INTEGRATING CHILDREN WITH AUTISM INTO

THE REGULAR CLASSROOM:

RECENT RESEARCH AND BEST PRACTICES

MICHELLE ELEMANS

B.Sc., University of Calgary, 1996

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Dedication

I would like to dedicate this project to all the special little teachers who have taught me so much over the last seven years. I look forward to learning more. Thank you for being my angels.

Abstract

Autism Treatment Services of Canada has identified a marked increase in the number of children who receive the diagnosis of autism, estimating as high as 20 in every 10, 000 children (1998). Such increase demands a need for services to meet the challenges of these children and their families. The goal of this project is to provide such a service by providing a manual accompanied by a web site that outlines the best teaching practices for parents and teachers of children with autism. A review of the literature examines autism, models in early intervention, integration, and strategies for teaching. Key aspects of applied behavior analysis are discussed in detail. Community resources including names of organizations, phone numbers, and web sites are included. The material is presented in a manual, web site (http://www.unlimitedmedia.ca/autism/, and CD-ROM. In providing such a resource it is hoped that parents and teachers can better address the needs of children with autism.

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Chapter One

Introduction

Over the last several years I have made many school visits in towns surrounding Lethbridge and Calgary. As a behavioral consultant, I made many observations during my visits to the schools and I have identified a need for expertise in the area of special education. Currently, many children with special needs are included in the regular classroom with aids and teachers who have minimal knowledge and experience with special needs children. I have observed this specifically with children with Autism, Asperger's Syndrome and Pervasive Developmental Delay (PDD). Attempts are made by teachers and aids to meet the needs of these children but because the social, behavioral, and cognitive needs of these children are so unique the needs of these children often fall short of being met.

Since starting the Masters program, I have met several teachers, nurses, and administrators who, similarly, know little about autism. This has raised the question, "Who is receiving the training and education to effectively meet the needs of these children?" In addition, many of the parents I have worked with, have been met with blank faces by family doctors and pediatricians when they ask what options are available to their child with autism. Having worked in the field of autism providing intervention for children and working closely with parents and teachers planning programs, for seven years, I have observed first hand these kinds of challenges parents and teachers face. This has prompted me to examine how we as teachers, and parents can better serve children with autism in the classroom.

As my final culminating project I explore autism and attempt to generate answers to the following questions, what do teachers need to know about autism? What can teachers do to enhance classroom experience for children with autism? How can this project provide support to teachers? In addition to these questions, and as a result of my

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own personal experience, I have made some general assumptions about which I attempt to address in this project. The assumptions are as follows: Teachers ' currently lack the support needed to effectively meet the unique needs of children with autism; beginning teachers are not provided with enough information regarding autism; there is a need for services for families, teachers, and administrators in the area of autism; there is a need for integration of services to meet the daily challenges teachers and parents face.

In addressing the above questions and assumptions I present the material in the form of a manual, which is accompanied by a web site (http://www.unlimitedmedia.ca/autism/) and a CD-ROM. A combination of current research, theories, and case study examples, represent the approach used in describing this material. For the purpose of this project the pronoun 'he' is used to describe a child with autism, however, the child may be male or female.

Rationale

When children with autism reach school age and are integrated into the regular classroom it is likely that these children may have received some support or intervention during their preschool years. Intervention and support may come in a variety of forms including speech and language services, specialized preschool programs, occupational therapy or intensive behavioral programs. With the increased recognition and diagnosis of autism, it is not uncommon that many of these children are engaged in intensive programs as young as two years of age.

Often these children who have been involved with early intervention programs enter classrooms where little is known about such programs or the practices used. At present there are few resources that bridge together the early intensive intervention programs and classroom practices.

Through understanding the kinds of early intervention programs these children have been a part of and their unique learning needs, adjustments can be made to their environments. In making such adjustments teachers, educators, and parents can help these children to reach their full learning potential in both home and school environments.

Recognizing the special learning needs of children with autism and investigating their early experiences may help teachers better understand and meet some of these children's specific needs. Examination of research and the creation of this project may provide the necessary support that teachers are currently needing.

In examining the recent research and best practices for teaching children with autism an investigation in the area of applied behavioral analysis has been conducted. An investigation in this area is based on the current literature which appears to provide the best support in educating children with autism. Investigating this topic has helped guide me into my inquiry of how teachers and parents can ensure best teaching practices are utilized to meet the needs of children with autism. Furthermore, presenting this material through the world wide web enables all teachers and parents, including those in rural areas, access to valuable information that can assist them in their homes and classrooms.

Chapter Two

Literature Review

Early Intervention Strategies: Best Treatment Options: What the Research Says

Since Kanner first identified autism in 1943, it has been a well researched and debated field. One area in which debates have occurred is in the area of treatment. Because the diversity among children who have autism varies substantially, choosing the best intervention has been troublesome for many parents and professionals.

In the early 1990's one parent saw great success with her children's breakthroughs in learning. The family implemented an intensive program in which applied behavior analysis (ABA) was the main strategy used for teaching and managing behavior (Leaf & McEachin, 1999). Intervention for both siblings was based on Lovaas intervention (1987). The two siblings were involved in early intervention in which the program focused on verbal and nonverbal communication, socialization, cognitive, and play-oriented tasks. Each of the programs area of focus were broken down into discrete goals, and as each goal was accomplished more complex goals were introduced. The use of reinforcers were used throughout the procedures (Perry, Cohen, & DeCarlo, 1995). Since this breakthrough ABA has received much research and debate.

Prior to such breakthroughs several approaches to teaching children with autism have been examined. However, much of the research since the 1960s support behavioral treatment and it appears to be the most promising intervention (McEachin, Smith, & Lovaas, 1993).

Simeonnson, Olley, and Rosenthal (1987) stated that, "behavioral treatment has developed to the point that it can produce substantial improvements in the overall functioning of young children with autism." (p. 360)

Other research indicates that,

> The most successful methods of education or treatment for autistic
>
> individuals employ behavioral methods to teach adaptive behaviors that
>
> will be useful throughout the child's life span. Working towards improving
>
> the child's ability to communicate, to adapt to change and to relate to
>
> others socially have proven to be the most effective goals for which to
>
> strive. Although there is no known 'cure' for autism, some autistic
>
> individuals have been said to have recovered from many autistic behaviors
>
> and have been integrated into normal community settings as a result of
>
> early intervention and treatment with behavioral methods (Autism
>
> Calgary Association, 1997, no page number).

Applied Behavioral Analysis (ABA) is based on learning theory and emphasizes the role of environmental influences in the children's life. The aim is to teach children how to perform tasks that are currently nonexistent through the use of positive reinforcement and shaping.

The behavioral approach was refined by Lovaas to teach children with autism through the implementation of discrete trials. Discrete trials break tasks into manageable teaching components. As the children learn each component of a task they are rewarded. Generally, a hierarchy is developed to target the most apparent weakness in skills or behaviors.

The success of ABA can be attributed to the following seven strategies:

1.   The focus is on specific objectives.

2.   Instructors stress sequential skills.

3.   Teaching is in small 'building blocks' (referred to as task analysis).

4.   Activities are teacher directed.

5.   The child's behavior is shaped through reinforcement.

6.   Children move from concrete to abstract tasks.

7.   Language is a vital component (Lay-Dopyera & Dopyera, 1990).

Research conducted by Lovaas has provided the most support for the treatment of autism through implementing ABA and discrete trial teaching. Lovaas (1987) examined the implementation of behavioral intervention strategies to treat children with autism. He hypothesized that, 'construction of a special, intense, and comprehensive learning environment for very young autistic children would allow some of them to catch up to their normal age peers by first grade" (p. 4). The treatment method was based on reinforcement (operant) theory. Participants included children with autism under four years of age. Results indicated ignoring aggressive behavior and self stimulatory behaviors, the use of time outs and shaping socially acceptable behaviors, reduced the occurrence of these negative behaviors. The results report that 47% of the experimental group achieved normal intellectual and educational functioning. In contrast only 2% of the control group subjects obtained a similar level of functioning (Lovaas, 1987).

