, in particular, displayed delays in symbolic and functional play behaviors, *and* these findings were similar across spontaneous and adult prompted conditions.

In a landmark article, Lewis and Boucher (1988) challenged these findings by showing that children with autism demonstrated similar performance to children matched for language-age in conditions with adult verbal prompting and without modeling. These findings suggested children with autism could perform symbolic play behaviors when provided with verbal prompts or new play "ideas." These findings have been replicated several times with children with autism and other disabilities (e.g., Sigman & Ruskin, 1999). This research indicated children with autism, in particular, did not engage in the same levels of spontaneous play as children without disabilities and children with other disabilities (e.g., cognitive or language delays) even when matched for mental age and receptive and expressive language abilities.

These findings would stand the test of time. Research consistently indicates autism-specific differences in spontaneous play skills. Children with autism (a) produce less symbolic play behaviors, (b) exhibit less variety in their play behaviors, (c) exhibit less complex play behaviors, and (d) exhibit less variety and complexity in sequences of play behaviors than children with other disabilities or children without disabilities. However, children with other disabilities (e.g., cognitive delays) also display less sophisticated play skills than children with typical development, which persist over time despite improvements in overall development and functioning (e.g., Malone, 1997). Although the nature of the impact of autism on the development of play was a point of contention among researchers (e.g., symbolic vs. generative deficits; see Lewis & Boucher, 1988), the field views the delays in play as related to the ability of children with autism to generate new play behaviors (i.e., generativity), rather than delays in the ability to use symbols in play (e.g., pretend the block is a car then pretend the block is a bottle and feed the baby). This distinction had important implications for play interventions with young children with special needs. Without highly structured instructional cues, children with special needs tend to use fewer novel play behaviors, use less variety and complexity in their play, display less variety in choice of toys, and use fewer actions on toys. The task at hand was to determine the value of play for young children with special needs.

### **Play is a Functional, Critical Goal**

Research over the past 25 years has pointed to the importance and benefits of play for children with and without special needs. Play is important for three major reasons: (a) play increases the likelihood of *placement* and learning in natural, inclusive, less restrictive settings; (b) play is adaptable and can be used in multiple settings as a *context* for embedding intervention, practicing new skills (e.g., symbolic thinking, motor planning), conducting authentic assessments, and it provides opportunities for social and communicative interac-

tions with peers and adults (McConnell, 2002); and (c) play has *predictive value* for communication and social skills (Charman et al., 2003).

*Placement and engagement in natural settings.* Research supports the inclusion of children with special needs into high-quality preschools with typical peers (e.g., Strain, McGee, & Kohler, 2002). Teaching children to play with materials and peers increases the likelihood of learning and engagement in inclusive settings, which is likely to result in higher sociometric ratings by peers without disabilities and reduced social isolation (Strain, 1985). Play promotes successful inclusion into classroom and community settings. As with other developmental domains, delays in play are likely to impact learning and to increase with age, leaving children more delayed and different from their same age peers. This may lead to less social acceptance and participation with peers, which over time diminishes integration into families, schools, and communities, and may lead to social isolation or stigmatization (Wolery, 2000).

The perspective that underlies this reasoning comes from the behaviorist tradition in terms of regarding play as “a functional goal because it provides children with skills to access their environment and engage with their peers” (Barton & Wolery, 2008, p. 110). Play is defined broadly here; it is the play of the classroom, and most often the preschool classroom of early childhood education (ECE). How play is used for engagement in natural settings includes the use of a variety of classroom materials (e.g., dress up corner; block play area) to occasion social interactions and communication with peers and adults. Social goals are emphasized.

