POSITIVE PARENTING CURRICULUM

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INTRODUCTION

Children with autism spectrum disorders can present with challenges in different areas (Ritzema et al., 2016). Areas of struggle may include socialization, communication,

cognition, and self-care (Lollar et al., 2012). Resulting behavioral challenges can substantially decrease the child and family's quality of life. Parents of children with neurodevelopmental disabilities may also face increased financial challenges, marital disharmony, social isolation, and reduced quality of life (Gardiner et al., 2018).

Strategies grounded in the science of applied behavior analysis (ABA) have been empirically demonstrated to increase skills by using systematic teaching methods, incremental instruction, and function-based approaches (e.g.,Virués-Ortega, 2010). ABA-based services can involve different tactics. Some of these include a verbal behavior approach (e.g., Barbera, 2007), naturalistic teaching strategies (e.g., Schepis et al., 1998), functional communication training (e.g., Tiger et al., 2008), discrete trial training (e.g., Smith, 2001), and self-management (Lee et al., 2007). Given the complex nature of the science of behavior, practicing competently requires specialized educational courses and training (Shook & Neisworth, 2005). Unfortunately, in Europe there are a limited number of qualified practitioners available to provide needed support to families impacted by autism. With this limited number of resources it becomes imperative to create training and educational solutions that can be easily accessible. The Positive Parenting, or P+, Project aims to create such a solution.

The first intellectual output of the project is identifying the current situation regarding the training needs of parents and their potential trainers. To determine the situation a survey was conducted across the partner countries on the project, the Czech Republic, Spain, Cyprus, North Macedonia, Italy, and Romania. The survey focused on assessing:

- For caregivers of a child with NDD in Europe:
  - What behavioral challenges most impact families?
  - What skill-specific behaviors most need to be addressed in families?
  - What are their views on ABA?
  - What ABA strategies have they received training on?
  - What ABA training do they need to support their families?

- For trainers (potential) of caregivers with a child with NDD in Europe:
  - What experience do they have training caregivers of children with NDD in specific ABA procedures?
  - What experience do they have training caregivers of children with NDD to target the challenging behaviors and skill-specific behaviors they identified as most important to them?
  - What ABA training do they need to support the caregivers?

The survey was conducted over a period of two months. A total of 221 respondents from the six countries participated. See the Positive Parenting (P+) Initial Mapping Report document for full details of the survey and the outcomes.

However, a summary of the results is presented here. Overall, all of the results support the need for increased training in ABA for caregivers of children with NDD and caregiver trainers.

Regarding the potential trainers, more training is needed, with a specific focus on teaching trainers to find function-based interventions to match the needs of children and families impacted with NDD. Additionally, a stronger emphasis needs to be placed on directing trainers to use more positive practice approaches that build behaviors, as opposed to relying on those that decrease challenging behaviors without establishing functionally equivalent replacements.

Regarding the caregivers, females, most likely mothers, were the large majority of participants. It appears that there is an ongoing dearth of participation by fathers in parental training programs (Fabiano, 2007). Therefore, more needs to be done to include fathers in parental training programs. Additionally, training in ABA needs to focus not only on application but also the underlying goals of the programming for caregivers to best understand their necessity.

Concerning the intersection of the trainer and caregiver data, it was favorable to see that the challenging behaviors being targeted most aligned with the behaviors that

caregivers are seeing exhibited with the highest frequency: stereotypic behaviors (or behaviors most often maintained by automatic reinforcement). However, this is in contrast to the skill-specific behaviors outcome. The trainers are not training most often on the behaviors that parents need to see more growth in: Empathy, play-skills, and self-help/hygiene targets. Lastly, there were many responses across both participant groups that fell into the category of "not sure". This again represents an overall need for more education and training in the area of ABA.

CURRICULUM DESCRIPTION

The focus of the Positive Parenting curriculum is providing education to potential trainers of caregivers of children with autism on the use of behavior analytic strategies for improving behavior.

It was divided into the nine topic areas of:

1. Understanding autism
2. Introduction to ABA
3. Reinforcement and skill acquisition
4. Managing challenging behaviours in the home and the community
5. De-escalating a situation
6. Teaching social skills to children with ASD
7. Communication training
8. Teaching self-help skills
9. Token economies

TOPIC 1: UNDERSTANDING AUTISM

The Early Historical Background of Autism

The history of autism begins with legends and tales of children abandoned by elves to replace those abducted. However, in real history, already in the 18th century, medical texts appear containing descriptions of people who probably suffered from autism (although the term itself was not used yet) - they did not speak, were overly withdrawn and had an unusually good memory.

Closest of all scientists of past centuries to autism came the French researcher Jean-Marc-Gaspard Itard (Jean Marc Gaspard Itard, 2021), who highlighted one of the main features - the absence or delay of speech development with undisturbed intelligence. In his work "Mutism caused by the defeat of intellectual functions" (1828) Itard summarized the results of his 28-year research. Here, the scientist described his attempts to rehabilitate Victor - the "Wild Boy from Aveyron". Itar conducted a thorough study of the level of attention, memory and imitative abilities of such children, and came to the conclusion that children with intellectual mutism are asocial, experience enormous difficulties in establishing friendly relations with their peers, use adults only as tools to satisfy their needs, and show significant disorders in development of speech and language (especially in the use of personal pronouns). Further, the French scientist described the methods he developed for the diagnosis and correction of such children in order to determine the child's ability to restore speech and learning. Itar suggested separating the children he described from those with mental retardation and idiocy. He described the main clinical characteristics of intellectual mutism, methods of its diagnosis and correction. Unfortunately, at that time the work of the French researcher did not attract much attention from his colleagues (Carrey, 1995).

In 1911, the Swiss psychiatrist Eugen Bleuler (Eugen Bleuler, 2021) published his work "Early dementia or a group of schizophrenia", in which he described the special quality of symptoms of early dementia: dissociation, splitting, and designated them with the new term he created, which has survived to the present day, - "Schizophrenia "(Greek" schizo "-" I split "," frene "-" mind "). In the same work, Bleuler introduced the term "autism" (Latin from Greek "auto" - "self", "ism" - Latin from Greek - a suffix for the

formation of abstract nouns denoting an action, its result or state) for descriptions of the clinical picture of schizophrenia, namely, the departure of a schizophrenic patient into the fantasy world (Moskowitz & Heim, 2011). We also find descriptions of people with "strange behavior and a peculiar perception of reality" in fiction. Thus, the American writer John Steinbeck portrayed a person with autism in one of the main characters of the novel "On Mice and Men" (1937), without calling him such.

The first description of autism as a syndrome was given by the prominent American child psychiatrist Leo Kanner (Le Kanner, 2021) in his 1943 article "Autistic Disturbances of Affective Contact". Kanner described the general characteristics of 11 children whom he observed from 1938 to 1943. All these children showed common features, the main ones of which were 'excessive isolation, isolation, avoiding any contact with people, speech development disorders and the need for multiple repetitions of the same actions and monotony, and the beginning of the manifestation of these features was noted already at In the first year of the child's life, Kanner concluded that these children, "whose condition was strikingly different from the conditions described earlier" (Kanner, 1943), suffered from a syndrome he called " early infantile autism" (EIA). Even now, some professionals use the term EIA, which seems to be incorrect, since autistic children grow into autistic adults, and the diagnosis of early childhood autism in relation to, say, to a 50-year-old man is inappropriate. The term EIA was justified in the 1940s-1950s, when neither Kanner himself nor other researchers could predict the future of these children, and did not have data on the causes, symptoms, and types of autism. Now the diagnosis "autism" is generally accepted, which is applicable to a person of any age.

So Kanner was the first to insist that the children he wrote about represent a unique subgroup of a large troupe of children who have been diagnosed with childhood schizophrenia in the past. He insisted that the children he diagnosed with EIA were so similar to each other in their behavior and speech (if they had speech) that they should be considered as children with a unique developmental anomaly of constitutional genesis.

The main symptoms identified by Kanner that characterize autism syndrome, are still generally recognized and describe the state of autism in its "classic" form:

1. Inability to make contact with other people. This means that an autistic child has difficulty communicating with other people and is more interested in inanimate objects than in people.
2. Delayed speech development. Some autistic children never begin to speak, while others have speech delays.
3. Non-communicative speech. Although the autistic child may have speech, they have difficulty using it for meaningful communication.
4. Delayed echolalia. Repetition of words or phrases over a period of time.
5. Permutation of personal pronouns. The child uses "you" instead of "I". For example, mother: "Do you want candy?" Child: "You want candy."
6. Repetitive and stereotyped play. Typically, autistic children's play is limited. They repeat the same steps. There is no imagination in the game.
7. Striving for uniformity. A persistent desire to maintain a familiar constancy in the environment and in everyday life.
8. Good mechanical memory. Many autistic children exhibit excellent memories (although they are often very selective). It was this trait that convinced Kanner that all autistic children have normal intelligence (which has recently been questioned).
9. Onset of manifestation from birth or before 30 months.

Thirteen years after the publication of this work, in 1956, Kanner, together with Eisenberg, revised his proposed criterion for diagnosing autism and published an article "Early Infantile Autism: 1943-1955", in which five diagnostic characteristics of autism were distinguished:

1. Complete absence of affective contact with other people
2. Persistent desire to maintain uniformity in the environment and daily activities.
3. Attachment to objects, their constant spinning in their hands.
4. Mutism or speech not intended for communication.

5. Good cognitive potential, which manifests itself in excellent memory or performing screening tests.

Kanner also emphasized the onset of the syndrome - from birth or up to 30 months. In the same work (Eisenberg & Kanner, 1956), Kanner and Eisenberg reduced the number of basic characteristic symptoms required for the diagnosis of autism to two:

1. Lack of affective contact.
2. Repetitive, ritualistic behavior.

The authors believed that if these two traits are present, then the rest of the typical clinical picture of the syndrome will certainly appear.

Independently of Kanner, at almost the same time, in 1944, the Austrian psychiatrist Hans Asperger (Hans Asperger, 2021) described a state of abnormal behavior in a group of adolescents, manifested in impaired social communication and communication, which he called "autistic psychopathy".

As Asperger wrote in German during World War II, his work went almost unnoticed. In fact, both Kanner and Asperger described the same state. Descriptions of both Asperger's "autistic personality disorder" and Kanner's "early childhood autism" contain references to abnormalities in the development of sociality. However, Asperger did not note the obvious anomalies in speech development and language comprehension described by Kanner. Autism was defined by Kanner as a "disorder of affective contact," while Asperger described children who, although characterized by a lack of affective contact, were able to use non-emotional speech normally.

Digby Tantam (Digby Tantam, 2021) identifies a subgroup of "autistic people who are social, have speech, have a particular interest in certain aspects, are awkward", and used the term "Asperger's syndrome" for this (Tantam, 2011). Currently "Kanner's syndrome" is mainly applied to severe cases of autism, and Asperger's Syndrome to high functioning autism. However, some authors apply the term "Kanner's Autism" to a

small group of people with autism (25-30% of autistic people) who do not have a cognitive impairment. Individuals with Kanner's autism have normal, or even above normal, intelligence and are able to attend college and even graduate school, and can live an independent life in society. In his article, Kanner, although he suggested that autism is a congenital organic disorder, but under the influence of Freudianism and psychoanalytic theories fashionable at that time, he admitted that one of the causes of autism may be the suppression of the child's mental activity by his authoritarian mother. Later, Kanner completely abandoned this harmful theory and even wrote a book "In Defense of Mothers".

By the 1950s, professional interest in autism syndrome in the United States and parts of Europe had increased significantly. Many doctors, especially those who were fond of the psychoanalytic theory fashionable at that time, began to explain the possible cause of autism in a child with an intact intellect by traumatizing his environment, and, especially, the lack of warm relations to the child from his parents. In publications of that time, the terms "frozen mother" and "cold intellectual parents" even appeared.

In 1959, the famous American psychologist Bruno Bettelheim (Bruno Bettelheim, 2021) published an article "Joey: A 'Mechanical Boy'", in which he described an autistic child, under whose strange, withdrawn behavior a very gifted intelligent boy was hiding. In this work, the idea was that it was the attitude of the parents towards the child that was the reason for the appearance of autism. Bettelheim's later book The Empty Fortress: Infantile Autism and the Birth of the Self (1967) became widely known, in which the author stated that mothers treated their autistic children as badly as the Nazis treated prisoners in concentration camps, causing, thus, children (or prisoners) have feelings of hopelessness, despair and apathy, and forcing them to avoid contact with reality.