The participants were reevaluated at age seven. They gained an average of 20 IQ points and demonstrated advances in educational achievement. Nine of the nineteen subjects completed grade one in a mainstreamed classroom with no assistance. This is in contrast to the control group where only one of the forty participants attained normal levels of intellectual and educational functioning.

Harris and Handleman (1994) in their research reviewed several studies where applied behavior analysis was the intervention of choice. These studies indicated that more than 50% of the autistic children who participated in the ABA preschool programs were integrated successfully into regular classrooms with little treatment thereafter.

Research conducted by Anderson, Avery, DiPietro, Edwards and Christian (1987) attempted to replicate similar work done by Lovaas (1987) to investigate and evaluate a

home based intensive behavioral program in teaching children with autism. Results indicated positive treatment effects in the majority of the participants. Fourteen participants demonstrated an increase in language by 31% , readiness skills 18%, self-help 13%, social/behavioral 17%, pre-academic 13% and motor/play skills 9%.

Although there is no conclusive evidence that ABA should be the treatment of choice for children with autism, much of the research favors implementing ABA. DeMeyer, Hintgen, and Jackson (1981), Rutter and Hersov (1985), have found that through behavioral intervention children with autism demonstrated an increase in adaptive behaviors which included language development and social skills development and demonstrated a decrease in disruptive behaviors. Watson (1996) also concluded that applications of behavioral methods demonstrated positive outcomes in teaching children self help, academic, social, and language skills and has proven to be an effective method in handling difficult behaviors. To date, summary of research in this area indicates the most successful method for treating and educating individuals with autism involves structured and intensive behavioral intervention.

Several links to web sites related to applied behavior analysis are outlined in Chapter six. Links to these web sites are available through the accompanying web site. An example of such web site is http://pages.prodigy.net/damianporcari/recovery.htm. It provides an in depth description of applied behavior analysis with step by step instructions and definitions.

Chapter Three

Understanding Autism

What is Autism?

When the body receives information, the information will come through one or all of the five senses including smell, touch, taste, hearing, or seeing. Once the body receives this information the brain sorts and organizes it to give it meaning (Kang, 1999). When new information is processed learning takes place. However, at some level autism affects how information is processed having severe implications on learning.

Autism, a developmental delay, is characterized by delays in cognitive functioning that may be due to such errors in processing. These delays typically affect the process of language and communication, social understanding and appropriate behavior responses.

Kanner (1943) first defined autistic disorder and identified the following characteristics related to children with autism:

- A profound autistic withdrawal (demonstrating a preference to be alone);
- An obsessive desire for sameness and routine;
- A good rote memory;
- Mutism, or language without communicative intent (No language or repetition of what others say);
- Over-sensitivity to sensory input;
- Inappropriate attachment to objects.

Some other observed characteristics might include: Abnormal behavioral responses, no fear of dangers, apparent insensitivity to pain, repetitive play, lack of, or inappropriate eye contact, inappropriate responses to sounds, spinning objects or self, or difficulty interacting with others.

In addition to these characteristics Autism Treatment Services of Canada (1998) identify the following facts and statistics related to autism:

• It is a lifelong disability;

• It is best described as a neurological dysfunction. However, the exact nature or

type of dysfunction has not yet been determined;

• Although autism was originally thought to be a rare disorder, more recent studies

have estimated the prevalence of autism and related disorders to be as high as 20

per 10,000 births;

• Autism tends to be three-to-four times more common in boys than girls;

• Currently, there is no definitive medical test, such as a blood test, to identify

autism;

• All autistic individuals share common behavioral characteristics, and it is on this

basis that a diagnosis is made. At present, Physicians, Psychiatrists and

Psychologists rely on the behavioral criteria outlined in the Diagnostic and

Statistical Manual - Fourth Edition (DSM-IV) when diagnosing autism;

• Generally, autistic individuals display the following: Impaired ability to engage

in social interactions, impaired communication skills; and specific behavioral

patterns (e.g., preoccupation, resistance to change);

There are a number of other associated features characteristic of autism but these

characteristics do not have to be present for a diagnosis to be made, these include: Short

attention span/impulsive, self-injurious behaviors, odd responses to sensory input,

abnormalities of mood, variability in developing skills, including the development of

special skills, abnormalities in eating, drinking or sleeping, unusual fears or anxieties, and

the presence of special abilities. Autism may be accompanied by other medical

conditions, such as seizures and food sensitivities.

Autism is a unique disorder because not all individuals will demonstrate the same

characteristics. If a person were to walk into a room full of autistic individuals, they

would likely be struck more by the differences than the similarities. Such variations in

symptoms make it problematic determining the etiology, prognosis and appropriate

treatment. In addition, the symptoms displayed by an individual with autism can change as the individual matures and/or receives treatment. Table 1 and Table 2 provide case study examples of autism.

Currently there is no known cure for autism. Research indicates that the most successful method for treating and educating autistic individuals involves structured and intensive behavioral interventions. Through effective intervention, autistic individuals can be assisted to fulfill their unique potential and lead happy and productive lives. In understanding autism as a breakdown in processing, appropriate strategies can be implemented and these children can become productive members of their classroom and society.

Table 1: Case Study Example of Autism

Bobby was diagnosed with autistic disorder at two years six months. His development was normal, babbling at eight months saying his first words at one year.

By Bobby's second birthday he became withdrawn preferring to be alone rather than seek out his parents and siblings. Although Bobby preferred to be alone he would not play with his toys. He would often twirl the string on a pull toy or turn the wheel on his toy truck. His language development stopped and the few words he did have were now absent.

Bobby began to have frequent tantrums when small changes were made in his life. For example, if his mom put his left sock on his foot before the right sock he would fall to the floor kicking and screaming. When his parents rearranged the furniture in the living room Bobby screamed for hours.

Table 2: Case Study Example of Autism

As a baby Sarah was a difficult baby to cuddle and hug. Sarah's body would become rigid and stiff and she'd begin to cry when her parents attempted to cuddle her. Sarah was content to lay for hours alone in her crib.

Sarah did not reach traditional milestones. She began to babble late and she didn't walk until 18 months of age. She would not react to loud noises and it was extremely difficult to get Sarah to make eye contact with other people.

Sarah looked like the other children in her pre-school, however, she never played with them. If the routine of the class was changed Sarah often had tantrums.

Table 3: Fast Facts About Autism

• Social skills, communication patterns and behavior responses are most affected by autism.
• Autism effects the neurological system.
• Children with autism have difficulties processing information.
• Symptoms of autism may change.
• Sensory information may be difficult to process.
• Children with autism are unique with their own strengths and weaknesses.
• Children with autism have the ability to learn and be successful.

For further information and examples of autism the following web sites can be accessed through the accompanying web page: http://www.autism.ca/ and http://www.autism.ca/atsclink.htm.

Diagnostic and Statistical Manual Fourth Edition (DSM IV)

The DSM IV is the criteria used by most professionals to identify autism. Higher functioning children including those with Asperger's Syndrome and Pervasive developmental delay (PDD) may not demonstrate obvious processing difficulties therefore the disorder may go unnoticed or misdiagnosed for a number of years. The following is a summary of the DSM IV criteria for autism:

Three areas of interest are examined if autism is suspected: Social interactions, communication, and behaviors. (The following format is consistent with the DSM IV Criteria).

A. The child must demonstrate at least 2 of the following characteristics:

Impairments in social interactions such as:

• Does not demonstrate or demonstrates difficulties with nonverbal behaviors such as

  eye contact, facial expressions and body posture.

• Does not develop peer relationships (that are age appropriate).

• Does not share pleasure or items of interest.

• Does not share emotions and prefers to be alone.

B. The child must demonstrate at least 1 of the following characteristics.

  Impairments in communication such as:

• Language is delayed or is not present.

• Inability to have a conversation.

• Repetition and misuse of language.

• No spontaneous make believe play or social imitative play.

C. The child must demonstrate at least 2 of the following characteristics:

  Impairments in behaviors such as:

• Repetition and overt interest and focus on one activity.

• Follows specific and rigid routines.

• Repetitive body movements.

• Preoccupation with parts of objects.

At least one impairment in social interactions, language in social situations or symbolic play must be present before three years of age (American Psychiatric Association, 1994).

