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Interest-Based Learning as an Intervention Practice for Very Young Children with Autism

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Advances in assessment and diagnostic practices now make it possible to identify autism in very young children long before the behavior markers associated with the disorder become firmly established.[1, 2] Those behavioral markers include poor social interaction skills and especially problems with joint attention, poor communication skills, and repetitive and stereotyped forms of behavior. Early assessment and diagnosis also make it possible to intervene early in the life of a child with autism to promote prosocial behavior and lessen behavior excesses.[3] At least one advantage of intervening early is the possibility that less intense and consequently less costly intervention practices might be sufficient to deter the development of social impairments and other behavior associated with autism.

Among the promising practices for intervening early is incorporating children's interests into their interactions with people and play materials. Recent research and practice in early intervention with infants and toddlers with developmental disabilities show that interest-based child learning opportunities are more likely to engage young children in prolonged interactions with people and objects in ways having development-enhancing consequences.[4] This chapter includes a description of a strengths-based approach to early intervention with young children with autism that uses their behavioral propensities (individual interests) and the interestingness of persons, materials, actions, and activities (situational interests) to engage children in interactions with their social and nonsocial environment promoting the acquisition of prosocial, functional, and socially adaptive behavior.

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Definition of Children's Interests

Krapp, Hidi, and Renniger[5] describe three ways in which interests can be defined: (1) interest as an intraindividual person characteristic, (2) interest as the salient features of the social and nonsocial environment that evoke engagement, and (3) interest as a psychological state that serves as sources of motivation, curiosity, and exploration. Young children demonstrate individual (i.e., personal) interests in terms of preferences for certain positions, sounds, and sights; prolonged attention to people, objects, and events; smiling and laughing in response to the consequences of their behavioral capabilities; and intense engagement in desired activities. Situational interests include the interestingness of children's everyday experiences that evoke and sustain interactions with people, objects, material, etc. Psychological interests include the manner in which individual and situational interests interact and promote sustained attention and engagement in a manner that permits a child to acquire a sense of mastery.

Both contingency detection and awareness play crucial roles in the early development of interests.[6] Contingency detection and awareness refer to a young child's recognition that he or she was the agent of environmental consequences resulting from behavioral interactions with people and objects. Research shows that infants as young as 3 or 4 months of age manifest positive social-

emotional behavior in response to contingency detection and awareness[7] and that these behaviors are indicators of a sense of early cognitive understanding and mastery.[8] Interest-based learning that enhances sustained attention to persons and objects makes it easier for young children to detect contingencies. This type of learning is especially important for young children with autism because they often have difficulty detecting different types of contingencies.[9]

Interests, Exploration and Mastery

Interest-based child learning provides young children opportunities to use existing abilities, learn new skills, and as a result of interactions with people and objects, develop a sense of mastery, curiosity, and motivation.[10, 11] Figure 1 shows a model depicting the role of interests in everyday child learning.[12] The model is based on many years of research in developmental psychology and the results from research my colleagues and I have conducted,[13-15] including research on young children with autism.[16-19] *Everyday activities* that children experience as part of family and community life are considered sources of situationally interesting social and nonsocial events and the contexts for personal interest expression. According to the model, interest-based child participation in everyday activity provides the conditions for sustained *engagement* in interactions with people and objects. Engagement in turn provides a child the opportunity to practice *existing competence* and learn *new behavior*. As part of competence expression and learning, a child has an opportunity to *explore* the consequences of his or her abilities and to develop a sense of *mastery*. A sense of mastery in turn is likely to strengthen personal interests, transform situationally interesting everyday activity into personal interests, and strengthen psychological interests.

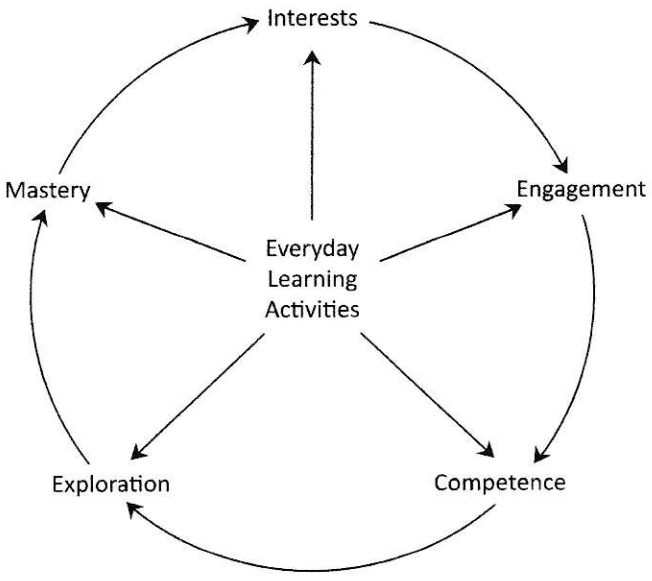

Figure 1. Model for depicting the key features of interest-based everyday child learning opportunities.