In accordance with his theory, Bettelheim, as a "treatment" for autism, proposed to isolate autistic children from their families in special boarding schools and conduct intensive psychotherapy with them to bring them out of the detached state.

Bettelheim's theory, blaming parents for the onset of autism in children, was quite popular until the mid-1970s, when new research in this area convincingly showed the absurdity and harm of this approach, and the correctness of Kanner's very first assumption about the biophysical causes of autism.

Even now in 2021 Bettelheim's views are still shared by some professionals in the United States and by many in Eastern Europe. Sometimes attempts are made to modify Bettelheim's theory, however, while maintaining the basis. For example, Nico and Elizabeth Tinbergen (Tinbergen & Tinbergen, 1977) claim that autism is caused by a rupture of the bonding process between mother and child, the restoration of which is the main treatment. American psychiatrist Martha Welch presented one of the possible "cures" for autism, based on the Tinberger theory - therapy holding.

Neither Bettelheim himself nor his followers have provided any conclusive evidence for the correctness of this psychogenic theory of autism, and there is no conclusive evidence that the type of treatment they recommend is beneficial for all people with autism. To be fair, it must be said that not all autism professionals in the 1950s approached the problem in the same way as Bettelheim. Marian DeMyer (DeMeyer et al., 1973), identifies three main theories at the time regarding the causes of autism:

1. The parents themselves cause autism in their children with their cold, repulsive behavior.
2. Autism is caused by some biological factor.
3. A child with a biological predisposition to autism finds himself in an unfavorable atmosphere in the family created by his parents.

The Evolving Understanding of Autism

Thankfully, in the 1960s, the first three books written by parents of children with autism appeared, which painted a different picture.

- Jacques May, father of twin boys with autism, The Physician Looks at Psychiatry, 1958.
- Karin Stensland Junker (Sweden) "Child in a Glass Ball" (translated into English in 1964).
- Clara Claiborne Park described her attempts to penetrate the world of an autistic daughter in The Siege; The First Eight Years of an Autistic Child, 1967.

In 1964 an American psychologist published a book "that shook the world."
That father was Bernard Rimland (Bernard Rimland, 2021), and his relatively small book, Infantile Autism: The Syndrome and Its Implications for a Neural Theory of Behavior (1964), marked a turning point in changing the approach to autism. It provided a brief overview of the world literature on autism and related disorders, and some much needed and new ideas about the nature and causes of autism. It all began with the fact that the young scientist could not come to terms with the conclusions of the doctors regarding his son. He himself diagnosed autism in his son Mark and decided to become a specialist in this field in order to help his son and many other children with similar pathology. Rimland "vowed not to rest until the enemy (autism) is defeated, even if it takes the rest of his life". He read and took notes on everything he could get his hands on topics that had any connection with autism.

The trail led the young scientist to biochemistry, genetics and neurophysiology. He ordered copies of works on autism and closely related topics from other countries in libraries, even if, having received work, he had to look for someone to translate them for him from German, Dutch, Czech, Polish, and other languages, into English. By 1962, he had studied everything that had ever been published on autism in all languages, except perhaps a few articles in Japanese, Chinese, and Russian that were not listed in the National Library of Medicine directory.

Rimland's book Infantile Autism received the Outstanding Contribution to Psychology award. Many critics have praised this work, which has brought autism to a "new light". In his book, Rimland attacked professionals who saw the cause of autism in "cold parents", and clearly substantiated his point of view on autism as an organic brain

disorder. Some progressive autism professionals and, of course, parents of children with autism around the world enthusiastically accepted this young scientist's work. However, many eminent professionals greeted her with hostility and angrily defended the honor of their traditional theories.

At the end of the book, Rimland placed diagnostic form E-1, which he compiled on the basis of a questionnaire developed by psychiatrist Charles Polen and psychologist Betty Spencer Huntington. A year later, Form E-1 was replaced by an updated and revised version - Form E-2. Rimland suggested that the parents fill out this form and send it to him.

For this book alone, Rimland would have entered the history of autism. But he continued to do everything to help his son and many other children with autism. Thus, in November 1965, he founded the National Society for Autistic Children - NSAC (now The Autism Society of America – ASA, https://www.autism-society.org/), which included parents of autistic children and professionals. This Society continues to provide assistance and support to children with autism and their families.

Rimland also established the Autism Research Institute (https://www.autism.org/mission-statement/) and was the editor of Autism Research Review International (https://www.autism.org/). ARI maintains contacts with tens of thousands of parents and professionals, and has the world's largest data bank of people with autism.

In December 1965, the first National Society for Autistic Children branch was formed in Coopertown, New York. It was founded by the mother of a child with autism, Saul Block, and Dr. Goodwin. Two months later, another mother of a son with autism, Ruth Sullivan, organized a second National Society for Autistic Children branch in Albany, New York. Branches soon emerged in Washington, DC, and several groups in California. As of 2021 the Autism Society of America now has over 215 branches.

Armed with information, experienced parents have become teachers of other parents

and even professionals. Some of the most successful educational programs for children with autism have been created by parents. Parents of these children even founded their own schools. The first day school for autistic children in the United States was established by the mother of a child with autism, Harriet Mandelbaum, in Brooklyn in 1952. In another example, Amy Ladin Lettick was asked to send her son with autism to a special boarding school and instead created her own school for her son, Ben, and named it Benhaven (New Haven, Connecticut). Jay Nolan Center for Autistic Children in Newhall, California, was run by parents of children with autism and named for actor Lloyd Nolan's son with autism.

In 1970, two fathers of sons with autism, Victor Winston, publisher, and Herman Preiser, engineer, founded The Journal of Autism and Childhood Schizophrenia (now the Journal of Autism and Developmental Disorders https://www.springer.com/journal/10803), which has become an invaluable resource on autism.

In the early 1960s, a group of parents in North Carolina, led by University of North Carolina research scientists Eric Schopler and Robert Reichler, founded the first government department, the Treatment and Education of Autistic and Related Communication Handicapped Children (TEACCH), to develop educational programs and provide help to people with autism and their families. Based on their observations and experience of working with such children, Schopler and Reichler supported the radical assumption for that time that the cause of autism was an as yet unknown organic brain abnormality, and not parental abuse of children. This hypothesis shifted the focus from psychotherapy for parents and children to the recognition of brain pathology and, therefore, to the creation of specific favorable conditions that promote the development of cognitive abilities in people with autism. This approach to the problem radically changed the role of parents.

In the early 1970s, the National Clearinghouse on Autism Evidence and Practice (https://ncaep.fpg.unc.edu/) was established in the United States, launching a national information campaign that continues to this day and has an immense impact for the

autistic society. Also in the 1970s, specialized programs for the education of children and adults with autism were intensively developed. Researchers proposed various methods of working with children with autism, requiring active cooperation of specialists with parents.

The behavior intervention strategies currently used most often with children with autism in Western countries were first developed by Dr. Ole Ivar Lovaas (Ole Ivar Lovaas, 2021). The effective methods for teaching children with autism developed by him convincingly confirmed the correctness of the assumption that intensive intervention, carried out according to an appropriate program, and started at an early age, can reduce the manifestation of unwanted behavior and contribute to the development of necessary, adequate skills.

Understanding Autism in Europe

Although many of the aforementioned events occurred in the United States, a similar movement for the recognition and understanding of autism was observed in the countries of Western Europe in the 1960s.

For example, in England in 1962, a group of parents of children with autism founded the world's first autism society - the National Autistic Society (NAS), one of the goals of which was to create schools for children with autism, since state general education, and even specialized schools of such children were not accepted. The founders of the NAS decided that no child, regardless of the severity of the violation, would be expelled from the NAS schools. Since then, the role of the NAS has grown significantly. https://www.autism.org.uk/.

In 1963, a small group of parents of children with autism in Ireland founded the Irish Society for Autistic Children (now the Irish Society for Autism https://autism.ie/). In subsequent years, similar societies appeared in many other countries: Belgium, Finland, Denmark, Germany, France, Italy, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, Canada, Japan, India, etc.

The 1970s saw significant progress in diagnosis, research into the etiology of autism, and work with children with autism. Research in this area was being carried out all over the world. In 1966 Lotter from the London Institute of Psychiatry published the first work containing the results of an epidemiological study of autistic children. As scientific research provided more and more data on autism, more and more evidence refuted the assumption that a child's autism develops into adult schizophrenia, and confirmed that autism is a separate developmental disorder in ontogenesis other than schizophrenia, and that autism often occurs in association with other impairments. In addition, the studies revealed the role of an organic factor in pathogenesis.

All this led to the need to develop reliable criteria for the diagnosis of autism. Although significant progress was noted in the field of diagnosing autism in the 1970s, all the contradictions in the issue were not yet eliminated.

A great contribution to the understanding and development of diagnostic criteria was made by Professor M. Rutter (Michael Rutter, 2021), who identified the following diagnostic criteria for autism in 1978, which is widely used to this day:

1. The beginning of the manifestation of the syndrome before 30 months.
2. Violation of social development, which manifests itself in certain traits of behavior, regardless of the level of intelligence development.
3. Delay and deviations in speech development, which have certain diagnostic features, regardless of the level of intelligence.
4. The desire for uniformity, manifested in stereotyped play, interests, behavior or resistance to any changes.

Rutter emphasized that the level of intelligence could not serve as one of the criteria for diagnosing autism, thereby refuting Kanner's original assumption that intelligence is normal in all children with autism.

Later, Lorna Wing (Lorna Wing, 2021) described the social complexities inherent in children with autism, manifested as three different areas of functioning, or the "Triad of Impairment" (Wing, 1992). Three aspects of the Triad (according to L. Wing):

1. Violation of social interaction.
2. Violation of social communication.
3. Impaired imagination.

In her work, Wing emphasized the fact that autism manifests itself in a continuum; meaning, there are no strict boundaries of the violation; the continuum can include all atypical children who do not fully meet the classic criteria for autism described by Kanner (Wing, 1992).

Dr. Wing and Dr. Gould (1979) coined the term "Autism Spectrum Disorders", which indicates that there is a spectrum of problems and subtypes of autism.

In recent decades, various aspects of autism have been studied. The concept of autism as a developmental disorder has become generally accepted, in which a specific deficiency of thought processes plays a key role.

Autism In-Print and On Screen

Recently, a fairly large number of books and articles written by parents of children with autism have appeared, which are an invaluable contribution to the development of understanding of autism. These include:

- 1973 Josh Greenfield: A Child Called Noah: A Family Journey (based on a family diary of observations of an autistic son).
- 1975 Phyllis Gould: Please Don't Say Hello.
- 1976 Barry Neil Kaufman: Son Rise.
- 1977 Elizabeth Pieper: Sticks and Stones.
- 1979 Carolyn Betts: Label Me Jeff a Special Kind of Normal.