Early Intervention

When children with autism reach school age and are integrated into the regular classroom it is likely that these children may have received some support or intervention during their preschool years. Intervention and support may come in a variety of forms

including speech and language services, specialized preschool programs, occupational therapy or intensive behavioral programs. With the increased recognition and diagnosis of autism many of these children are engaged in intensive programs as young as two years of age.

There is scientific and practical evidence to support early intervention. Research suggests, "there is compelling evidence for beginning intervention early. For young children with exceptional conditions, early and sustained educational intervention is vital to help them achieve some measure of independence and develop skills in the social, cognitive, and communication domains" (Winzer, 1997, p. 31). Further, research suggests that, "the prognosis for autism improves if the child is in an intense, structured program by age two or three" (Porcari, 1998, p. 3).

Children with autism who are left unattended or not engaged will often engage in stereotypic behaviors such as hand-flapping or some other form of repetitive behavior. This repetitive behavior shuts off many of the sights and sounds that are often over stimulating for children with autism. It is suggested that engaging in this repetitive behavior prevents the child's brain from developing (Porcari, 1998, p. 3). However, providing these children in structured, active schedules decreases the amount of time the child is able to engage in self-stimulatory behaviors and increases the likelihood of appropriate skill development.

Models in Early Childhood Education

There is great diversity in the field of education and as a result there are various programs available for children, in the early years, based on different philosophies and theories. Often the models for such programs encompass normal developing children and children with a wide variety of special needs. Some readily available and more popular programs are based on the following models: Applied Behavior Analysis, Functional

Approach, Maturational-Developmental Orientation, Cognitive Model, and Developmentally Appropriate Practice.

Applied behavior analysis. Applied Behavioral Analysis (also referred to as behavior modification) is based on learning theory and emphasizes the role of environmental influences in the children's life. The aim is to teach children how to perform tasks that are currently nonexistent through the use of positive reinforcement and shaping.

Research suggests that the behavioral approach is one of the most effective ways to implement programs with children with autism. In addition, the earlier the intervention and the more intense the intervention, the better the results (Lovaas & Smith, 1988).

Functional approach. The functional approach or life skills instruction, emphasizes daily living skills which includes, dressing and eating. The contention of this approach is that the children will master functional everyday skills that will help them get along in their lives. Most children who develop at a normal rate learn new skills by observation, children who have autism do not learn such skills as naturally, and require specific instruction that delineate their learning (Koegel, Rincover, & Egel, 1982). The nature and intensity of the instructions provided will depend upon the severity of the disability. Those children who have more severe characteristics may require less repetition of the same task. Research indicates that, "When a functional approach is taken, teachers identify specific skills that will immediately improve the child with a disabilities ability " (Winzer, 1997, p. 165). One discipline that practices a functional approach is Speech-language Pathology. Speech-Language Pathologists model and attempt to elicit language from children that will lead to appropriate communication. (Quill, 1995).

Maturational developmental orientation. The maturational-developmental orientation stresses stages in human development, suggesting that children must pass through one developmental stage before moving to the next. Programs are designed to compensate for deficits or enhance the developmental process in any area possible. Learning goals are implemented which encourage performance of tasks that reflect the children's level of functioning. The learning goals are established and are expected to be followed in an unstructured setting. The goal of this approach, for children with disabilities, is "to assist progress through normal sequences of development" (Winzer, 1997, p. 169).

Cognitive model. The cognitive model follows suit from the developmental model. For children with special needs, this model stresses the context and sequence in which developmental skills are acquired. The focus is to set goals and implement instruction where children do not demonstrate skills compared to those skills demonstrated by their same aged peers. (Winzer, 1997).

Developmentally appropriate practice. The developmentally appropriate practice approach brings together all domains of learning. It suggests, "the context and means of development should be as normal as possible for each child" (Winzer, 1997, p. 177). The three prominent areas stressed by this approach are: child-driven learning, child-guided learning and exploratory play. Choices for activities and joining in activities are independently decided by the children. The emphasis is on, "a child-centered curriculum, a curriculum characterized by exploratory play and the making of individual choices, rather than a structured, teacher-directed curriculum with specific set of objectives for all children" (Winzer, 1997, p. 177). Child driven learning, encourages children to explore their environment independently.

Overview of educational models. Although approaches in early childhood education are divided into competing theories , many programs designed for children with autism implement programs/instruction that represent the different models in education, with one approach dominating. Understanding the programs and strategies implemented in a child's early

years may help teachers and other betters meet the needs of these children when they enter school.

How Children with Autism Learn: Introduction

Autism affects how information is processed resulting in unique and challenging learning styles for children with autism. The difficulties in processing result in a breakdown of information at some level and it is this breakdown that effects how and what the child interprets when instructions or new teaching tasks are presented. This has great effects on the learning tasks since what the child is processing may vary from its original form and can often make learning a challenge.

Facing such challenges can have a lasting impact on the child's motivation and interest to learn. When the child feels unsuccessful and lacks motivation to learn, tasks can become meaningless, learning can become frustrating, and behavioral problems may ensue.

Principles of Learning

The Ontario Ministry of Education (1980) has outlined several principles of learning that can be observed in most learners. In examining these principles of learning in relation to autism, it is evident that many children with autism lack these essential components that lead to successful learning. The following are examples of some of the components that the Ontario Ministry of Education has identified that lead to successful learning:

▪ Learning is more effective when the learner is motivated.

• Learning information is more effective when it is meaningful, relevant, and has practical application for the learner.

• Learning is more effective when the learner is successful.

• Learning occurs through interactions and gaining feedback from another person.

▪ Learning occurs through observation.

• Learning is most effective when the learner has input about his learning.

• Learning is developmental.

• Learning occurs in different ways.

• Learning occurs at different rates.

(Ontario Ministry of Education, 1980).

The following examples often characterize the learning styles of children with autism:

↦They are generally not intrinsically motivated to learn.

Learning can be meaningless if there is no motivation. If the child is not motivated they are not likely to feel success when they learn.

• Interactions and socialization can be difficult, therefore gaining feedback through interactions may not occur frequently and may not have a great impact when they do occur.

• Children with autism have poor observational learning.

• Children with autism have difficulties understanding cause and effect relations.

• They generally will not demonstrate concern for others and lack the desire to please others while demonstrating motivation to please themselves.

• They have a difficult time understanding the perspective of someone else.

• They are not driven to follow group and group standards.

• They often have poor communication skills therefore they often miss important nonverbal communication such as:

A low response to facial cues and may not understand smiles of

encouragement;

They may not understand warnings of displeasure;

They may ignore pointing, hand signals, and head shakes to control

behavior.

- They often have poor attention.

- They often have poor generalization skills. (Maurice, Green, & Luce, 1996).

There is a triad of theories, Theory of Mind, Central Coherence Deficit, and

Executive Function deficit, that support and explain the learning styles in children with

autism. Understanding these theories is critical in determining which appropriate

educational goals should be established. When setting educational goals it is best to

understand the impairment, the source of difficulties, and the child's strengths. When

such needs are identified then the best teaching strategies can be implemented and the

child can often overcome or work through the learning difficulty.

Theories of Children with Autism and Learning Style

Cumine, Leach, and, Stevenson (1998) examined three theories of 'cognition'

which explain learning in children with autism. These three theories are: Theory of Mind,

Central Coherence Deficit, and Executive Function Deficit. Cumine et al. (1998) suggest

that the deficits in learning described by each of the three theories, ultimately effect

functional skill development and behavioral outcomes.

Theory of mind. "The ability to appreciate that other people have mental states,

intentions, needs, desires and beliefs, which may be different to our own is termed

'Theory of Mind' " (Cumine, Leach, and Stevenson (1998, p. 19). It is thought that

children with autism do not have the ability to perceive the mental states that are present

in other individuals. A popular research study called the Sally/Anne test studies this theory.

In the Sally/Anne test, two children, Sally and Anne, each have a basket and a box respectively. Sally puts a marble in her basket then leaves the room. Anne takes the marble from Sally's basket and places it in her box. When Sally comes back into the room she wants to play with her marble. Children participating in this study are asked "Where will Sally look for the marble?" Children with autism respond saying that Sally will look into Anne's box. The child with autism does not understand that Sally did not observe the marble being moved and therefore would not know to look into Anne's box. A child with autism interpretation is that all individuals share the same perspective-what I know, you know. The results of this study demonstrate that children with autism do not perceive that Anne and Sally would interpret this situation differently. The results of this study support the notion of theory of mind.

