

# EARLY CHILDHOOD DEVELOPMENT AND AUTISM SPECTRUM DISORDERS

## ATTENDING TO WHAT MATTERS MOST

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Most children enter the world with natural abilities that provide the foundation for healthy social and intellectual development. Daily life experiences provide each child with an active and engaging world that stimulates senses, interacts with individual biology, and shapes language, social and cognitive development. It is surprising how quickly children learn to talk and socialize. There seems to be an inherent desire to engage with others and to show one's independence. Children quickly demonstrate the ability to observe the behavior of others and imitate their actions. Early, they can discriminate their parents' emotional expressions (e.g., pleasure, anger) and imitate a world of non-verbal and verbal behavior. And, once they begin to observe other children, learning goes into high gear.

### Foundational Elements for Learning

1. Attention
2. Imitation
3. Interactions with others

The key prerequisite building blocks to learning include attention to people and things, imitation of others, and a desire to engage with others.

### Autism Spectrum Disorders

For a child with autism spectrum disorders (ASD), learning is not so simple. As most people know, ASD is diagnosed more frequently than ever before (the prevalence is now at 1 in 36 children according to a CDC report released in 2023). Core features of ASD include impairments in social interactions and communication as well as rigid and repetitive mannerisms. Some children with ASD have average or above average intelligence, while others exhibit severe intellectual disabilities. For this discussion, I will address the needs of young children under five years of age with ASD and profound intellectual disabilities.

### Characteristics of Profound Autism

1. Limited initiation of social interactions
2. Impaired imitation
3. Restricted response to social overtures
4. Deficits in verbal and nonverbal communication
5. Behavioral inflexibility

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Most children with ASD with severe intellectual disabilities appear to observe the world around them differently. It is not that they are not observing; they seem to have much different interests. For example, a child with ASD may be interested in the moving parts of a fan in the room but show little interest in the people standing near the fan. The problem is that a child cannot learn very much by observing a fan. But he or she might learn a lot by observing and interacting with adults or other children. In short, the child with ASD may not be observing the things that matter the most toward the development of communication and social relationships.

Neurotypical children often observe their parents pouring juice from a large bottle, and they want to do it themselves, even if they are not yet capable. They also point to objects in their environment and vocalize to pull others into a social interaction. Again, the key elements in both examples are attention to things that matter, imitation, and a desire to engage others. However, these are the elements often missing for children with autism. Without these foundational skills, normal parenting and early intervention practice will not result in much learning for children with ASD. Although challenging, there are ways to help children with ASD acquire these foundational skills.

## **Critique of Teaching Methods**

If foundational skills are not developing naturally, then they must be taught. Teaching skills is not easy and what is needed seems contrary to everything we know about engaging young children in learning. A common approach to early intervention is to display toys and materials and deploy enthusiastic and attentive staff to engage with them. Within this context, children will naturally play with the toys and materials, and there will be hundreds of moments for the adults to teach. But this approach, while seemingly perfect for neurotypical children, is unlikely to work for children with ASD (at least initially). Again, most of the critical prerequisite building blocks (attention, imitation, and desire for engagement) are absent or impaired. Those missing learning-to-learn skills reduce the opportunities for learning and change how adults and peers interact with them. Consciously or unconsciously, we interact

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less with individuals who are often unresponsive to our social overtures. Fortunately, there are strategies shown to help children learn and apply foundational skills.

Note: In the last few years, critics of autism interventions have argued that adults focus too much on “forcing” the child to act normally and do not acknowledge individual uniqueness. According to those critics, adults ignore the child’s preferences and choices. However, this author argues that for young children, learning developmentally appropriate social, communication, and cognitive skills will lead to greater opportunities and access to choices not possible without these skills.

## The Learning Environment

It is common for early intervention to begin at home with the parent’s active involvement. Successful programs start by establishing a learning environment that helps to overcome the significant impairments in attention. The environment minimizes distractions but is engaging and fun. The job of the adult is to support and praise the child for attending, engaging with people and things, and following simple instructions. Initially, activities should be brief but increase as the child appears more

### Start an Age Appropriate and Engaging Context

1. Plan.
2. Minimize distractions.
3. Start with short activities.
4. Make it fun.
5. Start at the child’s current level.

comfortable. Start with things that the child can already do or that are beginning to emerge. For children under three years old, the best approach is to start within the context of play on the floor. By the age of

three, most children begin to play and learn while sitting on a chair at a table.

## The Curriculum

Many basic skills that are important for learning other things. These skills include attending to other people and materials and responding to simple instructions. Imitation is a pivotal skill that can be used to accelerate the learning of social and communication skills. And, a variety of cognitive skills, like matching and sorting objects, are helpful to learn other things (e.g., classifying food groups). These activities help the brain to develop and form the required skills to succeed in kindergarten. There are many receptive and expressive communication skills required for learning other things most efficiently

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(e.g., identifying common objects). In addition, developmentally appropriate self-help skills should be addressed for eating, toileting, and dressing.