*Play as a context.* Play is a context in which child-focused intervention strategies for other goals (social, communicative, cognitive) can be embedded. Over the past several decades, the field has learned a good deal about the ways children learn. We know young children learn more effectively and efficiently when instruction is contextually relevant, developmentally appropriate, and capitalizes on child focus and interest (Sandall, Hemmeter, Smith, & McLean, 2005). Play affords contextually relevant instructional opportunities for other skills. Play provides a context for embedding evidence-based practices focused on developmentally appropriate goals, including embedding learning opportunities (Sandall & Schwartz, 2008), antecedent-based interventions, peer-mediated social skills (Strain & Bovey, 2008), milieu teaching (Hancock & Kaiser, 2006), incidental teaching (McGee, Morrier, & Daly, 1999), and naturalistic time delay (Wolery, 2001). Play involves child interest, choice, and initiation, and can have reinforcing properties for other behaviors (Morrison, Sainato, Benchaaban, & Endo, 2002).

Furthermore, play promotes generalization and maintenance of new skills because it is flexible; play provides multiple opportunities to practice newly acquired skills across settings, materials, and peers (e.g., manipulating a variety of objects, talking with peers, resolving conflicts, displaying empathy, using symbolic thinking such as pretending to be the mom and playing house, pretending the block is a car and building a ramp; Barton & Wolery, 2010). Likewise, play provides opportunities for positive interactions with peers and other adults. When peers are engaged with the same toys in the same way, they are more likely to talk and interact with each other. Similarly, play provides caregivers more opportunities to interact with their children (Childress, 2011) *and* more free time because children are independently engaged in meaningful activities.

Despite the importance of the use of play as a context, it is important to keep in mind that play is used as an activity in the service of goals from other domains (e.g., Lifter, Foster-Sanda, Arzamarski, Briesch, & McClure, 2011). Play as a context is also used in support of assessment. For example, play-based assessment (Linder, 2008) represents the use of play as a naturally occurring activity for assessing children. This use provides an important alternative to traditional standardized assessments (Fewell & Glick, 1993).

Play is defined broadly and generally here too, and it is not clearly specified (e.g., dramatic play, symbolic play, activities of typically developing peers). As a result, researchers and practitioners are left to their own devices for identifying play activities to serve as a context. A potentially greater limitation is introduced when the quality of the play activities selected to provide the context might not be the best choice for a particular child. We know that children with delays and disabilities often have delays in play. Consequently, the play activities used as a context for implementing goals from other domains might be beyond the child's level of understanding and might compete with the intervention goals (Pierce-Jordan & Lifter, 2005).

*Predictive value of play and its correlations to developments in other domains.* The importance of play in EI/ECSE is underscored further by the research on the predictive nature of play. For example, for children with autism, the number of different functional play behaviors predicts gains in expressive language (Sigman & Ruskin, 1999). Additional studies have corroborated these results. Pretend play, in particular, predicted language and social skills in young children with autism (e.g., Charman et al., 2003). Likewise, recent research demonstrates connections of play to reading (Zigler, Singer, & Bishop-Josef, 2004) and to self-regulation (Hanline, Milton, & Phelps, 2009) in preschool and in early elementary years.

Explicit measurement scales for play are required for the purposes of describing play, examining its relationship to other domains, and predicting other developments based on play. Varied systems are used to describe play, including broad categorical descriptions of play activities (e.g., symbolic play, dramatic play) and more specific categorical descriptions of play activities (e.g., child-as-agent activities). Play assessment instruments vary on the categorical descriptions used to evaluate play (see Lifter et al., 2011).

A second measurement issue centers on the different systems researchers use to quantify play. These systems include progress in a sequence of categories (e.g., Lifter, 2000), highest level observed (e.g., Malone, 1997), frequency counts, and the use of interval coding. The predictive value of play depends on its correlation to developments in other domains and necessitates a clear specification of what is being described and measured in play.

From the three reasons for the importance of play, we know more about how to use play to serve children with delays and disabilities than we know about what play is. The descriptions for play extend from the very broad to the very specific. Broad, nonspecific categories are used in describing the play activities of the classroom and the play activities used as a context. More specific descriptions are needed for examining developmental sequences in play and the relationship of play to other developmental domains, and predicting other developments based on play. The final section of research in EI/ECSE centers on teaching play to children with special needs.