Theory of mind affects the way in which individuals perceive what another person may be thinking. There is an inability to appreciate that other individuals may have ideas and thoughts of their own. There is a lack of understanding that another person has different background knowledge and experiences. Implications of this theory have significant effects on many behavioral and social responses in a child with autism.

The following are examples of some of the effects theory of mind has on learning and implications of these effects:

• Understanding others' behaviors - The child may demonstrate difficulties understanding and predicting others behaviors, causing avoidance and fear of others.

• Understanding motives of others' behaviors - The child may demonstrate difficulties determining the motives of others whether others mean to help or harm.

• Understanding own behavior -The child may demonstrate difficulties understanding own behavioral responses to situations.

• Understanding own emotions - The child may demonstrate difficulties interpreting one's

own emotions and the emotions of others.

- Understanding the influence of certain behaviors-The child may demonstrate difficulties understanding certain behaviors can cause harm or injury to another individual.

- Understanding the language of others-The child may demonstrate difficulties recognizing that others may not have the same background knowledge about a topic. A child may begin talking about what happened during a movie not understanding that the other person may not have seen the movie.

- Understanding another person's point of view-The child may demonstrate difficulties recognizing whether a listener is interested in the topic at hand. A child might talk obsessively about trains and not consider whether the other person is interested.

- Understanding others' perceptions-The child may demonstrate difficulties recognizing inappropriate behavior effects on other individuals. For example, the child may walk up to a stranger and begin playing with the individual's hair.

- Understanding deception- The child may demonstrate difficulties understanding lies.

- Understanding shared attention- The child may demonstrate difficulties noticing salient points in pictures or topics. In a picture, where two children are playing in a sandbox, a child with autism may notice a small squirrel in the tree.

- Understanding social interactions- The child may demonstrate difficulties making eye contact and understanding the role of body language.

- Understanding fact vs. fiction-The child may demonstrate difficulties differentiating the truth from fiction. The child may hear a story about *Curious George* and not understand that it is make belief as the child may not understand that monkeys don't talk.

(Jordan and Powell, 1995).

Table 4: Example of Theory of Mind

> Robert, a five year child with autism, often avoids the other children in his kindergarten class. When other children talk to him he often will become fidgety and avoid talking to them. When another child waves to say hello, Robert approaches the child and starts playing with the zipper on the other child's jacket. When the child try's to move away from Robert, Robert begins to talk about Thomas the Tank Engine running on the tracks. The zipper on the child's jacket reminded Robert of train tracks. When the other child looks at Robert to indicate he doesn't know what he is talking about, Robert continues to talk about Thomas the Train.

Central coherence deficit. The central coherence deficit theory suggests that children with autism have the ability to understand and focus their attention on parts of concepts, and instructions, rather than the whole. For example, when asked to follow a two part direction (e.g. , go to your desk and get your pencil crayons out) the child with autism may only listen to part of the direction (e.g. go to your desk).

Frith (1989) expands on this theory and describes central coherence as the tendency to form higher-level meaning in context through bringing together different information. That is, the children are unable to bring related information together from their environment. Support for this theory is illustrated by the notion that children with autism have difficulties understanding words that have multiple meanings. For example, when a child was asked by his teacher to take his book out, the child took his book and left the classroom. The way information may be processed is affected since interpretation of a situation may not be what was intended, effecting the child's behavioral response to a given situation.

The following are examples of some of the effects central coherence deficit has on learning and the implication of these effects:

• The child may not focus attention on the salient task the teacher is discussing. While the teacher is discussing addition using manipulatives, the child is noticing the different colors of the manipulatives.

• Perspective -The child may associate the teaching task with something not clearly related. For example, when the teacher is discussing transportation the child associates transportation with "Thomas the Tank Engine" and writes a story about Thomas.

• Routines-The child has difficulties if the routine changes frequently. This may result in behavior outbursts which are due to the unpredictability of the situation. When situations are unpredictable, the child's frustration level may increase.

• New Tasks- The child may not show interest in new materials and learning tasks.

• Choices/Prioritizing - The child may have difficulty deciding what needs to be done first, next, and last.

• Organization-The child doesn't know how to organize materials.

• Connections/Generalization - The child does not know how to transfer information from one environment to the next. For example, a child is taught in the classroom that a crayon is red but when he goes home his mother asks him the color of a Smartie and he is unable to identify it because he learned to associate red with a crayon in the classroom.

Table 5: Example of Central Coherence Deficit

> Jack is in grade one. While his teacher is demonstrating an adding activity with different colored blocks Jack is noticing the different colors. When asked to do a simple addition question using the manipulatives Jack groups all the same colored blocks together. The colors of the blocks remind Jack of the Teletubbies and he starts to name the Teletubbies. When the teacher moves Jack from the desk to working on the floor Jack is resistant to moving to the floor because it is not part of his everyday routine. Once Jack settles on the floor he adds the manipulatives appropriately, then the teacher presents the same addition task with new manipulatives. Jack sits blankly and does not know what to do. The teacher re-teaches the adding task with the new manipulatives.

Executive function deficit. The executive function deficit theory suggests that children with autism have a general knowledge base but have a difficult time with the application of meaningful information (Cumine, Leach, & Stevenson, 1998). Furthermore, executive function deficit theory implies that children with autism have difficulties with mental imagery making it difficult for these children to make mental representations of things in their environment. This is demonstrated in children who focus on specific details without understanding the general concept. This theory explains the rigid and perseverative (i.e. repetitive) behaviors often seen in this group of children.

Executive function deficit affects how children with autism can relate to information received from their environment. Application of learned material is difficult because understanding of general information is lacking.

The following are examples of some of the effects executive function deficit has on learning and the implication of these effects:

- Difficulties reading emotions - A child with autism may not hold a mental representation of emotions. If a child with autism sees someone crying the child may not associate the tears with being sad.

- Difficulties with imitation - The child may have no mental representation of the other's actions. If children are doing actions to a song the child may not imitate the same actions.

- Difficulties with play - The child may have no representation of external objects such as toys, therefore the child may not understand what the toy is used for. A child with autism may dump out a container of blocks over and over again because the child does not know what else to do with them.

- Difficulties with planning, organizing, and approaching tasks - If a child with autism is given a worksheet he may sit and stare at it until specific instructions are given, for example, circle all the blue objects.

- Difficulties starting and stopping tasks - The child may sit and stare at an assignment until specific instructions are given. If the teacher tells the child to print his name, he may print it over and over again until someone cues him to stop.

Table 6: Example of Executive Function Deficit

Joey watches his classmates as they sing and dance and do the actions to the Hokey Pokey. Without directions from his aid Joey stands around not taking much interest in what the other children are doing. Joey requires direct instructions from his aid then he begins to imitate the other children.

In examining these three theories of cognition it is evident that children with autism experience profound difficulties in learning. However, in addressing areas of weakness and understanding areas of strength, children with autism can be active participants in the classroom and become successful learners. Appropriate teaching

strategies should be designed to concentrate on each child's unique strengths and weaknesses. Clear goals and expectations of the children's learning profile should always be at the forefront of any strategy. The strategies implemented should be" techniques which circumvent learning difficulties while accentuating or building on intact areas" (Paluszny, 1979, p.116). In doing so many of the challenging components that profile the learning style of a child with autism may be overcome when the right teaching strategies are implemented.

Chapter Four

Teaching Children with Autism

<u>Introduction</u>

To date, the best support for teaching children with autism comes from research in

the area of applied behavior analysis (Lovaas, 1997; Lovaas & Smith, 1988; McEachin,

Smith & Lovaas, 1993; Autism Calgary Association, 1997). The behavioral approach to

teaching children with autism delineates specific strategies that have been met with

positive results. Through the use of reinforcements and behavior modification techniques

positive behaviors and acquisition of new skills can be positively shaped. Specific

instructions, followed by appropriate feedback, and reinforcement, teaches the child

which responses to repeat and which responses to change. By breaking down tasks,

modeling, and prompting, children are taught in a sequential, structured manner. These

methods reinforce positive behaviors which increases the likelihood the child will repeat

that response in the future. When a child repeats positive behavior patterns learning new

tasks and skills will develop.