- 1980 Peggie Everard: Involuntary Strangers: Guide on Autistic Children for Parents and Professionals.
- 1982 Clara Clairborne Park: The Siege, the First Eight Years of an Autistic Child with an Epilogue Fifteen Years Later (First edition 1967).
- 1983 Anna Lovell: Simple Simon.
- 1991 Annabel Stehli: The Sound of a Miracle: The Inspiring True Story of A Mother's Fight to Free Her Child from Autism.
- 1992 Margaret Eastham: Silent Words: Forever Friends (a mother's story about her attempts to get her autistic, non-verbal son into communication; the book contains poems by David Eastham, a non-verbal autistic poet).
- 1993 Jane Taylor McDonnell and Paul McDonnell: News from the Frontier (mother describes the transition of her difficult autistic son to a highly functional autistic. 50 pages of afterword written by Paul himself).
- 1993 Craig Schulze: When Snow Turns to Rain: One Family's Struggle to Solve the Riddle of Autism (the father of an autistic son talks about how the whole family, united in the fight against autism, looked for ways to help the child enter their world).
- 1994 Catherine Maurice: Let Me Hear Your Voice: A Family's Triumph over Autism (mother of two autistic children - now nothing different from normal peers - talks about his attempts to help them. Foreword written by B. Rimland, afterword - I. Lovaas).
- 1994 Carol Johnson and Julia Crowder: Autism - From Tragedy to Triumph (a mother's story about corrective work with her autistic son, to whom doctors pronounced a hopeless verdict. Now the young man has finished college, lives an independent life).
- 1995 Mark Frankland: Freddie the Weaver: The Boy Who Fought To Join The World (A touching story told by a mother about her struggle for her adopted boy who turned out to be autistic, and about the child's struggle with this disorder) and many others

Some high functioning individuals with autism have themselves written books about autism to tell the world about what it means to be autistic. For example, Temple

Grandin, PhD, (Temple Grandin, 2021) a woman with autism, wrote a powerful book entitled Emergence: Labeled Autistic (1986) which offers a unique perspective on the nature of autism. In the book Grandin describes his life with autism. She talks frankly about her efforts to gain speech, her failures and victories. In her book Thinking in Pictures: Other Reports from My Life with Autism (1996), she describes how people with autism think and act. In another example, Thomas McKean, offers his ideas about living with autism, expressing them with humor and a subtle understanding of the state ("Soon Will Come the Light", 1994). Perhaps most notably, in 1989, the movie "Rain Man" (https://www.imdb.com/title/tt0095953/) was released with Dustin Hoffman in the title role, which served as an impetus to change the attitude of society towards the problems of people with autism. Autism came out of laboratories and research institutes.

Support for Autism in the European Union (EU)

In 1980, several associations of parents of people with autism from various European countries got together to organise their first Congress. The aim was to encourage the exchange of knowledge among researchers, medical doctors and other professionals active in the field of autism. As a result, information about causes, diagnosis, care, management and education also became more available to parents and fueled their activities (Autism Europe, 2013).

During the preparation of a second Congress in 1983, the associations involved decided to create a permanent umbrella association named Autism-Europe. Initially, Autism-Europe consisted of 23 national and regional associations. Autism-Europe was founded in the context of a changing public understanding of all disabilities. A new conception of disability was emerging, called "the social model of disability" (as opposed to the "medical model of disability"), which aimed to redefine disability to focus on the relationship between people and their environment (Autism Europe, 2013).

Autism-Europe currently unites more than 70 associations of parents of children with autism from more than 30 European countries (https://www.autismeurope.org/who-we-are/), admitting associations of parents of

children with autism and specialists working in this field in America, Canada, Asia, Africa, Australia. The main goals of this organization continue to be:

- To unite the efforts of all research in the field of autism.
- To defend the interests of people with autism; granting them legal rights to competent diagnostics, education, social protection, etc..

Useful videos about Autism-Europe are available here
https://www.youtube.com/c/AutismEurope

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TOPIC 2: INTRODUCTION TO ABA

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Introduction to ABA

Behavioral challenges of a child with an autism spectrum disorder may be largely due to skill deficits. Applied behavior analysis (ABA) is a method of teaching based on the science of behavior that focuses on increasing functional behaviors using principles of behavior like positive reinforcement. It can increase the value of learning through the

use of reinforcement for specific appropriate behaviors. The higher the value of learning, the less often the child is to make attempts to avoid completing tasks or make the choice to engage in challenging behaviors instead of more appropriate ones.

ABA is based on the explanation of human behavior grounded in behavioral theory. Behavioral theories explain what people do and why they do. They explain behavior of individuals as being dependent on what goes on in the world around them. ABA is based on this understanding of behavior as a phenomenon that is impacted by the events in the environment that surround it. So, while behavior is everything that a living organism does, ABA focuses on the behaviors that can be observed, so that those relationships to the environment can be investigated and changed, as needed.

The Behavior in ABA

People engage in many behaviors throughout every day. They eat, hug, talk on the telephone, drive cars; the list is endless. When people talk about a person's "behavior," sometimes they only mean those activities that are undesirable. Throwing toys or hitting someone is labeled "challenging behavior" while saying "hello" or opening the door for someone would not be described as behavior during the course of everyday conversation. But, behavior is neutral. It only becomes good or bad when it is observed or described within the context of the situation.

Since behavior is about someone doing something in a certain context, we need it to be observable and measurable. Words like "happy" or "emotional" aren't behaviors. In order for something to be a behavior, you have to be able to see it and measure it in some way, to determine if what you are seeing is accurate. For example, you can see someone smile; you can count the number of times they smile within a given time frame. Therefore smiling is an observable and measurable behavior.

ABA and Autism

Again, ABA is the science of understanding behavior based on behavioral theory.

It has become a widely accepted and effective treatment for children with autism. ABA focuses on improving socially significant behaviors (i.e., anything important) to a meaningful degree and relies on assessment, individualized instruction, and structured teaching programs in order to measure behavior change. ABA is an applied discipline- so the work is done targeting these socially significant behaviors in the natural environment. Meaning, if we are working to address tantrums during family dinners we work on training in the home during mealtime.

Some key features of ABA include:
- The child's behavior is assessed through direct observations that focus on exactly what the child does, when he/she does it, how much the behavior happens, and what happens before (antecedents) as well as what happens after behavior (consequences).
- Skills that the child does not demonstrate but are expected to know based on age, are chosen for instruction using systematic teaching strategies.
- Initially, pairing is used to condition the teacher as a desired item (reinforcer) and gradually instructional control is attained. Basically, we work to make the teacher someone that the child wants to be around and listen to.
- Teaching methods are individualized based on what technique would be appropriate for the child. Some methods include discrete trial training (DTT) or natural environment teaching (NET).
- Many opportunities to practice and learn a skill are given repeatedly in structured teaching situations and in the natural environment, or the course of everyday activities.
- Instruction initially emphasizes reinforcing (rewarding) a child to listen, to watch, to imitate. After those initial skills are built it then continues on to more complex targets.
- As the child progresses, guidance (or prompts, which will be discussed more later) is systematically reduced so that the child is responding more and more independently.
- As behaviors are acquired, the child is taught to combine them in more complex ways and to practice them in more novel situations.

- Challenging behaviors are not reinforced. Steps are taken to prevent the child from escaping from learning through challenging behaviors. The child is instead taught or redirected to engage in more socially appropriate behaviors.
- The child's responses during lessons are recorded. These data are used to determine if programming is working. If not, changes are made to the teaching strategies and/or targets.

Using ABA can mean a number of things. It can involve teaching skills to replace problem behaviors. So, for example, the child can learn what "to do," not just what "to stop doing." It can result in increasing positive behavior and reducing interfering behavior. For example, using procedures to increase on-task behavior or social interactions and reducing behaviors like self-injury or stereotypy. It can also work on maintaining behaviors. For example, teaching self-monitoring procedures at home to maintain and generalize school-related social skills. It can also be used in caregiver or educator training to have them change their responses to a child's behavior.

Other target areas include:
- Increasing your child's academic, social, and self-help skills.
- Improving your child's ability to stay on task and comply with a task demand (instruction).
- Aiming to improve cognitive skills.
- Working to generalize or to transfer behavior from one situation or response to another; for example, working on following directions at home and then in the community.

ABA is a technique of behavior modification. When using ABA the behaviors targeted for change are learned in detail with the child, then the details are combined into a chain, forming a more complex action. Usually multiple skills are targeted simultaneously using ABA strategies in a clear, concise, and systematic manner. Data are collected and analyzed along the way to determine if progress is being made or if changes are needed.

In the arsenal of ABA, there are many hundreds of programs, including verbal and non-verbal imitation, fine and general motor skills, labeling objects, responding to the language of others, making requests, and following directions. The main goal of ABA is to provide the child with necessary skills that will allow him to eventually independently explore and learn from the world around him.

One of the main tasks of a behavior analyst, or person using ABA with a child, is the development of the child's independence. However, ABA is a multifunctional tool. It can be used to describe and intervene on targeted behaviors in schools, in therapeutic settings, in healthcare programs, in parenting and family relationships, in sports, and many other settings. In the following sections of the manual you will explore some specific strategies that are grounded in the science of ABA, like reinforcement, to better understand how the science of behavior can best support your child or the children with which you work.

TOPIC 3: REINFORCEMENT & SKILL ACQUISITION

The Three Term Contingency

In ABA we consider the behavior in relation to the context of the situation, the environment, or what is happening around the behavior. The context surrounding the behavior is known as the three term contingency. It helps us better understand the behavior by learning about what is happening before and after it occurs.

The three pieces in this relationship, or we might say the three terms in this contingency are the:
- **Antecedent** - this is what happens just before a behavior that might trigger the behavior.
- **Behavior** – this is what occurs as a result of the antecedent, follows the antecedent. Remember, we focus on behavior that is observable and

measurable. Looking for features that others can see. We refrain from including our opinions and feelings when describing or naming a behavior.

- **Consequence** – this is what happens afterward as a result of the behavior and impacts its future occurrence.
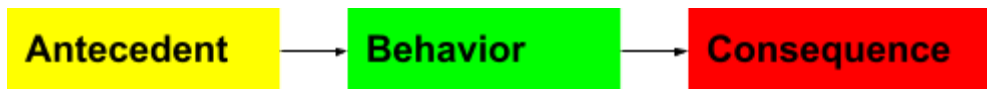
The antecedent behavior, and consequence relationship is often abbreviated as the ABC contingency.   Understanding the relationship between the A-B-C in the relationship is sometimes easiest when looking at an example of a behavior.
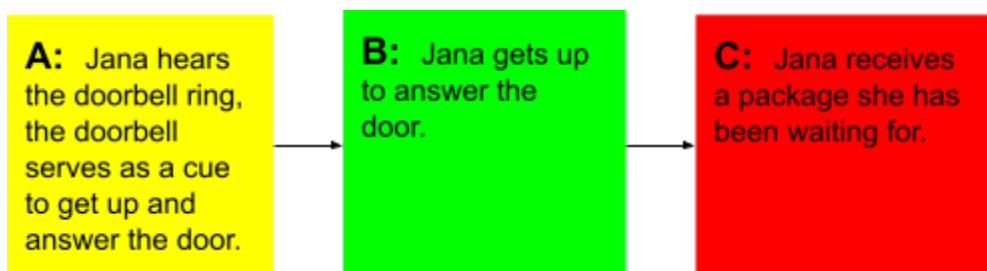
In this example, the receipt of the package is something that she gets for answering the door and increases the likelihood she will answer the door again in the future, since the package was something that she wanted to receive.

To review, the antecedent is the event that comes right before the behavior that you are looking at- it was the cue or trigger for that behavior. All behaviors have antecedents, even if we are not sure what they are- they are still there. Almost anything can be an antecedent. For example, the lights flickering, a clap of thunder, someone else yelling, being given a direction to clear your plate, etc..

The behavior is anything that the person does. In ABA behavior is something that is seen, heard, and external. We focus on behaviors that we can see, which means that

they have an impact on the environment. So, you should be able to observe and measure the behavior.

The consequence is the event that comes immediately after the behavior that you are looking at- there should not be much time separating the behavior and the consequence. All behaviors have consequences, even if we are not sure what they are- they are still there. As with antecedents, any change in the environment can be a consequence. For example, someone walking away from you, someone turning off the television, someone handing you an ice cream cone, etc..

ADDITIONAL EXAMPLE....

Misha saw his favorite candy at the checkout line, pointed to it and started screaming. Misha's mom asked him to be quiet. Misha began hitting his mom. His mom grabbed the candy and gave it to him.

In the first interaction:
The antecedent is: The candy is in Misha's eyesight at the checkout line.
The behavior is: Misha points to the candy and starts screaming.
The consequence is: Misha's mom asked him to be quiet.

In the second interaction:
The antecedent is: Misha's mom asked him to be quiet (therefore denying him access to the candy at that time).
The behavior is: Misha began hitting his mom.
The consequence is: His mom grabbed the candy and gave it to him.

All of our daily interactions are made up of three term contingencies that link together. You can see in the last example that the A-B-C sequence of events is something that is ongoing, with one interaction turning into another.

Reinforcement

In ABA the consequence event is of special importance to us. We are so concerned with the consequence, because it is something that we can manipulate to change a behavior. Ideally, we want to find a way to deliver a consequence that is desired after the good behavior happens, because this will make it more likely to continue occurring.