Research on the Interests of Young Children with Autism

Koegel, Dyer, and Bell[20] demonstrated 25 years ago that engaging children with autism in child-preferred activities was associated with decreases in social-avoidance behavior. Most research on the role that the interests of young children with autism plays in their prosocial learning has been conducted in the past 10 years.[21-25] A few of these studies included children as young as 2 and 3 years of age. Adamson et al.[24] found that the interests of children with autism were associated with developmentally appropriate joint attention to and prosocial engagement with adults. Warreyn et al.[25] reported similar results. In one of the few intervention studies of 24 to 36 month old children with autism, Vismara and Lyons[24] used children's individual interests as sources of adult-child interactive episodes and found that the practice increased the children's joint-attention behavior.

As part of a line of research on the interest-based everyday learning opportunities of infants, toddlers, and preschoolers with developmental disabilities or delays,[13, 26] my colleagues and I used the individual and situational interests of children with autism to provide the children interest-based everyday learning opportunities[17] and to assess the influences of participation on the children's social and developmental outcomes.[16, 19] The majority of children in this research were 2 to 5 years of age.

The children's mothers were first interviewed using an investigator-developed protocol to identify their children's interests (preferences, likes, favorites, etc.) and the things that made them smile, laugh, and get excited. After the

children's interests were identified, the mothers were asked to describe typically occurring, everyday activities that provided or could provide opportunities for interest-based child learning. The intervention consisted of increased opportunities to participate in the everyday activities where the mothers used responsive teaching[27] to support and reinforce child engagement in situationally and contextually specific learning activities. The interventions lasted 12 to 14 weeks per child.

Throughout the interventions, the mothers were administered an investigator-developed scale that assessed the extent to which child participation in the everyday activities was in fact interest-based. Results showed that child engagement in the largest majority of activities was interest-based although there was variability among the children on the interest-based measure. A composite score on this measure was used to assign the children to low and high interest-based groups to determine if differences in the children's interest-based learning opportunities were related to differences in the study outcomes.

The outcome measures included the number and frequency of mother-mediated everyday child learning opportunities, the social-affective behavior of the children in the everyday activities, and child developmental progress. Results showed that the children in the high-interest group were provided more learning opportunities in a wider variety of everyday activities, the children demonstrated more positive and less negative behavior while engaged in the activities, and the children made more developmental progress compared to the children in the low-interest group.

The results from studies conducted by my colleagues and myself with young children with autism as well as other developmental disabilities have been particularly encouraging for a number of reasons. First, the interventions are easy to implement and can be incorporated into the everyday life of young children and their families. Second, most parents are highly responsive to the positive, strengths-based approach to intervention. Third, benefits from the interventions are realized in relatively short periods of time. As is often the case, however, longitudinal studies are needed to determine if those benefits maintain and children with autism or other developmental disabilities continue to make behavioral and developmental progress.

Interest-Based Early Intervention

Lessons learned from the research described above as well as the use of the research findings to inform practice were the basis for the development of an interest-based approach to early intervention.[28-32] The intervention practices include both conceptual and operational features that are used to guide the implementation of interventions in ways optimizing behavioral and developmental outcomes. Those features are briefly described next.

Conceptual Foundations

The conceptual foundations of the interest-based approach to early intervention include activity theory[33] and both a strengths-based[34] and a promotional approach to early childhood intervention.[35] Activity theory emphasizes the importance of everyday activity settings as the context for learning contextually and situationally specific functional and socially adaptive behavior. Tharp and Gallimore[36] defined everyday activity settings as the "contexts in which collaborative interaction, intersubjectivity, assisted performance, and learning occurs" (p. 72). Farver[37] noted that "activity settings are made up of everyday experiences...[that]...contain ordinary settings in which children's social interaction and behavior occurs. They are the who, what, where, when, and why of daily life" (p. 201).

According to Bronfenbrenner,[38] child learning and development in everyday activity are influenced by both the personal characteristics of a developing child (e.g., personal interests) and the characteristics of social and nonsocial environment that the child experiences as part of participation in everyday activity (e.g., situational interests). Bronfenbrenner[39] also noted that the "personal characteristics likely to be most potent in affecting the course...of development...are those that set in motion, sustain, and encourage processes of interaction between the [developing] person and two aspects of the proximal environment: first, the people present in the setting: and second, the physical and symbolic features of the setting that invite, permit, or inhibit engagement in sustained,

progressively more complex interaction with [people] and an activity in the immediate environment" (p. 15).