<u>Discrete Trial Training</u>

Discrete trial training encompasses the use of clear instructions (given by the

instructor) which are followed by appropriate responses (given by the child) and then

followed by the necessary feedback to those responses (given by the instructor). When

discrete trials are implemented several techniques are utilized including, prompting,

shaping, and reinforcing positive behaviors.

Discrete trial training (DTT) defined by Leaf and McEachin (1999) is a

> specific methodology used to maximize learning. It is a teaching
>
> process that can be used to develop most skills, including cognitive,
>
> communication, play, social, and self-help skills. Additionally, it is a

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strategy that can be used for all ages and populations. Discrete trial teaching is not a teaching strategy that is used only for teaching language, nor is it only employed for young children with autism, it is simply good teaching(p. 12).

The following are characteristics of a discrete trial :

1. Discrete trials break down skills into small parts.

2. Teaches one sub-skill at a time until the skill is taught. New information is not taught until the sub-skill is taught.

3. Allows repeated practice in a concentrated period of time.

4. Provides prompting and prompt fading as necessary.

5. Uses reinforcement procedures.

6. The task has a distinct beginning and an end.

7. The student is an active participant in his learning.

Leaf et al. (1999) suggests the difference between discrete trial training as a method of teaching and traditional teaching methods is that "traditional teaching methods typically presents large amounts of information with no clearly defined target response on the students part." (p.12)

Examples of discrete trial training. A discrete trial always follows the format instruction, response, feedback.

Example #1: *The child follows through after the first instruction*

Instruction: Line up at the door

Response: The child lines up at the door

Feedback: Nice job lining up at the door and the child is given a high 5

Example #2: *The child follows through after the second instruction*

Instruction: Line up at the door

Response: The child stays in his desk and continues to look at a book

Feedback: You need to listen

     The instruction is then given a second time

Instruction: "Line up at the door."

Response: The child puts down his book and lines up at the door.

Feedback: Pretty good listening. Thanks for lining up.

Example #3: *The child does not follow through and needs to be prompted*

Instruction: Line up at the door

Response: The child stays in his desk.

Feedback: Listen

     The instruction is given a second time:

Instruction: Line up at the door

Response: The child stays in his desk.

Feedback: No

     The instruction is given a third time:

Instruction: Line up at the door

Response: The child is not given an opportunity to respond

Feedback: The aid guides the child to stand in line.

     Generally, if a child needs to be prompted through a task, return to the task at some point to allow the child to follow the instruction independently. If a child is requiring frequent prompts with the same task it might be an indication that the child does not know the task. If a child does not know the task, the task might need to be taught again or the child may not be ready to learn the task.

Table 7: Key Aspects to Discrete Trial Training

- It is a teaching method effective with all children; It is good teaching practice.

- Teaches components of a task-Breaks down tasks;

- Allows repeated practice of a task;

- Assists the child through prompting;

- Reinforcement are provided when learning takes place;

- Instruction have a distinct beginning and an end;

- Learning in strengthened through repetition;

- The student is an active learner.

Key components of discrete trial training and other related behavioral strategies including common terminology is described in detail and can be viewed at a site called Recovery Zone. This site can be accessed through the accompanying web page or by logging in the following address http://pages.prodigy.net/damianporcari/recovery.htm.

Attention. Prior to giving directions establish the child's attention first. Provide key words or phrases that indicate to the child that it is time to listen.

Instructions. Instructions are often presented verbally in a classroom setting. Freeman and Dake (1996) note that most children with pervasive developmental delays do not learn well through the auditory channel or verbal means. However, it is important to strengthen such skills since most other children in a mainstream classroom can follow verbal instructions. Adapting instructions using a combination of the visual system, a strength for many children with autism, with the child's weakness (the auditory system) will assist with the child's attention and ability to understand what is being asked.

Maurice, Green, and Luce (1996) suggests that instructions should be:

- clear and specific (ex. sit down versus you need to get to work so come and sit down).

- presented as a statement (ex. sit down versus can you sit down).

- given only once (ex. sit down versus ex. sit down, come on over, sit down).

When instructions are presented with too many words and are not clearly presented the child may have a difficult time attending and following the instruction.

Responses. Following the instruction the child may respond: correctly, incorrectly, or not at all (Maurice et al. , 1996). Following the child's responses feedback must be provided.

Feedback. Any answer a child gives in response to a question needs to be followed up with feedback (or a consequence) from the teacher or the aid. The child needs to be aware of which answers to repeat and which answers need to be changed. Feedback can come in the form of reinforcement, corrective feedback or a prompt paired with neutral language that reminds the child what response he needs to give.

If a child responds appropriately on the first or second instruction the feedback the child receives will be in the form of a reinforcement. The reinforcement will vary between getting the question correct on the first attempt or the second, where a greater reinforcement will be given on the first correct respond then on the second. If the child does not respond to a question he will be given feedback for not responding. For example, the aid or teacher might say, "you need to listen." If by the third instruction the child has not responded or has responded incorrectly the child will be prompted through the task and reminded of what is expected, for example, "Put green with green."

If a child attempts to respond to a question but does so incorrectly, the incorrect response needs to be followed up with feedback. Feedback can come in a variety of forms

but should always be presented in a neutral tone. For example, if the child counts from 1-5 and misses 4, the aid or teacher might respond, "Not quite" and give the child the instruction again.

Prompts, Prompt Dependence, and Fading Prompts

Prompting is an instructional technique that aids the child to make a correct response (Maurice et al. , 1996). Prompts are used to help the child to be successful with a task and to teach the child what is expected.

Prompts are used to:

Teach a new task;

Ensure the child is successful;

Ensure the child follows through with what has been asked.

There are different kinds of prompts ranging from intrusive to non-intrusive prompts. An intrusive prompt may consist of a physical guidance such as putting your hand over the child's hand, whereas a non-intrusive prompt may consist of a gesture (such as a point), an eye gaze, a position prompt (moving the item to be taught closer to the child), a verbal cue (If the instruction is: what is it? the verbal prompt might be "sssss", for snake), or modeling (the instructor does the task).

Prompt dependence. If there is no variation in the level of reinforcement that is provided to the child when he is or is not prompted, the child may become dependent upon the prompt. It is important to fade prompts quickly and vary the level of reinforcement between when the child is prompted and when he is not.

Fading prompts. At any time where a prompt is used it must be faded quickly so the child does not become dependent on them. For example, moving systematically from hand over prompt, to a slight nudge, to an eye gaze to no prompt.

Reinforcements. Often children with autism lack the motivation and desire to learn, therefore various reinforcements are used to engage the child's interest in learning. Behaviors that are positively reinforced will increase over time when a positive stimulus (i.e. reward) follows the behavior Freeman and Dake, 1996).

Rules of reinforcements. Reinforcements should only be given once they have been earned. If a behavior is contingent on receiving a reward, the reward becomes a bribe and is no longer considered a reinforcement.

• The reinforcement should be immediate.

• All children should receive them.

• Reinforcements should be natural.

• Reinforcements should be presented frequently when new tasks are taught.

• Reinforcements should be varied.

• Regular use of reinforcements should be faded out.

• It should be clear to the child exactly why he received a reinforcement.

• Tangible reinforcements should always be paired with a social reinforcement.

• The reinforcement must be meaningful for the child.

• The person giving the reinforcement must be genuine. Mean what you say.

• The level of reinforcement given should depend upon the child's performance.

For example, if the child responds appropriately the first time, the child will receive the best reinforcement, if the child responds appropriately on the second try he gets a milder reinforcement, if the child needs to be shown or prompted through the activity the child should not receive a reinforcement but should receive feedback.

The key to any reinforcement is that not all rewards are reinforcing for all children. If there is not an increase in a specific behavior, it is likely that the reinforcement used is not effective with that particular child.