Let's think about some of the previous three term contingency examples. In the example with Jana and the doorbell the consequence probably served to increase behavior. Meaning, it made opening the door when the doorbell rings more likely to happen again in the future because Jana got a desired item for answering the door in the past- and she hopes for the same consequence again. In the example with Misha, Misha is likely to scream and cry when at the store again in the future to get access to the candy- because it worked for him last time. Therefore, when a desired outcome follows a behavior, it makes you want to do that same thing again in the future.

Think about an example of this in your own life, something that you tried and it worked well, so you repeated that behavior again. Maybe, for example, you sang a certain song to your child at bedtime and your child fell asleep- next time when you are trying to get your child to fall asleep you might try to sing that same song again. Interventions based on ABA all have a basic goal of increasing desired behavior. In order to make this happen, desired behaviors have to be strengthened. Reinforcement always strengthens or increases the future likelihood of a behavior.There are two types of reinforcement that we often use, positive reinforcement and negative reinforcement. Both types of reinforcement involve a change happening in the last part of that A-B-C, three term contingency: the consequence. Just as we saw happen in the previous three term contingency examples.

Positive Reinforcement

When a person does something and then is given an item they like, this increases the chances they will do that something again. We call this sequence of events positive

reinforcement. For example, if a child is given a piece of their favorite candy after they clean up their room and they clean up the next time in order to get the candy, then their cleaning behavior has been positively reinforced. We would say that their behavior of following the direction of cleaning their room when asked to do so has strengthened. The candy, which functions as a reinforcer in this case, was something that you provided and which increased their behavior. This could be thought of as a reward. Let's look at examples of using positive reinforcement in the context of the three term contingency.

A: Ralph does not have any money and wants to buy a bike. His parents tell him to work hard in school and get good grades.	B: Ralph gets all As on his report card.	C: His parents give him **money** so that he can buy a bike.
A: Ariel asks for ice cream before dinner. Her parents tell her that it is dinner time now and that she needs to eat her vegetables.	B: Ariel eats all of her vegetables.	C: Her parents give her **ice cream** after dinner.

In both of the examples above a reinforcer, or desired item, was presented to the children after they completed the desired behavior. Ralph received the desired item, or

reinforcer, of money. Ariel received the desired item, or reinforcer, of ice cream. In the first part of each contingency, or the antecedent, we can see that the children do not have their desired items- or reinforcers. However, after their desired behaviors they receive these items, we might say that these items were added after their behaviors. It appears that the behaviors occurred to get access to the desired items. However, we can only say that positive reinforcement took place when we see that something similar happens again in the future. So, if Ralph and Ariel get good grades and eat their vegetables when asked again, we can say that positive reinforcement occurred- getting those reinforcers made them more likely to engage in those behaviors again in the future.

Negative Reinforcement

When a person does something that removes or lessens something that they do not like, again, this increases the chances that they will do that something again.   We call this sequence of events negative reinforcement. For example, let's look at this scenario: A student in a classroom is assigned 12 problems for homework. The student does not like homework. So, the teacher tells the student that if they complete their classwork then they don't have to do the homework. The student completes the classwork and does not have to do the homework. The removal of the homework (disliked circumstance) happened when classwork completion behavior occurred, and as a result, that child is more likely to complete classwork in the future to avoid having to do homework. So, negative reinforcement, the consequence of the removal or avoidance of something undesired, increased the desired behavior. To review, a desired behavior was increased as a result of the consequence of the student getting to avoid something that he/she does not like. An important thing to remember here is that negative means removal, not punishment.

Here are a few more examples of negative reinforcement:
- The husband does the dishes in order to avoid his wife's nagging.
- The child can get up from the sitting at the dinner table after eating 2
- bites of broccoli.

Again, reinforcement, regardless of if it is negative or positive, is all about a desired consequence following a behavior that makes that behavior more likely to occur again in the future. Remember, with positive reinforcement it might be easiest to think about it like you are getting a reward for doing something. The consequence, or what follows the behavior, is the reward. The reward is some activity or item that you like and want. With negative reinforcement, it might be easiest to think about this in terms of escape or avoidance. With negative reinforcement you are getting out of something (avoiding it) or stopping something (escaping it) that you do not like. The consequence, or what follows the behavior, is ending or helping you steer clear of the thing that you do not like. To use reinforcement to your advantage you need to first figure out what works as a reinforcer, or desired consequence, for your child.

Reinforcers

Reinforcers are things that a person likes. Think about the ice cream, package, candy and money in the previous examples. They are all examples of reinforcers. Anything can be a reinforcer, though, it just depends on the preferences of the person. To better understand reinforcers think about these examples, too:

- You are trying to get your friend to help you wash a really dirty car by promising them you will make a nice lasagna dinner for them afterwards. Your friend hates to wash cars but loves the lasagna you make. The friend helps you wash the car because they are looking forward to the lasagna afterwards. The friend's car washing behavior is reinforced by the promise of the lasagna.
- However, say you promised your friend lasagna for helping you wash the car and they hated lasagna. Although they are your good friend, they suddenly discovered that they had somewhere they "had to be" instead and couldn't help you wash the car. In this circumstance, the lasagna is not a reinforcer for that person and does not work to get your friend to help wash the car.

Reinforcers can be any item, activity, and/or social response (e.g., foods, drinks, toys, activities, attention, and praise) that increase the chance of behavior occurrence. They

follow a child's behavior and can be used to strengthen desired behaviors or to help teach new behaviors and skills. Things that are "typically" reinforcing to many children might not be reinforcing to your child. This may require thinking creatively about what can be a reinforcer for your child.

Also, just to clarify, when we are talking about reinforcement we are talking about the complete sequence of events of: (1) the behavior happening, (2) the desired consequence following, and (3) then the behavior increasing in the future. When we are talking about reinforcers we are talking only about the item that follows the behavior- not the whole sequence of events.

Assessing for Reinforcers (Preference Assessment)

It is important to take steps to find out what items might serve as reinforcers for your child. Remember, just as our preferences for things change over time, the same might be true for your child. Also, consider that the context of what has just happened and what was currently available impacts what someone wants at that moment in time. Just to clarify, if your child just ate 3 doughnuts he/she might not consider a doughnut a reinforcer at that moment in time- he/she is full and has had enough doughnuts! Therefore, we have to reassess preferences often.To do this, we use preference assessments.

Preference assessments can be conducted to try and figure out what items might function as reinforcers for your child, or what items they like and might want to earn. This allows for individualization and an increased likelihood of effective behavior change procedures. The problem with assessing preferences by guessing ourselves, is that we are likely to be wrong. We may miss idiosyncratic items that we do not think of as reinforcing ourselves. For example, spinning a piece of string might be enjoyable to your child but not to you. So, to make sure that you select the correct items you can identify reinforcers for your child by:
- Asking your child what he or she likes.
- Talking with others who know your child well, including teachers.

- Holding up some items and seeing what your child chooses.
- Watching your child to see what he or she does when given free time.

Remember, every child is different and has different likes and dislikes. If you are struggling to know what might work as a reinforcer, keep in mind that it is a good idea to use natural reinforcers when possible. These are already available in your child's home or school. So, for example, you can consider making privileges contingent on appropriate behavior. Many children have access to numerous privileges, such as TV, computer, time with their friends, or favorite toys. All of those items have the potential to be used as reinforcers. Again, reinforcers may change with different developmental periods- so as your child grows and learns. Keep in mind your child's developmental level and rapidly changing interests when selecting reinforcers.

Using Reinforcement Effectively

Some parents feel that using reinforcement to get the child to comply is bribery. Reinforcement and bribery are different concepts. The main difference involves when the reinforcer is being offered. Reinforcers are better applied when the rule for engaging in the behavior and getting access to the desired item is offered upfront instead of negotiated after the fact. If negotiated after the fact, the child may learn to refuse to comply unless offered something. So, keep in mind that to use reinforcement effectively you want to introduce the contingency, or rule for getting access to the desired item (reinforcer), before problem behaviors arise. This can be a challenge for parents. Think about how things work in schools, though, with a set of rules and consequences established at the start of the term, think about creating something similar in your home. You can even put up a chart or use an app that specifies behavior expectations and consequences. You might include things like:
- Cleaning your room earns you 30 minutes of screen time.
- Sharing your toys with your sister gets you out of one of your chores.
- Twenty minutes of piano practice earns you 10 extra minutes of storytime.
- Washing the dishes after dinner means that you can stay up 15 minutes later tonight.

Establishing the rules, or contingencies, is not going to result in behavior change unless you stick to them and deliver reinforcement effectively, though.   So, after you have found those reinforcers and established some contingencies, it is a good idea to follow some guidelines:

- Be sure to deliver the reinforcer immediately after the desired behavior.
- Match reinforcement with the behavior.
  - Assisted behavior should be reinforced with less powerful reinforcers and more powerful reinforcers should be given for independent responses.
  - For example, if you want your child to clean his room. You might offer 5 minutes on the IPad if he cleans his room with your help but 30 minutes on the IPad if he cleans his room on his own.
- Make sure the selected reinforcer is worth the effort.
- Satiation may occur, so switch reinforcers up! Be on the lookout for new reinforcers.
- Remember that deprivation can be key in making the reinforcer valuable/motivating.
  - So limit your child's access to a reinforcer that you are using to increase a certain behavior. Your child will be more likely to work for something that they don't already get for 'free'!

Teaching Replacement Behaviors

All of our behavior serves a purpose, or has a function. If your child is engaging in a challenging behavior- it is happening for a reason. It is most likely that the behavior is working to help your child gain something or escape something. Therefore, teaching your child a new behavior as a replacement for the challenging behavior can help reduce the challenging behavior. This new behavior will serve the same purpose as the problem behavior but will be much more appropriate and "functional." For example, your child may hit others because he wishes to get out of situations, such as leaving the dinner table. This behavior is very communicative (i.e., you know what he is trying to say when he hits: "This is too much! I need a break!"), but it is also inappropriate.

Instead, we might consider teaching the child a more functional or appropriate way of making a request for a break. If your child is not yet talking, this might be teaching him to manually sign "all done" or to have him point to a picture icon of "break" when he needs to leave the table. This is only one specific example, however, we know that most challenging behaviors occur as a result of some skills that are missing, and building those missing skills will give your child a more acceptable and less frustrating way to interact with his environment.

Skill Acquisition

Many children with ASD work on skill acquisition goals using ABA to learn the replacement behavior skills that are needed to replace challenging behaviors. ABA may also be used to build skills that are missing from their repertoire, but should be present given a typical developmental trajectory. For example, if your child is four years old it would be developmentally appropriate for your child to name at least three items from a common category, climb the rungs of a ladder, put together a five-piece interlocking puzzle, and brush his teeth (Squires et al., 2009). If these are skills that your child is not yet demonstrating, it might be the case that more specialized ABA-based teaching strategies can be used to build them. Increasing skills like these is likely to have the collateral effect of reducing the challenging behaviors that might be displaying frustration when your child struggles to do these things.

In general, learning is imperative to behavior change, as often challenging behaviors are the result of missing skills in other areas. Although you may not be familiar with the phrase 'skill acquisition,' it simply means a change in an individual's repertoire which suggests the presence of a behavior as demonstrated by their ability to perform a task. Basically, when they learn something and can prove it!

For many children, learning occurs through watching others interact with their own environments and receiving naturally occurring reinforcement. Often children learn many skills by interacting with their environments and not via direct teaching. For example, your child might learn how to put on his shoes by watching you put them on

his feet. However, children with autism and other developmental disabilities often do not acquire the behaviors needed to navigate day-to-day life in this same way. So, you need to explicitly target teaching these skills through more systematic procedures that involve the use of reinforcement and other specialized protocols.

Prompting

Prompting is a behavior analytic procedure that can be used systematically to help your child learn new skills. So, if for example, you are looking to increase your child's behavior of following your directions then there are things that you can do to support his success beyond just telling him what to do and how to do it.