## Play Interventions

There are two main types of intervention studies in or with play. First, there are many studies focused on increasing the play skills of young children with special needs and several include the measurement of corollary benefits (e.g., Kasari, Freeman, & Paparella, 2006). Second, there are a variety of interventions focused on teaching new skills within a play context, as described earlier. The next section focuses on the former: research on teaching play.

*Teaching play.* Research indicates that intentional, systematic interventions are necessary to increase play skills in young children with disabilities (Lifter, Ellis, Cannon, & Anderson, 2005). This research is characterized by a focus on developmentally appropriate play goals, child-focused play behaviors, individualized instruction, and attention to corollary behaviors (e.g., joint attention; Kasari et al., 2006). Specific intervention practices include teacher-implemented modeling and prompting. For example, several studies have found a functional relationship between adult implementation of a least- to most-prompting hierarchy, coupled with positive reinforcement, and increases in play behaviors in young children with special needs (Barton & Wolery, 2008). Likewise, several studies have examined the use of video modeling for increasing play behaviors (Hine & Wolery, 2006; MacDonald, Sacramone, Mansfield, Wiltz, & Ahearn, 2009). Play interventions support the development of play *along with* other developmental domains (e.g., play-related language and social behaviors; Barton & Wolery, 2010; Frey & Kaiser, 2011).

This body of research also suggests that these interventions can be implemented by classroom teachers and practitioners (e.g., Barton & Wolery, 2010). This is imperative for the implementation of these practices with children in classrooms and homes and is important for translating research to practice. The play intervention research is limited by an absence of measuring and reporting procedural fidelity, a lack of programming for generalization and maintenance, and inconsistent definitions of pretend play (see Barton, 2010). Interventions are inconsistent in the linking of target goals to systematic assessments of a child's progress in play.

Teaching play to children requires the specification of *what is taught*, which again requires a consistent definitional system for identifying target play activities. What play is from this perspective is a set of behaviors that can be targeted for direct instruction. Many behaviors used as intervention goals were drawn from the descriptive studies on children's play (e.g., symbolic play) and from general understandings of what play is. Other goals were drawn from the play of typically developing peers (e.g., sociodramatic play). To address these variations, researchers have developed taxonomies of play behaviors for clarifying descriptions of play and linking assessment to intervention in play (e.g., Barton, 2010; Lifter, 2000).

## Directions for Research in Children's Play

Recognizing the differences in the two major perspectives on play does not diminish the consensus between them that (a) play is important in a child's experience, (b) it provides a

useful window for assessing development, and (c) it is an important tool for intervention.

The literature published on the topic of play in the service of development and education broadly suggests the need for more research on (a) the definition of play, (b) concepts of measurement, (c) new descriptive studies of play, (d) the nature and standards for toys used in the play research, and (e) the role of individual differences in drawing conclusions about play research. First, the diversity of definitions of play has been well documented. In this article, we presented a definition from Lifter and Bloom (1998) that should meet many of the needs of the play researcher. But, acceptance of a common definition will require some consensus in the field.

Second, in regard to measurement, the commonly accepted definition of measurement in psychology and education involves placing a number to some physical property such as size, weight, or more often in education, a well-defined trait or concept (ability, knowledge, time on task). In this sense, play may not be sufficiently well defined to be ready for measurement. Measurement for the purpose of assessment and intervention in play *per se*—play as a domain—requires a greater level of specificity in terms of what play is and how it can be used. The term *measurement* is often confused with assessment, evaluation, and observation, which complicates determining a definition of play. Assessment, however, may be a measurement but more importantly, it is associated with some goal or objective (e.g., amount learned, behavior change, mastery attained). Evaluation is associated with a decision (such as, “Did the program or intervention work?” “Was the curriculum effective?” “Should the child be promoted to the next grade?”). Finally, observation involves watching, listening, and objectively describing behavior. Mixing of these terms confuses much of the literature. The identification, categorization, and quantification of children’s expression in play is required for further research on how play is related to developments in other domains and how play can be used to predict developments in preliteracy and other aspects of school readiness. Consistent measurement of play performance will also contribute to linking of assessments systematically to interventions in play.