When the appropriate tools and strategies are used, such as those outlined by a behavioral approach, a child with autism can become a successful learner in a challenging and demanding environment. Through the strategies discussed such as reinforcement tools and behavior modification techniques, acquisition of new skills can be positively shaped and ultimately learning will occur.

Strategies for Classroom Practice

Because children with autism may require tasks to be taught in a specific way there are a variety of simple but effective strategies a teacher can implement in the classroom. These strategies may help with: attention issues, approaching tasks, directions, and instructions, classroom set up, and daily routines. Simple modifications in these areas not only make children with special needs successful members of the classroom but they can also assist all other children in the classroom setting.

Approaching tasks. Before approaching any task with a child with autism decide whether the child has the necessary skills to begin learning a new task. Table readiness skills are a critical component to learning any skill, therefore, before beginning a new teaching task consider the following:

Is the child ready to learn the task?

Does the child have the necessary prerequisite skills to learn the task?

Does the child have the table skills to learn the task? For example, attention, ability to sit appropriately in a chair, at a table or in a desk. (Freeman & Dake, 1996).

Once the child has demonstrated the appropriate prerequisite skills to learning a task then teaching can begin. Kang (1999) suggests when approaching tasks consider the following tools to help the teaching process:

• Give an amount of work that the child can realistically finish. For example, one page

instead of an entire work book. However, reduce the length or size of the task if necessary (Society for the Treatment of Autism, 1999).

• Keep expectations high- the child should be able to complete all tasks which are within his ability (Society for the Treatment of Autism, 1999).

• Use a timer to show when the task will be ending. If the timer goes off the child either will get a break and return to the task or the task will get put away and a new task will begin.

• Choose materials that are motivating and meaningful. This will increase the child's interest in the learning task.

• Add variety to tasks. (Use different materials to teach the same task).

• Integrate visual and verbal cues to bring the child's attention to the salient points. For example, draw diagrams or use the actual materials to demonstrate a task.

• Provide enough wait time for a child to process and retrieve information.

• Break tasks down into steps. Develop a hierarchy for teaching a task and adapt the curriculum when necessary. Ensure all prerequisite skills are taught before the child moves on to a new skill (Siegel, 2000). If the child does not understand the concept after repeated trials the previous steps in the hierarchy should be revisited (Freeman, 1996).

• Provide the child time to review information and practice skills. Often children with autism will lose many skills if they are not practiced on a regular basis. Test the child's knowledge on a consistent basis and revisit previously taught skills regularly.

• When a new task is introduced the child may not show interest in the task. To help increase the child's interest, pair new learning tasks with favored tasks and activities. For example, if drawing is a favored task and the new task is reading, the child may spend a few minutes drawing, and just one minute reading. Both tasks may be revisited several times in a day.

• Spend only short periods of time on task and return to it frequently.

• Increase the levels of reinforcement with new learning tasks.

• When possible, provide a model of what the outcome of a project needs to be.

• Allow the child to make choices (Siegel, 2000). When the child has an opportunity to make choices he feels in control and behaviors are less likely to occur (Freeman and Dake, 1996).

• Clear goals for all tasks should be identified paired with concrete instructions.

• All goals should be paired with clear behavior expectations. For example, if the child is expected to color a picture identify clear goals for the task such as, the child must stay sitting, the child must keep feet on the floor, the child must color the entire picture, the child must color within the lines. (Ensure the goals that are established are realistic). Only expect as much as the child can handle.

• Shorten the length of task or direction. If a task is too long have the child only complete a portion of the task or have the child complete some of the task and take breaks then return to the task frequently.

Attention. To ensure the child is focused on a task a variety of strategies may be helpful:

• Use the child's name before giving the instructions.

• Use starter phrases such as ready, and look.

• Stand near the child before starting the task.

• Teach the child a gesture that indicates that it is time to listen, (for example, a finger to the ear).

Instructions and directions. Attending to lengthy instructions and complex steps may be difficult for a child with autism to attend to. Present materials in a way that is manageable for the child, one or two instructions at one time (Kang, 1999). Other strategies that may be effective are as follows:

• Use verbal cues before giving important spoken information such as 'listen,' 'get ready.'

• Use slow speech.

• Be concrete, concise and clear.

• Use key words (e.g., first, then, next).

• Provide information in the form of a list.

• Provide warnings before an activity is going to begin or end or if there will be a change in the normal routine. (Siegel, 2000). For example, telling the child, two more minutes then it's time to put the worksheet away then we are going to the library.

• Pair auditory and visual information together. For example, when explaining the steps to completing a work sheet demonstrate how those steps need to be completed.

• Provide some help if you know the child knows the answer. For example, What color is the sun? A partial prompt might be saying "y" to cue the child.

• Closed questions (e.g., "Is the sun yellow and blue?") are usually easier to answer than open questions. When using open ended questions try to be clear and simple (e.g., rather than asking the child "What is the same about cats and dogs?" Rephrase the question to, "Tell me one thing that is the same about cats and dogs?"

• A child may be able to listen or focus better when they are given something to do. For example allowing a child to hold a small toy may help them keep their attention focused.

• Ask the child to repeat the instruction of what he needs to do. For example 'Tell me what you need to do first?' Get my pen.

   'What do you need to do next?' Get paper.

   'What do you need to do last?' Write my name.

• Provide directions using a variety of mediums (e.g., written and auditory). For example, when teaching letters, use pencils, crayons, paint, sand paper, and foam and allow the child to practice making or feeling letters made from different mediums.

• Use a consistent format for giving and explaining assignments. For example, identify how many steps need to be completed. Use key words such as first, next, and last.

<u>Daily structure.</u> Provide the child with a daily schedule. The daily schedule will outline to the child what he will be doing that day. Usually pictures with written words are presented (Freeman and Dake, 1996).

• Provide a consistent spot where the child can look to see what he needs to get done in a day. The daily schedule should be posted close to the child, perhaps on the corner of his desk or on the blackboard closest to the child.

• Break up the day into smaller units, planning several activities in a day. Because a class such as math can last up to one hour, plan a variety of activities the child can do within that hour. For example, sorting objects, tracing numerals, rote counting, worksheets, coloring quantities.

• Provide the child with frequent breaks. Give the child responsibilities in the classroom that can act as natural breaks for example, handing out pencils ad paper.

• Encourage independence as much as possible (Society for the Treatment of Autism, 1998).

<u>Classroom set up.</u> The area surrounding the child should be free of distractions (e.g., the child should not be sitting too close to windows, fans, music, etc.).

• Eliminate distractions at the child 's desk by removing unnecessary materials. If a child is working on a worksheet, remove any other materials i.e., books, pencil case, etc.

• Seat a child where they can hear clearly. The child should sit in a designated desk close to the teacher.

• Use concrete markers such as a piece of carpet to indicate to the child what space belongs to him.

• Have clear classroom rules posted (Kang, 1999, Siegel, 2000).

• Incorporate physical activities as break (Siegel, 2000) For example, allowing the child to jump on a small trampoline between tasks.

• Set up a buddy system so the children can work together.

• Send work home with the child that will be done later on in class. Have the child start the project at home. This will enable the child to finish the task at the same time as the other children in the class.

Implementing strategies that address, attention issues, teaching tasks, giving directions, and instructions, classroom set up, and daily routines, enables a child with special needs to follow many of the day to day routines of a classroom. Establishing strategies that build on the child's weaknesses and utilizing their strengths can create an environment that fosters learning for all children in the classroom.

Table 8: Summary of Strategies for Classroom Practice

Keep questions and comments clear, simple and consistent.

Use reinforcements frequently for good behavior and good work. Reward the child by letting him know what he has done well. (Be specific).

Keep expectations high. If you know the child is able to do something make sure he does it.

Follow through. If you ask the child to do something make sure the child follows through with your instructions even if it means you have to prompt.

Be consistent. Your expectations and consequences should be the same from sitting to sitting, day to day, environment to environment, and teacher to teacher.

Make the child feel in control. Give closed ended choices when appropriate i.e., a choice between two activities, two toys etc.

Always ensure the child is successful. If the child is having difficulty with a task provide help in some way. However, after helping the child give him a chance to do the task independently.

Always keep your goal and focus in mind. You may adjust your expectation of a goal in order to ensure success. Always modify the goal discretely.