Think back to the three-term contingency that you were introduced to earlier in Figure___. Let's review that again. The three pieces in this relationship (or we might say the three terms in this contingency) are:
- Antecedent - this is what happens just before a behavior that might trigger the behavior.
- Behavior – this is what occurs as a result of the antecedent, follows the antecedent. Remember, we focus on behavior that is observable and measurable. Looking for features that others can see. We refrain from including our opinions and feelings when describing or naming a behavior.
- Consequence – this is what happens afterward as a result of the behavior and impacts its future occurrence.

You can add something into the antecedent part of that three term contingency to make it more likely that the desired behavior will follow. Then, after the behavior occurs, you can strengthen it by providing reinforcement.

This piece that is added to the antecedent gives your child some help at the same time you are giving him a direction, we refer to this added help that is happening with the antecedent as prompting. You probably already use prompts with your child, without even noticing. Gesturing toward your child's fork when you ask him to eat with it during

dinner is a kind of prompt. Giving your child a hint like "Hand me the big block . . . it's red" is another type of prompt. Using prompts with your child helps him to learn a new skill without giving up or showing those challenging behaviors. It may also prevent your child from learning the wrong way to do something. Your child getting something right also gives you more opportunities to use reinforcement- which is your number one behavior change tool!

There are several different types of prompts that you can use with your child. Here we are going to look at:
- Modeling
- Verbal
- Visual
- Physical
- Time delay

Modeling or Model Prompt

This first type of prompt is called modeling, which means that you show your child what you want him to do. The idea is that he will learn the skill by observing and then imitating you. Many skills can be taught by modeling the skill and having your child watch and then imitate.

Although your child may have struggled with learning new skills just by watching others in the natural environment, you might find that he is able to learn by watching your model and imitating when you set-up the space for numerous practice opportunities. You could think of it as systematically presenting your child with a certain number of those targeted directions each day, which include your model prompt for imitation. You might find that creating more opportunities for practice is what your child needs.

USING A MODEL PROMPT EXAMPLE
- You might decide to use a model prompt to teach your child to use his napkin when eating, as opposed to wiping his mouth on his shirt sleeve.

- You have a napkin next to you and are sitting opposite your child.
- Your child also has a napkin next to him.
- You say to your child "wipe your mouth" while simultaneously picking up your napkin and wiping your mouth. This is you providing your child with the model prompt along with the direction.
- If your child imitates your behavior and wipes his mouth with the napkin don't forget to provide some big praise!
- Again, you might find that your child needs many opportunities to learn this skill with the model prompt. So, you might decide to present this sequence of events to your child at least 5 times during dinner time.

Verbal Prompt

One type of prompt you might use to teach your child a new skill is a verbal prompt. This is anything that you say that helps tell your child what you want him to do. One kind of verbal prompt is a hint that may give your child help with the new skill. For example, in teaching the name of animals, you might point to a stuffed cow and say, "What animal is this?" then immediately add the verbal prompt (phrase) of "….It says moo." Another example of a verbal prompt is when you stress a particular word of an instruction, such as "touch NOSE." You can also give your child the answer as part of the question. For example, "This is a blue cup. What color is this?" Another example would be to say, "If I were thirsty, I would ask for a drink of water," to prompt a child to make a request.

So, there are many variations of verbal prompts. The important thing to remember is that the verbal prompts are things that you say in addition to the direction that you are giving, to increase your child's likelihood of success with following the direction. Also keep in mind that a prompt does not come after a "wrong" behavior, it comes before any behavior is emitted by your child. Keep that three term contingency in mind- the prompt is part of the antecedent condition, so what comes before your child's behavior.

Visual Prompt

Another type of prompt is a visual prompt. This is anything that your child can see which shows him what you want him to do. Gestures are the most common kind of visual prompt we use. When an adult walks into a house talking loudly when there is a sleeping baby, a gesture which is a visual prompt would be putting your finger to your lips to say "shush." Another example that you might use with your child, even without realizing it, is when you ask your child to put something in the bin and at the same time you point to the bin. Your gesture of pointing to the bin is the visual prompt- or sometimes called a gestural prompt.

Physical Prompt

Another type of prompting is a physical prompt, which refers to providing some physical guidance to help your child do a task. You can adjust your usage of physical guidance depending on how much assistance your child needs. A full physical prompt is used when your child is not familiar with doing the skill you are teaching and needs help practicing the movement required to do a skill. An example would be using hand-over-hand guidance to help your child draw shapes. A partial physical prompt is used when your child has some familiarity with the skill. For example, you might guide your child's arm at the elbow when he is brushing his teeth if he is already doing well engaging in parts of the skill but got stuck on the step of turning off the water.

Time Delay Prompt

A final prompting technique that might be helpful is time delay. This type of prompt is presented to the child only after a certain amount of time has passed and the child has not given the correct response. Parents sometimes use this approach when teaching skills like labeling items (e.g., body parts, colors). For example, the parent might say, "Touch your nose" and then wait. If the child does not respond after a few seconds, she might then put her child's finger on his nose. In another example, you might ask your child, "What color is this?" while holding up a red apple. At first, you might very quickly

answer "Red" for the child to prompt the child to say "Red." Then you might gradually wait longer and longer before you give your child the answer so that your child has the opportunity to answer spontaneously.

TOPIC 4: MANAGING CHALLENGING BEHAVIORS IN THE HOME

Challenging Behaviors

It's common for children with autism to behave in challenging ways or ways that are difficult to manage. For example, you might see the following behaviors:
- Refuse or ignore requests.
- Behave in socially inappropriate ways, like taking their clothes off in public.
- Behave aggressively.
- Hurt themselves or other children – for example, by head-banging or biting.

Children and teenagers with autism might behave in challenging ways because they:
- Have trouble understanding what's happening around them – for example, what other people are saying or communicating non-verbally.
- Have difficulty communicating their own wants and needs, which can lead to frustration.
- Are highly anxious and stressed.
- Feel overwhelmed by what's going on around them.

Your child's difficult behaviour might also have specific triggers, like the following.

Routines and rituals

Autistic children often like predictable environments, and they can get very upset if they can't follow familiar routines. For example, your child might be upset if you change the route you usually take home from school.

Transitions
Your child might not understand it's time to move on from one activity to another. Or like typically developing children, your child just might not want to.

Sensory sensitivities
Autistic children often have sensory sensitivities – for example, they might like feeling or touching particular surfaces or objects. Your child might get upset if they aren't allowed to touch.

Sensory overload
Your child might get upset if too much is happening around them, if they find a particular noise overwhelming, or if the light is too bright.

Unrealistic expectations
Autistic children can get frustrated if they're expected to do something they don't have the skills for, like getting dressed independently.

Tiredness
Autistic children can have sleep problems. If your child isn't getting enough good-quality sleep or is tired from an activity or situation, this can cause challenging behaviour.

Discomfort, pain or illness
This could include things like the feeling of clothes against skin, a prickly label, wet pants, a bump or pain. Check with your GP if you suspect there could be a medical condition causing your child's behaviour.

Other conditions

Your child might have other conditions as well as autism, like epilepsy, mood disorder or ADHD. These can all cause difficult behaviour. A medical assessment will help you to identify and manage these conditions.

Changing challenging behaviour in autistic children and teenagers
To change your child's behaviour, you need to understand what's triggering or causing it and what your child is getting out of it.

You can use the following steps to work on your child's difficult or challenging behaviour.

Step 1: Choose a behaviour
Choose one behaviour to focus on. For example, maybe your child yells at others when they're upset.

Step 2: Identify what triggers the behaviour and how it meets your child's needs
Keep a diary of the difficult behaviour for 1-2 weeks. It's a good idea to include two weekends in the diary. Family routines and behaviour can be different on weekends and weekdays.

Here's an **example**:

Difficult behaviour: Got upset and yelled at his brother.
When: 4 pm, Monday 7 June.
Where: In the car on the way home from school.
What happened before behaviour (antecedent): Instead of going straight home, stopped at a shop, intended to buy milk.
What happened after (consequence): Briefly tried to soothe the child, then went home without buying milk.

In the above example, the trigger seems to be the change to the child's usual after-school routine. Note that sometimes there might be more than one trigger for a

behaviour. And the behaviour met the child's needs because they got their routine back when the family left the shop.

Step 3: Make changes
Once you know what's triggering the behaviour and how it meets your child's needs, you can use the information to make changes. For example, teaching your child a more appropriate behavior for communicating his wants and needs.

Here are some ideas:

- Organise predictable routines, perhaps using picture timetables.
- Prepare your child for changing routines – for example, by giving your child a five-minute warning (this could be a visual warning like a clock). Using pictures can also help. In the example above, it could be a picture of a shop or milk. Social stories can be useful too – for example, a picture of school, then the shop, then home with a story like 'First mum picks you up from school, then you go to the shop, then you go home'.
- Set up gradual introductions to environments that might be overstimulating. For example, start with short shopping trips during which your child gets something they like, or go when it's less busy.
- Communicate clearly with your child. For example, make sure your child is paying attention when you explain what's going to happen. Use only one request or instruction at a time. Use language, symbols or pictures your child understands.
- Teach your child how to ask for things they want or need. For example, your child could say 'help' or use a 'help' sign when doing a difficult task.
- Plan for situations you know might be difficult. For example, don't do new things when your child is tired, or let your child take a favourite toy when you go somewhere that makes your child uncomfortable.
- Calmly ignore your child's protests. But when your child is doing the right thing, give plenty of praise.

Overall, keep in mind that improving communication skills using strategies from ABA is likely to result in less challenging behaviour in children and teenagers with autism.

Functions of Behavior

Behaviours that are repeated have some sort of function, or purpose. Identifying the function of a behaviour means investigating why that behaviour is occurring. For challenging behaviours, a psychologist or behavioural therapist would conduct a functional assessment of behaviour by observing the behaviour in the situation where it occurs. This means **looking at what happens before (antecedents), during (the behaviour itself) and after the behaviour (consequence) – known as the ABC approach**. After multiple observations of the behaviour, one can begin to form a hypothesis or theory on why the behaviour may be occurring, and when it is likely to occur (i.e. triggers).

There are four main functions of behaviour – social attention, access to tangible items or preferred activities, escape or avoidance of demands and activities, and automatic reinforcement from sensory input. Challenging behaviour often occurs because the individual is unable to communicate their wants or needs for attention, medical care, preference for items or activities, dislike for people or activities, need for assistance, or how sensory stimuli are affecting them.

The four functions are:

1. **Social attention**
Behaviour may occur to gain attention from another person. Attention may be in the form of laughing at them, playing, comforting or scolding.

2. **Tangible items and preferred activities**
An individual may engage in behaviour to get access to an item or activity. For example, a child may throw a tantrum to get a chocolate bar at the supermarket.

3. Escape or avoidance of activities or people

An individual may behave in a way to get something removed from their environment. For example, when Susan hits those around her during her reading lesson and then she is sent out of class. The reinforcing consequence here is getting removed from the task.

4. Automatic reinforcement (reinforcement from within)

Behaviour may also occur when it is rewarding to their senses – either by providing sensory input or removing sensory input. One child may rock back and forth because it is enjoyable for them and provides sensory input, while another individual might yell loudly in an effort to block out other noises if they are sensitive to sound.

After assessing the function of the behaviour, a psychologist or behavioural therapist will develop a **behaviour plan** which will aim to modify either the environment or the consequence to reduce the behaviour. As the behaviour has a purpose, it's often necessary to replace it with a more appropriate behaviour – such as asking for assistance, or asking for a preferred item.

Behavioural strategies often aim to increase communication (either verbal or non-verbal methods) and teach replacement behaviours to meet the needs of the individual. It is important to note that when the consequences are changed, it is likely that you will see an increase in that behaviour before it decreases – this is known as an **extinction burst**, when the person increases the frequency or severity of their behaviour to try and gain that same consequence that previously worked. Change can take time – especially if a new skill needs to be taught. Consistency is the key.