### Needed Foundational Skills

1. Attending to people, activities, and things
2. Imitation of actions
3. Following simple instructions
4. Matching and sorting objects (e.g., by shape, color)
5. Identifying objects by name
6. Indicating preferences
7. Imitating sounds and words
8. Developmentally appropriate self-help skills

## Instruction

Effective programs start by considering expectations for the child based on their age. As mentioned above, for a child under three that may mean a situation on the floor with a variety of interesting toys and materials. The goal is to move toward a learning environment where skills to be acquired can be presented conveniently for rapid learning. But you may need to start where the child is most comfortable. The initial job of the adult is to build rapport with the child, show enthusiasm to help keep the child engaged, and begin to shape small improvements in behavior (e.g., manipulating toys and materials, responding to name, remaining in the defined area). Initially the lessons should be very short (1 – 5 minutes) but as success is achieved the time is lengthened. The early lessons may involve following the child's lead (i.e., their presumed interests), while periodically encouraging attention to less preferred materials and activities. The early days focus on building the child's acceptance or tolerance for structure. Eventually, the child begins to look forward to the people and activities and lessons will feed into the autistic child's desire for sameness and consistency.

Imitation is a behavior that often emerges in the first year of life for neurotypical children but can be absent for children with ASD well after one year. It is a foundational skill that, when absent, makes learning words, expressing symbolic play, and acquiring self-help skills much more difficult.

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Over time, instruction becomes more systematic and structured. Systematic, in that each lesson has established goals for learning and an organized approach to instruction. Structured, in that the adult leads the lesson content while slowly raising expectations. For example, in the beginning, the adult may imitate the child's behavior. Eventually, the adult gets the child's attention, claps their hands, while simultaneously instructing the child to imitate the model ("Do this"). Any approximation to the model is rewarded with praise. If praise alone is not yet rewarding to the child, a previously identified reward can be paired with praise (a preferred toy or a piece of food). These rewards are eventually faded. As the child acquires skills, the adult will embed instructional opportunities into natural routines with natural consequences. For example, a child's vocalization or sign approximating the request "more" results in the adult bouncing the child on their knee.

There are many other methods to help children with ASD learn, including breaking complex skills into smaller parts for learning, and mixing easy and hard tasks so the child is immediately more successful. The use of picture-symbol systems or manual signing also can help facilitate the acquisition of communication skills. Adults can enhance motivation by rewarding the child's attempts to respond and offering a choice of preferred activities and materials as rewards. And, of course, the adult must ensure that the skills are developmentally appropriate, and prerequisites have been met.

### Small Steps for Learning

An example of breaking a skill into small steps is learning to sit at circle time with other children.

- The child is praised for sitting for one minute, then released from the group.
- The adult starts to expect more from the child over several days by requiring two minutes, then three, until the child can sit for the full ten minutes.
- Attention and praise are used to reward the child for gradually increasing intervals of sitting and attending.

## Moving from Highly Structured to Natural Situations

Systematic and highly structured situations are the beginning, they are not the end point. Like any instructional situation, structure is both a strength and a weakness. Most adults have learned things in school that they are now unable to apply in their daily lives. Some things were never meant to be

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permanent (e.g., memorizing facts). The goal was to stimulate the brain and develop foundational skills. We did not maintain some skills because they were not particularly functional for our daily lives and we never practiced them beyond the classroom (e.g., reciting the capitals of all U.S. states and territories). The same is true for children with ASD.

The other complicating factor for children with ASD is that they sometimes do not attend to the right things within a given context. They are likely to focus on a particular instructional phrase, a specific set of materials, and/or setting and not be able to perform the skills outside of that instructional context. For example, the child with ASD may learn to imitate several common actions (e.g., touch head, clap hands, say “ah”) but not learn the rule “Watch and do the same thing I am doing.” The ability to follow a set of common actions is helpful, but learning the rule could open the door to rapid and sustained development. Attention to this instructional challenge is important. Adults must ensure that skills, when acquired, are used across a variety of situations including settings, people, and objects and materials. To achieve this, adults must actively plan and execute to ensure that skills are repeated in novel conditions.

## **Practice Makes Progress**

One of the most important things to consider is the amount of opportunity the child must practice skills to be learned. It is common for a child with ASD to require 100s of opportunities to learn a new skill. A mistake that adults often make is to only practice an emerging skill a couple times a week and hope it will be learned. If it were that simple, most children with ASD would learn many skills through simple trial and error, but they don’t. Adults must expect that acquisition of skills will take a long time with 100s of practice opportunities. And even longer to ensure that the skills is performed fluidly. For example, a child may be able to express some words, but if unable to perform fluidly, he/she is not likely to be understood.

