

## **Chapter 1**

### **Introduction**

Autism has risen to almost epidemic proportions in the United States with current estimates suggesting that the probability of having a child born with autism is about 1 out of every 166 births. In reaction to this startling number various treatment programs have been developed to address the needs of this growing population. Starting with the ground breaking work of Dr. Ivar Lovaas at UCLA behaviorists have been on the frontline fighting to remediate deficits related to a diverse set of problems associated with the autism spectrum disorders. Many other approaches have sprung up in an attempt to duplicate or surpass the treatment effectiveness of the behavioral approach. Many alternative treatments claim equal or superior results but none to this date have been able to duplicate the research base which supports the efficacy of a behavioral approach. In our opinion these other approaches, although not a substitute for a behavioral approach, often highlight an area of focus allowing an expansion of behavioral principles to new areas of treatment.

The advent of Verbal Behavior as described by Sundberg and Partington (1998) led to a focus on Manding (requesting) earlier in treatment than what was traditionally done in a standard Lovaas approach. The use of the ABLLS provided an alternative to a standard Lovaas flow chart that was not available to everyone. Verbal Behavior also increased the focus of therapy on referencing objects by form, function and class and being able to appropriately respond to verbal stimuli (Intraverbal responding). The work of Stanley Greenspan (1997) led to more of a focus on increasing what he calls circles of communication during downtime play. Greenspan's work also highlights the need for

parental involvement. Whether it is the integration of principles of Theory of Mind, the teaching of PEC's, the use of social stories or video modeling each of these new approaches adds to the basic Lovaas approach. We do not need to throw out and replace a standard Lovaas approach when integrating these other approaches. The principles of behaviorism can be used to understand what added benefit these other approaches may have and to systematically integrate them into a full Applied Behavior Analysis approach.

There is so much out there about treatment that many therapists trying to integrate these approaches are left wondering what to do next when developing a treatment plan. Those who follow the Lovaas approach have access to the Lovaas flow chart and move from one program to another as a child masters items. The ABLLS-R tries to provide guidance on what program to move on to after one is mastered. What is missing in the field of autism treatment is a comprehensive theoretical rationale for moving from one program to another.

New Senior therapists, who run intensive early intervention programs on a day to day basis, are often in the dark as to why they are doing what they are doing. They move on to the next program not really understanding why the program just mastered had to become a solid skill before we could move on to the current program. This book is an attempt to provide a theoretic rationale for programming. Our goal is for readers to more fully understand how behavioral skill sets build upon one and other resulting in developmental progression. Developmental progression occurs as behaviors are taught and combined into more complex behavior patterns. As this occurs an individual is able to move more comfortably through their world. They can solve problems and accomplish

goals more readily. The ultimate goal is for people to increase their ability to function in the world and achieve what they desire to achieve.

We begin by discussing the most basic research in the field of Autism and Autism treatment. We have mainly focused on research which has been consistently replicated. Our hope is that this information will provide a backdrop for the beginning therapist to understand that Autism is largely a genetic condition which has its basis in the neurological functioning of a person's brain. There are critical times when the brain is developing new dendritic connections and pruning old connections. Early intervention is an attempt to capitalize on the plasticity of a child's brain to remediate deficits before they become debilitating. Understanding that early intervention is in essence neurological habilitation helps a therapist deal flexibly with programs. Every child has strengths and weaknesses. As early interventionist we must build on a child's strengths and their weaknesses.

The next chapter provides information on basic principles of behaviorism. When discussing behavioral principles we do use hypothetical constructs to some degree. We discuss expectation and an internal locus of control. From a pure behavioral perspective these are hypothetical constructs that are often used as explanatory fictions. When we discuss expectations or an internal locus of control we are not using these terms as explanations. These terms could be removed from this writing completely. When we mention hypothetical constructs they should not be thought of as explanatory fictions, we use them more as alternative (cognitive) descriptions. They do not add anything to a pure behavioral account of what is happening. We use these constructs not as explanatory fictions but as a way to increase heuristic understanding in a society that values cognitive

explanations. This book could have been written from a purely behavioral perspective but we feel people will get more out of the book with a few cognitive hypothetical constructs presented as descriptions to encourage heuristic understanding. The use of cognitive hypothetical concepts also makes the work less dry and robotic.