Strategies for Preventing Challenging Behaviors

Most behavior analysts and autism professionals will tell you that the best approach to handle challenging behavior from a child with autism is to prevent it in the first place. For many children with autism, proactive strategies–those that happen outside of

problem behavior– have the most significant impact. Among the many proactive behavior management strategies for the classroom and at home, these may be helpful:

- **Focus on communication skills.** So often, parents and teachers become laser-focused on challenging behavior. Yet many of these problems occur because the child lacks the skills needed to communicate effectively. Boosting the communication skills of a child with ASD–even a small amount–can have monumental differences in all areas. Spend as much time focusing on communication as you do on developing responses to challenging behavior.
- **Give directions and demands clearly**. Given how vital boosting communication skills can be to children with ASD, it becomes even more critical for parents to communicate effectively as well. Challenging behaviors often result from children with ASD not understanding expectations. Give precise directions, avoid jargon or metaphorical language, and phrase instructions as statements rather than questions. Gain their attention before giving a direction as well.
- **Provide choices whenever possible.** Choice can be a powerful tool for all children, including those with ASD. Reduce challenging behaviors by providing options when appropriate. Allow children the freedom to select the order of less-preferred demands (e.g., "Do you want to do homework or pick up your toys first?"). Allow choice in the type of task presented (e.g., "Do you want to read a book about trains or a book about birds?"). Or allow choice in when to stop an activity (e.g., "Do you want to keep playing outside or go inside?") can minimize the number of challenging behaviors across the day.
- **Provide a warning about transitions and prime your child with unexpected changes.** Many parents report transitions between activities and between locations as one of the primary triggers for challenging behaviors. If you know your child struggles with transitions, providing warnings about upcoming changes, using visuals to indicate a change in activities, or setting a timer can be helpful strategies to avoid tantrums and meltdowns. If an unexpected change happens in schedules, don't assume a child can manage the sudden change. Stop and spend a few minutes to 'prime' or prepare your child for what's about to occur.

Strategies to Handle Challenging Behavior When it Occurs

Although focusing on the pro-active strategies above can dramatically reduce the frequency and severity of challenging behaviors, they're likely not failsafe. If challenging behavior occurs at home or in the classroom, these strategies may be helpful:

- Follow consistent behavior expectations at home and school. Children with ASD thrive on consistency. If your child has a behavior plan set up for success in the classroom, many of the same strategies for challenging behavior may also be effective at home. Ask for training from your child's school or seek professional guidance from a behavior analyst or experienced autism professional.
- Ignore 'junk' behavior. Eye rolling, whining, crying, and or refusals all fall into a category known as junk behavior. These behaviors may be 'annoying' to parents, but they aren't particularly dangerous or harmful to a child. Sometimes parents get wrapped up in behavior management strategies for these mild or nuisance behaviors when they should instead focus on challenging severe behaviors like aggression, property destruction, or self-injury. As much as possible, when it's not harmful to your child, others, or the environment, do your best to ignore it.
- Redirect, rather than saying "Stop!" or "No!" to problem behavior. When challenging behavior begins, parents make the common mistake of labeling the behavior. "No hitting!" Or "Stop biting!" may seem like a natural response to a child's behavior, but ultimately it's not likely to help at the moment. Instead, focus on responding with a redirection to what the child should be doing instead. "Have a seat at the table." or "Hands in your pockets, please," give a child a clear direction of what they should do instead.
- Have a crisis management plan. Along with having a consistent behavior plan, it's also essential to have a crisis management plan for children with autism who engage in challenging behavior. The way adults respond in a crisis can significantly impact what a child does the next time. If parents and teachers react in similar ways each time a child is in crisis, it can promote safety and reduce the stress of not knowing how to handle the situation.

One final tip among all of these items is a reminder to individualize autism behavior management strategies for your child. Every child with autism has different needs and strengths. Some of the tips above will work well for your child, and others may not. What works to manage challenging behavior right now may not work in three months or three years from now. Understanding how important it is to customize and adapt will only help you and your child be more successful at home and in the classroom.

Stopping Challenging Behaviors with Time Out

Time-out is when your child is removed from where the misbehavior happened. Your child is away from all things that are fun. She does not get any attention in time-out. She cannot interact with her parents or anyone else. Time-out is boring. Time-out works to change problem behaviors because children don't usually like to be bored.

Time-out is not used for all misbehaviors. Some behaviors like crying or whining can be ignored. Distracting your child with a toy or a song can help prevent or stop misbehavior. Behaviors that cannot be ignored or redirected with distraction should be followed by a consequence that will stop the misbehavior. Delay or removal of privileges and time-out can be used to stop misbehavior.

When your child misbehaves, you can use a consequence of your choice. For toddlers and preschoolers, it is a good idea to try distraction and redirection first. If that doesn't work, you can consider other discipline strategies, like removing an activity or toy your child likes. There are 4 times when time-out may be a good choice:

- Your child does something dangerous, like running in the street. A time-out in this situation gives your child a clear understanding that these behaviors are never okay.
- Your child does something harmful, like hurting another child. A time-out can help your child see that hurting others is never okay.

- Your child breaks a family rule. Because children know it is the consequence, a time-out warning is not used. Remember that family rules are for those misbehaviors that are never okay. Make sure your child knows the family rules and understands that breaking the rules will mean a time-out.
- Your child does not follow your direction after a warning. Your child is more likely to follow your directions if she gets praise for following directions or consequences for not following the direction. A time-out warning can help your child do as you directed. If your child does not follow your directions after one warning, time-out may be a good consequence. The time-out warning is described below.

When your child doesn't follow your directions give a time-out warning. The time-out warning needs to be stated clearly, simply, and as a statement (not as a question). State this warning in a neutral tone and follow through with the time-out every time if your child does not do as you directed.

Tips for Time-Out
- Explain time-out or show it to your child in a way she can understand. Showing your child exactly what to do when you give a time-out can help the time-out go smoothly and be more likely to work. You may need to show your child several times so she can remember.
- Practice time-out with your child when you are both in a good mood. Then, have your child tell you what happens during time-out. By doing this, you can be sure she understands.
- Make sure your child knows what behavior leads to a time-out. For example, when you create a list of family rules, let your child know time-out is the consequence if the rule is broken.
- Tell your child where time-outs will happen. Let your child know the rules and steps for time-out.
- Use time-out the same way every time. When the steps of time-out are predictable, time-outs are more likely to help improve your child's misbehavior.

- Focus on one misbehavior first. When you first start using time-out, focus on a single misbehavior you would like to stop, such as biting.
- Time-out should happen immediately after the misbehavior. The faster time-out happens, the more likely your child will know that her behavior led to the time-out.
- Do not threaten your child with a time-out. If you forget to follow through, your child may not believe you are serious about time-out. If you want to use a time-out to stop misbehavior, it is best to use it immediately after the misbehavior.

- ## Extinction

Extinction refers to a procedure used in ABA in which reinforcement that is provided for problem behavior (often unintentionally) is discontinued in order to decrease or eliminate occurrences of these types of negative (or problem) behaviors.

Extinction procedures often take three different forms depending upon the functions of the behavior (i.e. What is causing the behavior). One of the forms is to use extinction with behaviors maintained by positive reinforcement.

Example: Dannie tries to get mom's attention by dropping her toy on the floor. Her mom smiles at Dannie, picks up the toy and hands it back to her. This series of actions reinforces Dannie's negative behavior because she is getting the attention that she is seeking. As a result, she will continue to engage in this type of behavior in order to receive the positive reinforcement that her mom provides. To address this problem, Dannie's mom should ignore Dannie when she drops the toy; if she consistently ignores this problem behavior, it is highly likely that Dannie will reduce engaging in this behavior as her actions no longer produce the effect that she is seeking.

Another form of this procedure is extinction for behaviors maintained by negative reinforcement. This is commonly referred to as "escape extinction."

Example: Dannie throws a tantrum when she doesn't want to eat her food. Her mom responds by sending her to a 'corner' for time out. Because Dannie is able to avoid eating the food that she doesn't want to eat, it is highly likely that she will engage in the same behavior in the future. To correct this, Dannie's mom should let Dannie throw tantrums (regardless of how long it takes), while continuing to insist that Dannie eat her food. Initially, these tantrums will increase as Dannie becomes more and more frustrated, but eventually her tantrums will decrease as long as her actions do not provide her with the desired outcome.

The third form of this procedure is extinction for behaviors maintained by automatic reinforcement. This is commonly referred to as "sensory extinction."

Example: Dannie likes to turn the light switch on and off because she is visually stimulated by the fan starting and stopping. In order to address this behavior, Dannie's mom should disable the fan so that when Dannie flips on the light switch, she no longer gets the visual stimulation from the fan starting and stopping. Over time, Dannie will decrease engaging in this behavior of flipping the light switch because it no longer provides the automatic reinforcement she is seeking.

More facts about extinction procedure:

- An increase in the negative behavior will likely be observed shortly after extinction procedures are implemented: this is referred to as an extinction burst. It is very important for the person administrating therapy to maintain consistency and continue with the procedure, regarding of the child's reaction.
- Typically, extinction bursts will increase initially and the child will engage in this negative behavior more frequently before the behavior goes away or decreases to an appropriate level. Extinction bursts can also happen after a long period during which the child does not engage in problem behavior. This is referred to as Spontaneous Recovery. It is very important to be mindful of this possibility in order to be prepared to deal with it in the same way the behavior was dealt with initially.

- All three forms of extinction procedures decrease the occurrence of problem behavior over time.
- Very simply, extinction equates to lack of reinforcement. Instead of getting something good to strengthen the behavior, or having something added or taken away to suppress the behavior, nothing happens. From the perspective of the child, the behavior no longer works to get the desired reinforcement any more.
- All forms of extinction procedures can be frustrating for the learner. Their level of frustration varies from learner to learner in each specific situation.
- Extinction procedures can also be frustrating for parents and caregivers because the reduction in positive behavior (behavior change) can be slow. This is generally tolerable if the behavior is mildly protesting or attention seeking, such as whining or crying. However, if the behavior involves self-injury or direct aggression to siblings, parents or caregivers, and it intensifies during the "extinction burst" period, parents may find the procedure to be impossible to maintain. In these situations, implementing an additional procedure to increase the desired behavior, e.g., giving a reward of allowing a child to take smaller bites (for a selective eater), rewarding a child when he plays with his sibling to reduce aggression toward them, or increasing privileges for carrying out previously agreed-upon chores (a "behavioral contract") to increase compliance with directions, and other similar techniques can be quite helpful.

Specific Considerations for the Home

Most parents and caregivers view safety as a significant concern regarding their children in the home environment. Modifications such as placing gates in stairwells and doorways, covering electrical outlets and using childproof locks on cabinets are among the things many parents do to ensure safety.

It is also important to introduce intervention techniques to teach safety. So, in addition to the physical modifications to your home, you will want to introduce behavior modification techniques to teach your child how to be safe and act appropriately. There

is a wide variety of behavioral interventions that can be used. These interventions include:

- Social stories.
- Activity schedules.
- Visual rules.
- Signs/charts.
- Peer and adult modeling.
- Reinforcement for safe and appropriate behavior.
- Consistent consequences for unsafe or inappropriate behavior.

Once general safety, good judgment, competence and understanding of what is expected can be demonstrated, many of the environmental modifications can be faded out over time.

TOPIC 5: DE-ESCALATING THE SITUATION

Recognizing Warning Signs (Precursor Behaviors)

The best strategies for dealing with challenging behaviors are those that prevent the behaviors from happening. However, it is not always possible to avoid all challenging behaviors. You might, however, be able to identify precursor behaviors that occur before challenging behaviors. For example, if the child typically puts his head down before hitting himself, then putting his head down is a precursor to the behavior of hitting. Once you know this, you can work to use certain strategies at the point that you observe these precursor behaviors. If the challenging behavior does get to the point of occurring though, you can take certain steps to work to de-escalate the behavior.

Environmental Changes

Helping children with autism adapt to their environment is one aspect of a comprehensive treatment approach, but it's also important to structure the environment in such a way that it maximizes your child's odds of success.

If your environment permits, you might consider creating a cool down room. Meaning, if you have an unused room in your home or if an addition or remodel is feasible, consider creating a cool-down room, which can be especially useful if your child experiences aggression. This room is like a safe space for your child, where he can go before a situation escalates to the point of aggression – their own space where he can be alone and relax. Furnish the room minimally, and make sure all objects in the room are soft. Cover windows with plexiglass and keep furniture away from windows to prevent your child from easily climbing out.