Always state your instructions in the positive form- stating what you want the child to do instead of what you don't want him to do.

Provide feedback for all responses (including a non response). Without feedback the child will not learn which responses to repeat and which to change.

Learning occurs best when there are set routines to follow with minimal changes.

Chapter Five

Handling Behaviors

A Behavioral Approach for Dealing with Behaviors

A reaction to environmental stimuli caused by over sensitivity (i.e., too much stimulation) and under sensitivity (i.e., not enough stimulation) is often observed in children with autism. Reactions to such stimuli can have noticeable effects on the children's behavior. Bright lights, loud noises, the typical buzz of a classroom, is enough to cause children with autism to tune out or act out resulting, at times, in atypical behavior patterns.

A behavior may be a reaction to environmental input and may serve as an attempt to get "a need met, reach a goal, or act as a means to communicate" (Wheeler, 1997 p. 15). Understanding that a behavior is motivated by something and serves as a function for the child at the time, will aid in determining the best intervention strategy. Dealing with behaviors appropriately will reduce or eliminate the behavior. Whereas, if behaviors are dealt with inappropriately the result may be an increase in the behaviors occurrence and severity (Wheeler, 1997).

A functional analysis approach to dealing with behaviors identifies three aspects of behaviors. It identifies what happened before the behavior (Antecedent), identifies what the behavior was, and identifies what the consequence was for the behavior. Sometimes behaviors can be changed by changing the antecedents that precede a behavior or by changing the consequences that follow. When reducing or eliminating a behavior it is important to determine what function the behavior serves for the child . Usually when we change our response to a behavior the behavior will get worse before it gets better (Society for the Treatment of Autism, 1999). Understanding these aspects of a behavior can help establish clear goals and expectations for all students in the classroom.

When antecedents and behaviors are identified and clear behavioral expectations

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are established the focus can be on examining proactive or preventative measures for dealing with behaviors rather than dealing with a behavior once it has occurred. Behaviors can be handled effectively if:

- Clear behavioral goals and expectations are established;
- The focus is on preventing the behavior;
- It is understood that all behaviors are motivated by something;
- The cause of the behavior is identified and the appropriate strategy is implemented;
- Intervention strategies are consistent with ones beliefs and practices;
- Consistency across individuals who interact with the child is established (Wheeler, 1997).

In examining and recognizing which behaviors are likely to occur, appropriate preventive measures can be established. Dealing with a lesser behavior is more manageable than an outburst that could be disruptive for the entire class. For example, a child who has a tendency to hit can be taught that if he is not on task his arms must be folded at all times. In any situation that the child's arms come uncrossed the focus can be on getting the child to cross his arms instead of giving attention to a more severe behavior such as hitting. When a proactive plan is in place for dealing with behaviors the focus is on the positive behaviors rather than the negative ones. A variety of preventative measures including the use of various communication tools, classroom set up, reducing over stimulation and the use of positive reinforcement can decrease the likelihood of negative behaviors occurring.

Communication strategies to prevent behaviors. When placing demands on a child or giving instructions using different means to communicate may help the child better understand what is being asked. The following are examples of effective communication tools:

- Incorporate visual cues (gesture, pictures, or words) to explain what is being said;

- Establish routines in written or visual form. This will make the day more predictable for the child;

- State what the child should do not what they should not do. For example, sit quietly versus don't get up from your desk;

- Use simple, concrete language. For example, walk versus stop running and walk.

Classroom set up. Have clear rules and consequences for all behaviors;

- Establish assigned seating where the child is closest to the teacher or speaker;

- Reduce the number of distractions around the child;

- Provide a place where the child can go to calm down;

- Establish a predictable environment;

- Give the child responsibilities in the classroom, for example, handing out paper or books.

Positive Reinforcements. Rather than waiting for a child to misbehave, catch him being good and reinforce the positive behaviors. If you wait until a negative behavior occurs, the negative behavior may be indirectly reinforced. For example, reinforce a child who keeps his hands to himself, frequently, rather than after he has hit someone and then chooses to keep his hands to himself.

Behaviors Due to Over Stimulation (Wheeler, 1997, p. 83)

Monitoring possible triggers in the classroom is important when the goal is to prevent a given behavior from occurring. Behaviors may be triggered by:

1. Environmental factors: (light, noise, temperature, smell, touch);

2. Physiological factors (hunger, illness, anger, anxiety, fear);

3. People (number of people in a room, lots of movement, voices);

4. Task demands.

Any approach that is being used in a classroom must be consistent with the practices of the teacher, aide, and parents. If there are inconsistencies between individuals who are dealing with the same child the approach may not be as effective. At the same time, interventions that are not consistent with a teachers practice are not likely going to be successful.

Determining Motives Behind Behaviors

If the cause of the behavior is clear deal with the behavior appropriately. If it is not clear why the behavior is occurring then examine the following:

- What happened before the behavior occurred?

- How long the child has been on task?

- How long the child has been in school? Is it the

    beginning, middle or the end of the day? Is it before or after a break?

- Are there distractions, bright lights, loud noise etc.?

- Is the child having an 'off" day i.e. sick, tired etc.?

- Are you having an 'off' day i.e. sick, tired etc.?

- Are your expectations clear? Does the child know what

    he is supposed to do?

Identify behaviors by asking:

- What happened?

- When did it happen?

- Where did it happen?

- How does it happen?

- Who does it happen with?

The appendix provides a data collection sheet for recording and tracking behaviors.

It is important not to allow these reasons to act as excuses for poor behavior. They can be used to determine the best and most effective means to deal with the behaviors. The motivation behind a behavior may not always be clear therefore it is up to you to determine the best way to intervene.

Once the motive is identified, then appropriate intervention can be established. Some possible intervention options may be as follows:

• Prevention is the best way to handle any behavior.

• If a behavior occurs because the child is trying to avoid the task ignore the behavior and finish the task or part of the task. If the task is being modified do so discretely.

• If a behavior occurs because the child is anxious about the task or situation modify the task or the amount of time spent in the situation. Start the child on the task for short periods of time and gradually increase the time spent on task .

• If a behavior occurs to get attention or to get a reaction ignore the behavior. However, always ensure the child and others are safe.

• Negative behaviors should not be labeled. When a behavior is labeled it may cause an increase of that behavior. For example, tell the child what he should do rather than telling him what he has just done i.e. , hands down versus don't hit.

• Behaviors should be dealt with in a proactive rather then a reactive manner. Let the child know what he is doing right without having to act up first. When we react we often reinforce the negative behavior or get into a power struggle with the child.

• Redirect negative behaviors. For example, when standing in line a child is touching the child in front, redirect the child's hands by getting the child to fold his arms together.

• Make the child feel in control by offering choices (usually between two options).

• Always be aware of the message you are sending the child. Is he only getting attention when he is acting up?

• Follow through. If you ask the child to do something make sure the child follows through with your instruction even if it means you have to prompt Society for the

Treatment of Autism, 1999).

• Be consistent. Expectations and consequences should be the same from day to day, environment to environment and person to person (Society for the Treatment of Autism, 1999).

<u>Handling Behaviors</u>

Once the motive for a behavior is identified:

• Establish consistent predictable rules and consequences;

• Respond to behaviors calmly;

• Protect child from being harmed;

• Avoid criticism;

• Ensure more positive interactions than negative;

• Recognize how you respond to the behaviors (Be aware of the message you are sending the child);

• Recognize which strategies are effective;

• Recognize which strategies need to be varied and which strategies to use again;

• Put academic tasks on hold until the behavior is dealt with then return to the task (Siegel, 2000).

• Allow enough time to pass to ensure the effectiveness of the strategy (Wheeler, 1997).

The Society for the Treatment of Autism (1998) suggests the following when handling behaviors:

• In order to increase the frequency of appropriate behaviors those appropriate behaviors should be rewarded when they occur

• Be patient and persistent

• Never give in to a temper tantrum

• Avoid power struggles

• Following through with expectations

If a behavior reaches the point of escalation and intervention is necessary then:

- Identify the behavior;

- Determine possible motives for the behavior;

- Determine possible interventions for the behavior;

- Apply the intervention;

- Identify what the result of the intervention was;

- Use the intervention in the future or determine other more effective strategies.