Third, there is a need for new descriptive studies on developments in play. With the rapid changes our society has been experiencing through technology and its ripple effects on lifestyles, the studies of the 1980s and 1990s are now too old to be used to characterize today’s young children. In addition, they did not commonly consider play from infancy longitudinally through the preschool period. This suggests a need to investigate the old taxonomies with new research. Also, we need to determine whether there are specific play activities that contribute to specific kinds of learning and, if so, what strategies can be implemented to enhance interventions for children.

Fourth, few studies have included examination of the nature of toys within play. This lack of clarity conflicts with the findings in the literature that the characteristics of toys influence the play that occurs with toys (e.g., Bergen, Hutchinson, Nolan, & Weber, 2010). This suggests that more attention be given to toys that are used in play research, and that standards be developed for descriptions of toys used in research and intervention.

Finally, there seems to be a difference in how researchers see the implications of their research in terms of individual differences and the two research perspectives identified earlier. Research coming from the behavioral tradition emphasizes small samples or single-subject designs. This presents a problem for generalizing findings to other settings and children. On the other hand, the constructivist perspective seeks larger samples that are

representative of identifiable populations, leading to studies from which generalizations about the population can be made. However, it is difficult to translate from this kind of study to an effective intervention for a particular child or small group of children with similar disabilities.

How then can these two useful research-based bodies of knowledge be harnessed for the benefit of children with disabilities? More than 30 years ago, Snelbecker (1974) recognized the two research perspectives forming in the field of general education and proposed an overlapping, mutually supportive research endeavor that served to translate relatively basic findings and theory into useful concepts and methods for classroom implementation. He called it *psychoeducational design*. More recently, the term *translational research* has been used, particularly in the context of moving useful basic science findings into clinical applications. The translational research efforts underway during the last few years in the National Institutes of Health have been described by William Crowley and a team of collaborators (Crowley et al., 2004). A similar coalition effort could emerge in EI/ECSE to benefit children and the progress of play research.

## Conclusion

Play is very specific and, at the same time, it is very general. It seems that considering play as a domain compared with play as a context and play as a placement will be important distinctions for sorting out and developing new evidence-based practices for serving young children with delays and disabilities. We know young children learn more effectively and efficiently when instruction is contextually relevant, developmentally appropriate, and instruction capitalizes on child focus and interest (Sandall et al., 2005). What these components mean differs depending on how one defines play. Developmentally appropriate can mean the activities that are appropriate for the child's peers. Alternatively, it can mean activities that are geared specifically to the child's level of development in play in which the child engages in learning most actively. Capitalizing on the child's focus and interest can mean using the child's attention to an object to identify opportunities for learning. It can also be extended with attention to the child's level of development, which supports the child's active engagement in constructing knowledge about objects and events. These components are drawn from two traditions: behaviorism and constructivism. We need to integrate the best of each perspective to use play to support overall development.

These two perspectives must be recognized for the value each adds. Specifically, for those engaged in research and practice from a constructivist perspective, information and explanations about findings with individual and small groups of children can be valuable in formulating theories, hypotheses, and interventions in play. Moreover, the behaviorally oriented community should value the generalizations that can be drawn from representative samples as a basis for formulating hypotheses and interventions for individuals and small groups of children.

The Individuals With Disabilities Education Improvement Act (IDEA; 2004) required us to minimize the potential for developmental delay in infants and toddlers with disabilities. On the basis of the research over the last 25 years, this minimization should be reconsidered. Research suggests a more central role for play. For preschoolers, we are to provide services that include an educational component that promotes school readiness and incor-

porates preliteracy, language, and numeracy. Play should be a central component in all these endeavors, just as the developing child should be at the center of our assessment and intervention activities. We need to focus on what the child brings to the task of development and learning—the developing mind and the developing brain—in combination with increased specificity in our methods to move a child who is developing with delays forward. For this purpose, we need to come to terms with the best evidence from each research tradition. The research tells us that for a young child, play is not “just play.”

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