Other things to consider in terms of environmental modifications are:

- Install Alarm Systems and Utilize Safety Locks
- Provide a Suitable Workstation
- Install Comfortable Lighting

Calming Techniques

Remember that once the challenging behavior does occur there are certain steps that you might be able to take to lessen the current and future frequency of the challenging behavior.

- Don't reinforce the challenging behaviors: Some children with autism may not be able to express their wants and needs, therefore the reaction they receive from caregivers and therapists to certain behaviors can cause unwanted connections to tantrums and the attention they are receiving. So try to provide a minimal reaction.
- Use precise simple language: **As long as the behavior is not attention seeking**, you can speak in a monotone voice that shows you understand they are upset using precise utterances.
- Help to verbally express their emotions: **Again, if the behavior is not attention seeking,** you can model the words needed to verbalize their emotions, especially when they are in the middle of a tantrum. For example, if a child starts crying and

becomes extremely upset they can no longer play on the jungle gym, you could say 'I see you're mad, you can say 'I'm mad I can't go into the playroom'.

● Create a calm corner (bean bags, dim lighting, sensory toys): A calm corner is a great substitution if the previous strategies aren't quite cutting it. A calm corner is a safe place that the child can go to when they are experiencing an emotional moment. There are a lot of items that can be included in a calm corner such as, a comfy bean bag chair, bubbles, light up toys, chewy tube, fidgets with different textures, weighted sensory lap cushion, an hourglass, stress balls, silly putty and play dough. **However, it is important to use the corner as a more proactive strategy. For example, if you notice a precursor behavior, provide a model for the child to repeat to ask to go to the corner, he does, and then you allow access. With this approach you are less likely to reinforce the challenging behaviour with access to this fun area.**

● Practice deep breathing: Have the child sit down and sit face to face with him. Try giving the child squeezes in the same rhythm as taking deep breaths in and out. Make sure to coach the child to take a deep breath in and let out all of the air. **Again, if the behavior is attention seeking, this would not be a good strategy to use, since you are providing attention and interaction as a result of the challenging behavior.**

● Count to 10: Have the child count, starting from 1 to as high as they can go. This may help to calm the child's breathing down as well as help him to self-regulate.

● Teach coping skills: It is difficult to teach coping skills in the moment of the challenging behavior. However, afterwards you can teach your child how to regulate their emotions. Try relaxing activities like going for walks. These calming activities will help them calm down even before the meltdown happens.

● Avoid punishment procedures: Ideally work on removing the reinforcing consequence for the challenging behavior in a safe way. Then later work to build replacement skills. Punishment procedures are not skill building and can have numerous unwanted side effects.

Physical Intervention

Kids with autism may require physical intervention when challenging behaviors occur. However, it is important to use this as a last resort, and understand the difference between physical prompts and physical restraint. Prompts were discussed earlier in the manual, and are used as something that occurs before a behavior, it increases the likelihood of a desired behavior occurring. Therefore, when you are doing something physical in response to a challenging behavior you are not prompting. This action is more likely to be considered physical restraint.

Physical restraints are when equal but opposite pressures are applied. Even carrying a screaming toddler from one activity to another or ushering a child who's fighting you and resisting to the bathroom, is a physical restraint. Of course at times, physical restraint and mechanical restraints are necessary. So a physical restraint might be necessary if a child is trying to run into a street or trying to throw a chair through a window. Obviously you're going to get the child, grab them, do whatever it takes, grab the chair, to prevent injury of the child or others. However, these should be used minimally. Also, in the case of a child engaging in challenging behavior that requires physical restraint more often, everyone involved with the child should seek professional training on the use of safe and effective restraint.

TOPIC 6: TEACHING SOCIAL SKILLS TO CHILDREN WITH ASD

Identifying Social Skills Needs

Gregory Campbell (2008), describes social skills as the subset of a more general category of interpersonal intelligence, or the ability to understand other people. On another note, Foster and Ritchey (1979) described social skills as those situationally-specific behaviors that maximize the probability of securing or maintaining

reinforcement and decreasing the likelihood of punishment or extinction contingent upon one's social behavior.

For the purpose of diagnosis and treatment, social skills are typically described in terms of skills deficits. These may be acquisition or performance deficits. Acquisition deficits refer to those social skills which the child may not have had the ability or opportunity to acquire. Performance deficits assume that the child knows the appropriate social skill, but may not perform it because of competing stimuli or deficits such as anxiety (Kavale & Mostert, 2004).

This would explain why, contrary to what one might at first think, some of the kids do desire social involvement, but their intellectual development disorder in social functioning makes it difficult for them. It can be observed that one of the consequences of this lack of social strategy is to avoid it, thus avoiding the stress and anxiety that this entails.

When diagnosing autism spectrum disorder, symptoms in two core areas can be displayed: social communication and social interaction, and restrictive, repetitive patterns of behavior, interests and activities. Although symptoms may be present from an early developmental period, they are typically recognised when the child is older and social demands exceed his or her abilities. In the category of social skills, which includes social communication and social interaction, this lack of skills can be recognised in persistent deficits in social reciprocity, such as back-and-forth conversation and sharing of interests; nonverbal communication, including body language and gestures; and difficulty developing, understanding, and participating in age-appropriate relationships.

Children with social skills deficits may display a lack of sensitivity to others, poor perception of social situations, and difficulty making friends. Also, these deficits may display as impulsive behaviour, disruptive social behaviour, and inept social behaviour (Campbell, 2008). Children with nonverbal learning disabilities often experience difficulties with social interaction, interpersonal skills, and adapting to new situations

(Lerner, 2003). Children diagnosed with ASD may have great difficulty developing appropriate peer relationships and understanding social contexts. They also might face difficulties understanding nonverbal communication; involving facial expression, body language, and voice tone. It is also essential to notice that not all children who display social skills deficits are alike.

In developing children, we can notice some signs of social deficits, like the one mentioned above. More precisely, we might notice aversion to displays of affection, like cuddling and hugging, and a preference for solitary play. Failure to respond to their own name, a disinterest in giving, sharing, or showing objects of interest. As they grow older: lack of eye contact; difficulty carrying on a reciprocal conversation and using and reading body language; as well as responding appropriately to different social situations, understanding social relationships, and recognizing others' emotions can also be warning signs. Furthermore, some children do not talk, and others do so with a peculiar tone of voice, which may well sound robotic or may respond to an exaggerated singsong.

Their functional language is also affected, being non-effective as they may tend to repeat certain expressions and phrases without fully understanding their meaning. This is what experts call "non-functional knowledge", as it is information they can recite, but not use to solve problems or carry on a conversation. This will be discussed in more detail in the next section. It can also be identified by an anomalous use of pronouns, reversing them. Also, high functioning children with ASD may monopolize conversations while showing the little capacity for reciprocity, or understanding what the other party wants or feels.

That said, social skills expected for children can be played skills, such as taking turns in games or sharing toys; conversation skills, as choosing what to talk about and what body language to use; emotional skills, like managing emotions and understanding how another feel; and problem-solving skills, for example, dealing with conflict or making a decision in social situations. Applied Behavior Analysis, is the most widely accepted evidence-based autism therapy, and it offers some strategies and interventions that we

can implement and combine to get the kids to feel more comfortable or be able to know how to act in social situations; make friends; and the most important reason, for their mental health and overall quality of life.

Using Modeling and Shaping for Social Skills

The strategies that will be considered below aim to help people who lack the skills to interact well with others, or who feel overwhelmed by this process, to be equipped with resources that can be useful to them, and to make them feel more comfortable in these interactions with their peers. Some are aware of their lack of skills, and although they feel the desire to relate to their peers, they do not know how to connect with them, which can lead to anxiety, creating a barrier for them. These social competencies can be trained, built upon and layered to enhance the interest and interaction of these children.

These conditions will be applied to all the strategies that will be developed below: analyse, recognise and reinforce what the child does well socially. These behaviours should be recognised and praised. Precisely with shaping and modelling, we can achieve good results. One of the options we present is **video-modelling, in which the child can see his or her good qualities reflected,** and we can reinforce these by shaping. **Breaking social skills into small component parts, as we do in task analysis, and teaching these skills through using different support materials,** and supported interactions. Enhance and use the child's strengths, such as their sense of humour, an affinity for music, or memorization skills, to motivate interest in social interactions. Give the child a chance to shine and be viewed as competent and interesting.

It would be also interesting, regarding modelling and shaping, to identify and **pair the child with siblings or peers who model strong social skills.** By providing them with strategies for eliciting communication, or with the desired goals, a natural interaction can take place in a social situation familiar to the learner, and with which they can see real results. Following this same line of intervention, for children who tend to talk about

the same topic, and about the same things all the time, an activity can be created in which topics are proposed, and about which they should try to have a conversation. It would be helpful to use visual support, and this would serve as motivation and support for your child.

Before expecting the child to get involved in a social situation, we may try to make her or him feel comfortable with the skills needed in the situation they are going to be exposed to. **Giving them instructions in advance, and having them practice before exposing them to the situation** is essential. Defining expectations of behaviour in advance, either through social stories, role-plays, or modeling.

And, in order to carry on a conversation successfully, the child can learn empathy and reciprocity. The **child can be taught to identify feelings, emotional states, and recognise others' facial expressions and non-verbal cues.** As well as recognising what the conversational partner likes and dislikes if the topic is appropriate and is working in the conversation; how, when, and how much to talk about a topic or about himself… this is suitable for highly verbal students, and it can also be learnt by teaching how to recognise body language and facial expressions. It is also interesting to learn how to show others that he or she is listening, and to develop listening and attending skills; as well as **teaching social boundaries**, both regarding sensitive subjects, and maintaining personal space.

Shaping, also known as a successive approximation, is intended to lead children in the direction of appropriate complex behaviour, and then reward them as they complete each successive step. To carry out this strategy, it is important to assess and identify the kid's strengths and weaknesses around a specific skill. The skill can be approached by organising the skill into a series of steps that lead toward that target. Once each of those steps is acquired, the kid is going to be rewarded for her achievement. Therefore, the next step can be addressed to work on the next goal. For example, teaching a child with minimal verbal language to say a word like "mummy", the beginning would be pronouncing "mmm". Then, once this step is achieved, the next would be to pronounce "ma", and so on.

Modeling is used to teach appropriate social behaviour, and it allows the child to have the opportunity to view the performance of the desired skill. You can focus on five steps to make sure the child will benefit from modeling when performing it. You can start by telling him or her that you will be modeling the skill while they observe. Next, verbally describe a scenario, or physically set up a scenario where your child will need to use this skill. Then, the performer follows the scenario by modeling the correct behaviours. If you consider it appropriate, you may also model the developmentally incorrect behaviours. To make sure the child is clear on what steps were done correctly, the performer may make sure which of them were shown correctly. Lastly, give the kids time to ask any questions they may have.

Video Modeling can be used to promote skills acquisition, enhance skill performance, and reduce problem behaviours. Bellini & Akullian (2007), demonstrated in their study that **Video Modeling and Video-Self Modeling (VSM)** are effective intervention strategies for addressing social-communication skills, functional skills, and behavioural functioning in children and adolescents with ASD. Their results also indicated that these procedures promote skill acquisition and that skills acquired via Video Modeling and VSM are maintained over time and transferred across people and settings.

VSM interventions typically fall within two categories, positive self-review and video feedforward (Dowrick, 1999). With video feedforward for cases in which the child is able to perform a particular routine or series of activities, but not in the ideal sequence. You can **videotape the kid performing the activities, and then form the proper sequences with these videos so the child has the opportunity to examine it afterwards.** This strategy is also a good option for children who need additional support, or assistance, to complete tasks successfully. Something highly positive about Video Modelling, Self-Video Modelling, and Video Feedforward is that they can be edited and make the kid be the main character of his success. That is, his success can be highlighted by editing the parts in which he still has to improve his performance and feel proud of his evolution. Or in the case that there are adult prompts in the video, that

part can be "hidden", so we can focus on the performance that can be used as a self-example for himself.

Using Task Analyses and Chaining for Social Skills

Sam & the AFIRM Team (2015) defines **task analysis as a teaching process that breaks down complex activities into a series of simple steps that children are able to learn more easily**. And it has been shown that task analysis meets the criteria for evidence-based practice by improving the adoption of "appropriate behaviours and communication skills" by children in preschool, elementary school, and middle school.