The intervention practices are strengths-based inasmuch as the interests of young children are used as the building blocks for engaging children in everyday activities promoting acquisition of functional and socially adaptive behavior. Promotion models guide the conduct of the interventions based on the assumption (and evidence) that enhancement of prosocial behavior lessens the likelihood that children will engage in undesired behavior.[13, 19] Engagement in interest-based child learning is one of the types of experiences that Bronfenbrenner[38] contends are the features of learning opportunities that have development-instigating characteristics and development-enhancing consequences.

Operational Features

Figure 2 shows the interest-based intervention model and its four operational features: child interests, everyday family and community activities, increased interest-based child participation in the activities, and parent-mediated child learning in the activities. The main focus of interventions is to promote and strengthen parents' capacity to increase the number, frequency, variety, and development-instigating characteristics of interest-based child participation in the activities where parents use naturalistic teaching procedures[40] to support existing child competence as well as promote acquisition of more developmentally advanced behavior. The role early childhood intervention practitioners play in implementing interest-based practices is to support and strengthen parents' and other primary caregivers' use of parent-mediated child learning in the context of situated settings.[32]

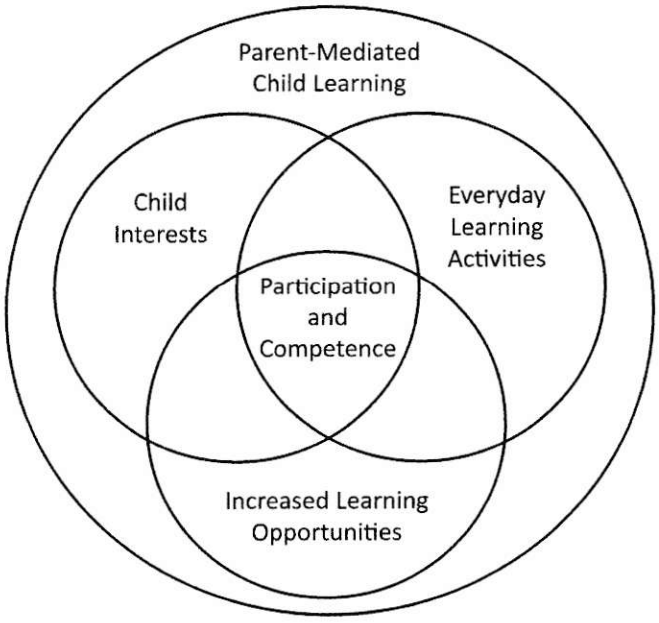

Figure 2. Four major components of the child interest-based approach to early intervention.

The methods for identifying child interests are straightforward and include answers to questions such as: What does the child like? What makes the child smile and laugh? What captures and maintains the child's attention? What kinds of things does the child prefer or like to do? Children's interests can also be identified by any number of assessment scales.[41-44] The results are used to produce a profile of child's interests, strengths, preferences, etc. that in turn are used to identify everyday activities that are the best contexts for interest-based child learning. Interest-based child learning simply includes opportunities to do what a child likes to do, prefers to do, and enjoys doing where participation in everyday activities is the source of interest expression.

There are also different methods and procedures for identifying everyday activities that can be used as sources of interest based child-learning opportunities.[28, 45] One of the easiest and most straightforward ways to identify interest-based everyday activities is to use checklists that include compilations of typically occurring activities that most children experience day-in and day-out. Swanson et al.[29] have compiled just such lists of everyday activities for infants, toddlers, and older preschoolers that can be used as interest-based learning opportunities. The Swanson et al. checklists also include guidelines for increasing child participation in the selected activities.

An important part of interest-based practices is the use of responsive teaching[27] and other naturalistic teaching strategies[40] to shape and influence child production of functional and socially adaptive behavior while engaged in everyday activities. Responsive teaching includes caregiver sensitivity and contingent responsiveness to child behavior

initiations, following a child's lead, positive caregiver affect, turn taking, and attempts to elicit child behavior elaboration. These particular characteristics (as well as others; see 40) have been found effective for promoting the joint attention and prosocial behavior of young children with autism as part of child participation in everyday activities and routines.[46, 47, 48]

Conclusion

The approach to incorporating young children's interests into everyday activities described in this chapter is one of a number of different interest-based early intervention practices for intervening with young children with autism and other developmental disabilities.[23, 49] The practice described in this paper however differs from other interest-based practices by the ways in which interests are defined, how interests are used to identify everyday learning opportunities, and how interest-based learning opportunities are embedded in the everyday activities that make-up a child and family's life. There are now enough studies of the interests of young children with autism 2 to 8 years of age to determine if the differences in the various approaches to interest-based early intervention practices matter in terms of their behavioral consequences. The author and his colleagues have just completed a meta-analysis of these studies to identify the conditions under which incorporating children's interests into interventions have optimal benefits.[50] The results shed light on how interests can best be used as part of interventions with young children with autism.

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