Table 9: Example of a Behavioral Intervention Approach

Bobby was reading with his teacher at school. Suddenly Bobby threw his book across the room and folded his arms. The teacher, in a neutral tone, told Bobby to pick up the book. The first time Bobby ignored this request. The teacher, in the same tone as the first instruction, instructed Bobby to pick up the book. Bobby picked up the book and brought it back to where he was sitting. The teacher opened the book and continued reading. When Bobby finished reading the teacher told Bobby he did a good job reading the last page then ask Bobby to put the book away and bring out the next assignment.

Behavior: Throwing

Possible motives: to get attention, frustration, boredom

Possible interventions: A. The teacher gets the book and continues reading,

B. Bobby gets the book and continues reading.

Application of intervention: Option B.

Result: Bobby complied and got the book

Future intervention: the same

Responding in this manner to the behavior does not

give Bobby attention for the behavior nor does it get him out of the task.

Because Bobby's teacher did not react there was no feedback for throwing the book and the expectations Bobby's teacher established i.e., to get Bobby to read the book were followed through.

Behavior Intervention Plans:

Behaviors between children may vary therefore intervention strategies may vary based on the child's needs. Designing an intervention plan to meet the individual needs of the child might be necessary. Wheeler (1997) identifies the following components of a behavior intervention plan:

- Be individually tailored;

- Based on current, thorough assessment information;

- Addresses the problem behaviors related to the disability;

- Include positive interventions;

- Be distributed and taught to all staff who are responsible for implementation

(Including bus drivers, etc.).

- Given enough time to work (p. 48).

Having a plan in place will keep you one step ahead of the child and it will ensure that the measures for dealing with behaviors are proactive rather than reactive. Preventing behaviors and approaching them from a proactive stand point can result in the elimination or reduction of many negative behaviors.

The following chapter outlines several web sites that can be accessed through the accompanying web page. Many of the web sites that can be accessed have a frequently asked question section where specific behavior questions can be addressed.

Chapter Six

Links to Web sites and Community Resources

<u>Links and Descriptions of Helpful Web Sites Related to Autism</u>

Most Provinces currently have established an autism society for the region. Many societies can link parents and professionals to the appropriate resources they are seeking. Many of the following web sites addresses are those from the societies that have been established across Canada in almost each province. Other web site addresses provided cover general and specific information relevant to autism and related issues.

www.cadvision.com/autismca - This web site provides an overview of some of the resources and services families in Calgary have previously accessed. This web site also provides links to some of these services including : Renfrew Educational Services, Grit, and Autism Partnership.

http://www.autism.ca/ - This web site provides an overview of autism and various intervention options that are available.

http://www.autism.ca/atsclink.htm - This site provides links that have been categorized into societies, resources, treatments, journals, articles, and documentaries, products and services.

http://www.autismsociety.on.ca/res.htm - This is the web site for The Autism Society of Ontario.

http://www.autism.net/ - This web site provides information about the Geneva Centre. The Geneva Centre is the leading source for individuals with autism /PDD and their communities.

http://pages.prodigy.net/damianporcari/recovery.htm - The name of this site is Recovery Zone. It provides an in depth description of Applied Behavior Analysis with step by step instructions and definitions.

http://www.thezone.net/wapa/ - This is the web site for Western Autism /PDD Association.

http://www.autismbccanada.com - This is the web site for the Autism Society of British Columbia.

http://www.sfn.saskatoon.sk.ca/health/autism/ - This is the web site for Saskatoon Society for Autism Inc.

http://www.enable.mb.ca/enable/asm/index.html - This is the web site for the Autism Society of Manitoba.

http://www.autismsociety.on.ca/ - This is a web site for the Autism Society of Ontario.

http://www.synapse-connection.on.ca/ - This is the web site for Niagra Falls Ontario- SYNASPSE- Niagara autism Connection.

http://www.sjfn.nb.ca/community_hall/A/auti3200.html - This is the web site for the Autism Society of New Brunswick.

http://cnet.windsor.ns.ca/Health/Autism/index.html - This is the web site for the Autism/PDD Society of Mainland Nova Scotia.

http://www..nsnet.org/vast/ - This is the we site for the Valley Autism Support Team (VAST).

http://www.autism.nf.net/ - This is the web sire for the Autism Society of Newfoundland and Labrador (ASNL).

http://www.canfoundation.org/ - This is the web site for Cure Autism Now (CAN).

Autism Related Resources in Alberta

The following is a list of contact numbers related to resources available in Alberta.

Agency	Phone
1. Autism Calgary Association	(403) 250-5033 (Calgary)
2. Autism Society of Alberta	(780) 453-3971 (Edmonton)
3. Edmonton Autism Society	(780) 453-3971 (Edmonton)
4. Society for the Treatment of Autism	(403) 215-7499 (Calgary)
	(403) 253-2291 (Calgary)
	(403) 271-9753 (Calgary)
	(403) 271-9763 (Calgary)
5. Alberta Children's Hospital	(403) 229-7131 (Calgary)
6. Calgary Health Services	(403) 569-2100
7. Children's Center	(403) 381- 5255 (Leth.)
8. Autism Partnership	(403) 205-2749
9. Chinook Health Region	(403) 382- 6009 (Calgary)
10. Renfrew Educational Services	(403) 276-2211
11. Leaf (Home based program)	(310) 424-9293
12. PFEI Newsletter	(310) 825-2319
13. Alberta, Education, Calgary Regional Office	(403) 252-4884
14. Calgary Board of Education	(403) 294-8211
15. Calgary Catholic School District	(403) 298- 1411
16. Dr. Gordon Townsend School	(403) 229-7004
17. Foothills Academy	(403) 270-9400
18. REACH (Reach, Educational, Assessment and Consultation Services)	(403) 777-6983
19. Kolaczek Consulting Services	(403) 253-0039
20. The Salvation Army Children's Village	(403) 246-1124

21. William Roper Hull Child and Family Services	(403) 251-8000
22. Wood's Homes Treatment Resources	(403) 247-7119
23. Janus Academy Society	(403) 243-4122
24. Cause and Effect	(403) 652-1503
25. Alberta Family and Social Services	(403) 297- 6022
26. Providence Children's Centre	(403) 255-5577
27. Children's Link Society	(403) 230-9158
28. Calgary Quest Children's Society	(403) 253-0003
29. GRIT Calgary Society	(403) 241-3323
30. Non-Stop Talk	(403) 686-2193

New resources and support programs are emerging regularly. When investigating what current resources are available it is important to stay updated. A number of ways to stay updated include:

• Join newsletters

• Contact autism societies and associations

• Search the internet

• Talk to families who have children with autism

• Attend Professional Development workshops/conferences

The Autism Calgary Association maintains an up to date list of agencies that service families with children with autism and other needs.

Chapter Seven

Implications for Future Research

The needs of children with autism are unique to each child and as the child's needs change, the strategies need to change to reflect the individual child. Although strategies may be effective at times, they may not be effective at other times. Further, strategies may be effective with some children while they may not be effective with others.

The manual and web page have provided guidelines to follow, based on the most recent research and theories on assisting children with autism. In addition, the information presented was based on answering the questions and assumptions outlined in the introduction. However, the individual needs of the child must always be at the forefront of any intervention and be considered when appropriate teaching strategies are chosen. Although the strategies outlined represent good teaching practices based on current research, future research may examine how such strategies can be adapted to meet the needs of each individual child. Furthermore, considerations as to whether these specific needs can be met in a classroom setting may be examined.

To ensure the relevance of this manual and web page, an informal discussion of the layout and content was discussed with some colleagues, friends ,and parents of children with autism. The overall feedback I received was positive regarding the presentation of the material and the content. Some future considerations that arose from the discussions included, access to more information in other areas related to autism such as diet and health issues and what effects these issues have on learning.

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Appendix

Behavior Tracking Sheet

Date	Antecedent (What happened before the behavior occurred?)	Behavior (What was the child's behavior?) (Was the behavior disruptive?)	Activity (What work activity was the child doing?)	Intervention (How did you deal with the behavior?)	Outcome (Did the intervention work?)