## **Learning in Groups**

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Individual instruction makes sense when the child has limited attention, lacks basic group readiness skills, and requires physical prompting. However, the potential benefits of group instruction are clear:

1. Group instruction prepares the child for kindergarten.
2. It creates the potential for observational learning.
3. It provides an opportunity for social and language interactions with other children.

At issue sometimes is when to introduce group instruction. Introduce it too early and the child may not be able to attend well enough. Spreading the learning opportunities across many children could mean that the child with autism is not getting enough practice to learn specific things. An intermediary step is to provide one-to-one instruction within a group context. Flexible models that allow fluid change from one context to another and movement between individual and group instruction are most likely to be successful.

As the child with autism progresses, opportunities to integrate with children with no developmental disabilities should occur. Neurotypical children model age-appropriate social, language, and symbolic play behavior for the child with ASD.

However, for many autistic children, integration must be structured to ensure there is mutual engagement. Adults

Often, integration must be structured to foster and support mutual engagement. Simple exposure is not enough to ensure that relationships develop.

will need to establish activities to foster interactions and may need to encourage the neurotypical children to connect. Simple exposure often is not enough to ensure that relationships develop.

## Summary

There are two key points to take from this description:

1. Every child with autism can learn and acquire skills and behaviors leading to greater independence.
2. Learning is unlikely to occur without a systematic and structured approach.

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Recently, some advocates and professionals have suggested that autism is not a disability. They argue that we need a more accepting and inclusive society, not intervention. I argue that failure to address core symptoms of autism will impair the individual's ability to acquire confidence and self-sufficiency. In the end, individuals with autism will have fewer choices and potentially a more socially isolated life. Parents and professionals would not simply accept social and academic deficits of their non-autistic children without first trying to make a difference.

While behavioral symptoms of autism often emerge at 15 – 18 months, many children still do not get critical intervention until much later, if at all. An argument to not intervene could exacerbate the situation. Research indicates that the results of early intervention can produce substantial gains in communication, socialization, and cognition. This is particularly true for those with severe intellectual delays and profound impairments in socialization and communication.

The field of early intervention and its allied professions (e.g., education, psychology, applied behavior analysis), need to continuously focus on finding the best methods (behavioral and medical) to address deficits that may prevent full participation in the community. The evolution of successful intervention is a process that unfolds over years and decades. As a comparison, examine how medical interventions for treating disease have changed. Less than a century ago, vaccines that eliminated many infectious diseases in children were unknown. Most of the pharmacologic agents that are widely used today in clinical practice such as antibiotics did not exist. Significant cancer treatments have been identified in just the last 20 years. The comparison is not perfect, autism is not a disease, but the example illustrates the need for controlled research to identify proven methods for helping children with autism to be successful. This does not obviate the need for a more accepting society that values individual differences. Two things can be true at the same time.

This paper tries to explain the strategies for autism intervention free of professional jargon and based on my best understanding of the science at this point. Some elements are based on experience,



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common sense, and a compassionate approach to intervention. Others are grounded in scientific support.

1. Build a relationship with the child.
2. Ensure that lessons are fun and engaging.
3. Be playful and systematic.
4. Start where the child is initially functioning.
5. Focus on developing foundational learn-to-learn skills.
6. Over time, be more direct and systematic.
7. Ensure lots of practice.
8. Deploy instructional methods shown to be effective.
9. Use a variety of ways to motivate the child to want to participate.
10. Gradually move from structured to less structured environments.

There are many proven methods (#8) for teaching including breaking complex skills into smaller steps for learning (a task analysis), recognizing small improvements in responding (shaping), and using rewards to motivate the child (principles of reinforcement). There are differences among professionals in the proportion, sequencing, and timing of strategies. For example, child vs. teacher-initiated activities, structured vs. unstructured lessons, use of contingent reinforcement, individual vs. group instruction, self-contained vs. social integrated setting, and instruction in the natural vs. contrived settings. I argue that all these strategies are important and should be continuously assessed and modified based on individual child need.

It may be fair to say that no area of developmental disabilities has more tension and controversy than the field of autism. My hope is that professionals, parents, and advocates continue to talk to each other and understand various perspectives. My guess is that few professionals will disagree with most strategies and recommendations expressed in this paper. However, there seems to be bitterness toward

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the field of applied behavior analysis (ABA) which is what I have described in this paper. I have observed a misrepresentation of the key elements of this approach and a distortion of the positive successes that have been achieved for many individuals. Like any field, there are good and bad examples of practice. But there are thousands of individuals with ASD that live more inclusive and enjoyable lives because they participated in an ABA program at an early age.

## **About the Author**

Dr. Anderson is a licensed psychologist and a board certified and licensed behavior analyst. He received his Ph.D. in Developmental and Child Psychology from the University of Kansas. He has published journal articles, book chapters, and one book on the education and treatment of people with autism or other developmental disabilities. For 28 years, Dr. Anderson served as the Chief Executive Officer of The Summit Center.