Behaviorism can be understood by the average person and can be used to remediate many problems. Behaviorism involves using a systematic approach of observing and recording behaviors and adding a systematic plan to help children understand, predict and control their environment. The principles of behaviorism, much like the principles of physics, are general and apply to all organisms. Systematic use of the laws of behavior change allows a therapist to help children grow intellectually, emotionally and socially. Behavioral laws much like physical laws apply whether you understand or believe in them or not.

After the chapter on Behaviorism we turn to discussing some developmental patterns. We believe that it is very important to understand typical developmental patterns. Developmental patterns are basically complex behaviors. The question is at what level of complexity are behaviors occurring. Highly complex behaviors are considered advanced development. Yes, there are neurological changes that occur as the complexity of a child's behavior increases. Neurological development occurs as complex behaviors are learned. We do not need to wait for neurological readiness. Neurological readiness occurs as prerequisite behaviors are learned. We hope to provide new therapists with an understanding of how behaviors build upon one and other to become complex behavioral patterns. We hope that when a child can not learn a program or task that the therapist will

be able to look at the child and the task and break the task into smaller or easier tasks so that they can work toward attaining the larger task.

After this background we will move into describing the building blocks of therapy, including developing environmental acceptance and promoting environmental expansion. Here a therapist learns how to develop rapport with a child. We begin to present the concept of motivation and give the therapist tools to understand and harness motivation. Motivation is a key to success as a therapist. Without understanding and being able to harness motivation a therapist and the child's program of change will flounder. As motivation is harnessed and the child moves in the direction of being motivated by more objects and activities the focus of therapy moves to building self-initiation and the ability to communicate with non-verbal gestures. Next, the child learns about contingencies and how to maximize control over the world by being responsive to contingencies.

We next move on to discuss learning to label the world based on physical characteristics. The major work of building socially derived perceptions and labeling those perceptions originally will be developed through the three stage process of providing a physical signal to the child, waiting for the appropriate behavior, and reacting to the child in a fun way when the behavior occurs. Here the child is trying to achieve a desired goal. Next, as perceptions and the ability to label and integrate labels become more complex, the therapeutic method will continue to rely on the above three step process but will begin to rely more and more on acquisition of knowledge guided by information in the form of rules.

The child is taught to perceptually make distinctions between objects and sounds based on if they are the same or different. The child learns to match 3-D to 3-D objects, 2-D to 3-D objects, 2-D to 2-D objects and then to construct, sort and pattern the objects learned. The child is then taught to receptively interact with the perceived objects and eventually to label the objects. The child learns to imitate single movements and then complex movements and eventually to imitate vocal and verbal sounds. At the same time, the child can be taught to respond to vocalizations. All of these skills culminate in the ability to request concrete objects and label concrete objects.

The stage is set for more complex behavioral patterns as the child starts to learn about the world in a more abstract sense. Relations between things are not necessarily based on physical characteristics but now are based on a socially derived (decided upon by society) meaning. Here the child can start to rely on information provided, although much learning is still based on achieving desired goals. The child is taught to relate objects and abstract ideas and to integrate objects and ideas in novel ways. At the same time, the child responds verbally to cues and then open ended questions which lead into the natural give and take flow of conversation. Next, the child starts to understand abstract social relations and gains a more abstract understanding of self and others.

The child is helped to move through developmental stages by harnessing natural motivation and using a systematic approach to progress them through adaptive stages of functioning. In other words a child develops more complex behavior patterns and his or her behavior patterns become more functional at solving problems in the child's world. Behaviors at this stage could be physical behavior patterns or the manipulation of verbal behavior patterns to accomplish goals in the world.

We close with a discussion of special topics highlighting certain challenges facing children with autism and their therapists. Attention and the direction of attention to socially appropriate objects and people in the world is one of the biggest keys to a successful outcome. We will give special attention to attention. Next the discussion turns to self-stimulation or as we prefer to call it self-soothing behaviors. Self-soothing behaviors are very distressing to parents and often set the child apart obviously from their peers. Finally we provide background neurological information in the appendix for people that are interested in more information about the information processing model we use when assessing a child's challenges.

Programs are presented at the table to structure the learning periods. Play therapy is used throughout as a general rule between programs. We rely on increasing interactive patterns and teaching the child how to play with developmentally appropriate toys on down time between programs. Programs are also presented in a play format when possible, using the child's natural motivation and interest in the world. All programs are taught with the overall emphasis of guiding the child to the next higher level of adaptive functioning. Building attention, self-control, interest in the physical world and abstract world of thought and language is an ongoing focus, realizing that all of this comes to fruition through the most important aspect of life and therapy, the development of a deep, emotionally engaged relationship with other people.