A task analysis on its own is simply a list of steps that build on one another to form a certain outcome. For example, you can have a task analysis for making a sandwich which lists all of the steps in making a sandwich (e.g., getting the bread out, finding a plate, etc..). Task analyses are valuable to create when targeting behaviour chains, or more complex behaviour chains. When it comes to social skills, a lot of the expected actions are actually complex interlocking pieces of behaviour. Think about initiating with a peer for example. It would be expected that you find a person available to interact with, walk towards the person, look at the person, get the person's attention, say a specified phrase, and wait for a response. Thinking about the skill in this way can make it easier to teach for your child. You look at the broken down skill or the task analysis and select a teaching procedure.

Forward and backward chaining procedures are often used with task analyses to teach new skills. They are especially useful for tasks that involve a series of steps to be performed in a certain order or sequence, as in the peer initiation example above. Chaining is a systematic plan for teaching a complex task that has been broken down into a sequence of simpler interconnected steps that are learned one step at a time.

Forward chaining consists of teaching starting with the first activity in the task analysis. The person teaching will prompt the child to initiate the task themselves. The child will go through the steps, helped by the person involved, until the final step is

completed. This will be repeated until each step is completed, so the next step can be started. The instructions will be decreasing once the child exhibits increasing mastery of the step.

Backward chaining, on the other hand, begins by teaching the child the last step of the task. As in forward chaining, the child will observe first, and then he will try to carry out the task, or at least assist the instructor. Once this step is more or less accomplished or at least understood, the second-to-last step of the process is started. Then, it is continued backwards to the initial steps.

Using Instructions and Role-Play for Social Skills

Role-play or behavioural rehearsal can be used to teach basic social interaction skills. It can help a child learn expected and unexpected behaviour in a given scenario. This strategy involves **acting out situations or activities in a structured environment to practice newly acquired skills and strategies**, as well as previously learned skills that the child is having difficulties performing. Scripted and spontaneous role-plays can be combined. You can also offer the child in the provided scenario a script, or resources as an open statement or a question to start with and let him complete the rest of the interaction using her own resources.

As Scott Bellini (2009) states, he uses these role-plays to teach a variety of interaction skills. Especially those involving initiating, responding, and terminating interactions. For instance, the child can be asked to initiate a conversation with another person, and eventually ask him to join in his activity. This can be a real challenge for children with ASD, thus it is important to give time to process and respond to the role-play scenarios.

At home you can also **recreate some scenarios and practice with your child,** for instance, going to school for the first time. The child can also play with close relatives before playing with new classmates or friends so they can learn the modus operandi and understand the instructions of the game, allowing the parents to observe the child's behaviour throughout the game. Another option is to watch videos about new events or

situations that they might have to deal with, such as going to the dentist. Thus, the kid can get familiar with the event, they can see how other kids behave, and they can see what to expect once they are there (the instructions to follow). It can also help the child recognize basic courtesy skills like greeting the doctor and following instructions.

The child can also be taught social skills using **behavioural skills training through instructions. Giving them clear, understandable, and specific instructions can be helpful.** You can explain to the kid why it is important to use certain words to get what they want, which are those, and how to use them properly at the right moment. For example, saying "excuse me" so the others can know you want to get by and they can move over. You can also provide instructions by stating all the steps to complete the skill that is going on, either visually or vocally, and then check that the child understood it by asking questions about the instructions, or receptive directions, i.e. asking to find a specific item. To complete the behavioural skills training process, you would also **provide a model, opportunities for practice (such as role-play), and feedback.**

Using Social Stories

Social stories are stories with a social element often used to teach social skills to children with disabilities. **Social stories are short stories created specifically to address an aspect of a social situation that may be challenging for a child with autism to interpret** and, therefore, are unable to respond to appropriately (Gray, 1998). It can help teach a child with autism a number of social and behavioural concepts, such as: develop social skills, understand the feelings of others and their one's feelings, be more comfortable facing unexpected changes, regulating emotions, making transitions, playing a game, and even going on a field trip. According to Kokina & Kern (2010). Social Stories have been recognised as a success in reducing behaviours such as aggression, tantrums, loud vocalization, among other disruptive and socially isolating behaviours. They can be used as tools in describing and defining social rules and expectations.

There are a number of components that could be considered essential to a successful social story, including the story should be written in response to the child's personal need; it should be something the child wants to read on her own; the story should be commensurate with ability and comprehension level; it would be convenient that the story uses terms such as "could" or "can" that are less directive than other terms as "will" or "must". This last component is especially important for children who tend to be oppositional or defiant.

The social story can be displayed on the platform that is considered most engaging for the child. If your child is into computers, this could be a good opportunity to take advantage of her interest and propensity towards visual instruction. You can combine this strategy with some of the other ones that we have previously mentioned. It can be paired with pictures. And as Dr Scott Bellini (2009), Associate Director of Indiana University Bloomington, suggests he has found that children with ASD learn best when social stories are used in conjunction with role-playing, so the child can put what she or he has learned into practice.

TOPIC 7: COMMUNICATION TRAINING

ABA Approach to Language Development

The ability to acquire language is one of the most important and socially significant aspects of human behaviour. Spoken language is the primary method of human communication, but there are also other ways to communicate such as gestures, sign language, facial expressions etc.

There are several theories about language acquisition. One of the earliest scientific explanations was provided by Skinner (1957). As one of the pioneers of Behaviorism, he accounted for language development by means of environmental influence.

Skinner (1957) argued that children learn language based on reinforcement principles by associating words with meanings. Correct utterances are positively reinforced when the child realizes the communicative value of words and phrases.

ABA considers language a learned behaviour, meaning that language is acquired the same way other behaviours are (i.e walking, eating etc). Therefore, similar to other behaviours, a behavioral account of language doesn't just focus on the descriptive aspects of language (i.e. what a person says in terms of sounds, words, syntax, parts of speech, etc.) but also addresses the *function* of language. In other words, behaviorists do not analyze language primarily based on *what* a child says, but *why* he says what he says. Sometimes language is used as a means of getting something. Sometimes it is used to make comments. By taking into consideration the various functions of language, with ABA therapy, we can assess the environmental conditions that make language more likely to occur.

ABA has been scientifically proven (e.g., Rosenwasser & Axelrod, 2001) to be an effective tool in teaching all kinds of skills to children with disabilities, including language. There are several advantages connected to using ABA to teach language. ABA is committed to evidence-based teaching and will only utilize methods that have been proven to be effective. Data is collected daily which helps to determine which teaching strategies work best for your child. Also, ABA uses the child's motivation (reinforcement) to help them acquire new skills. A good ABA therapist will know how to motivate your child to "use his words." **Quite often, it is wrongly assumed that a child is unable to use words to communicate.** Although it might be true that some children are physically incapable, or not developmentally ready to produce certain sounds, there are many cases of children who will speak under the right conditions. In fact, many children with autism are capable of talking, but this is overshadowed by severe deficits in motivation and social interaction.

Language Issues Underpinning ASD Dominate ABA Practice

Language-building therapies based in ABA are not necessarily specific to children with autism. However, it is unquestionable that children with autism often have language

development issues. According to a study from Yale University, communication deficits are one of the core symptoms of ASD. (Paul, 2008)

One of the biggest challenges for speech language pathologists who work with individuals with neurodevelopmental disorders (NDD) is differentiating between communication problems as a result of speech impediments or behavioral issues. This is because behavioral problems impede language learning—for example, a student with autism may have limited capacity to acquire language skills due to acting out during lessons. In some other cases, communication problems can lead to behavioral problems—for example, a child may feel frustrated when they can't communicate their needs and as a result may act out as a means of reaching out.

ABA professionals apply their specialized knowledge in these situations to make that determination, and treat any behavioral issues identified using techniques from behavioral analysis. ABA therapists can contribute their skills in both cases:

- **Behavioral issues impeding language learning** – In this case, ABA professionals will focus on behavioral issues impeding language development while working together with other professionals who help to address any medical issues such as physical deformities or treatable neurological problems.
- **Language issues leading to behavioral problems** – In this case, ABA professionals will use the techniques of reinforcement to assist with teaching language and speech patterns to improve communication skills for the patient. A common procedure for increasing language development using the science of behavior analysis is functional communication training (FCT).

How is Functional Communication Training Used in Applied Behavior Analysis?

Functional communication training (FCT) is the process of teaching meaningful and functional communication in a natural way to children with autism and other developmental disorders. It is used to teach children to replace challenging behaviors with more suitable communication that is socially acceptable. FCT is a highly practical

therapy that teaches children to communicate properly when asking for the things they need in their daily lives.

Challenging behavior may include any number of undesirable behaviors, including aggression, destruction, self-harm, escape, non-compliance, etc.

FCT can be also used with partially or non-verbal children. In that case, children will not necessarily learn words; instead, they will learn to communicate in any type of suitable way. Just some of the interventions used in FCT include gestures, sign language, or the use of pictures or icons, such as a picture exchange communication system (PECS).

What is the Purpose of Functional Communication Training?

As mentioned before, many children with ASD might feel frustrated and anxious due to their inability to communicate their needs and desires. As a result they exhibit inappropriate behaviour. This is when FCT can be used, either alone or alongside other behavioral interventions, to teach children with ASD how to communicate in alternative ways, and reduce the frustration that accompanies an inability to communicate.

Therefore, the goal of FCT is to provide the child with a different (more appropriate) way to communicate so that the negative behaviors that come with being frustrated due to an inability to communicate, are naturally eliminated.

Verbal Behaviour

Despite what many parents of children with autism have been told in the past, new research has shown that nonverbal children can be taught to develop language skills in grade school and adolescence. The researchers (Wodka, Mathy and Kalb, 2013) found that, in fact, out of 535 children of 8 years old or more, the majority did go on to acquire language skills, with 47% becoming fluent speakers and 70% being able to speak in simple phrases.

Teaching nonverbal children and adolescents to speak isn't impossible. However, when working to develop the language skills of children with autism it is important to understand that whereas traditional teaching methods often fail, verbal behavior therapy tends to have higher success rates (Paul, 2008).

Verbal Behavior Defined

B.F. Skinner (1957), an American behavioral psychologist, coined the term "verbal behavior", also known as VB, to describe a method of teaching language that focuses on the idea that a meaning of a word is found in their functions. Skinner's approach encourages people to learn language in ways that connect words with their purposes. In other words, instead of just teaching a word, we must teach a child with NDD how to functionally apply those words. For example, a child with autism might say the word "banana" when they see one, but may not be able to say "banana" when they want one or answer correctly when shown a banana and asked "what is it?".

Verbal behavior is part of ABA and uses the same principles of science, focusing specifically on the science of behavior and learning. The verbal behavior methodology teaches people how to label things and to associate words and things with their purposes.

The problem with teaching a list of names of things and not connecting them to a function can be explained by the "banana" example, mentioned above. The child knows what the thing is, and can say the word but when he needs one he may not know how to use his language to meet his needs. That means he wouldn't progress to using language to ask to have a banana.

During Verbal Behavior therapy, learners are taught four main types, or operants. The first is "mand," or request words. These are taught to learners so that they can ask for something they want. The second is "tact", or attention-drawing words. A tact is basically naming what you see, usually to draw someone's attention to it. For example, a child may say the word "dog" if they see one walking by. The third type is "intraverbal",

or words that are used to interact with others, such as responding to questions. The fourth is an "echoic", echoing or repetition, which is vital for retention of a concept.

Teaching Requests (Mands)

The Mand is a *request* for something wanted or needed, or a request to end something undesirable. For example, if your child wants candy and says, "candy," then the word *candy* is a mand. Manding is one of the first forms of communication naturally acquired, observed as early as birth—for example, when a baby cries for food or comfort from their mother. Typically developing children learn how to mand very quickly, often without any obvious instruction.

Usually, given the child can already imitate, the mand is the first verbal operant to be taught to a child because it directly affects the speaker and is the only verbal operant where the speaker benefits from the behavior. It is also a strong foundation for other language skills, like labeling and identifying items. Mands are essential to behavior management as learning to mand for an item can decrease undesired behaviors in order to acquire that item (Cooper et.al., 2019).

Mands are controlled by motivation. This may be the most important aspect to pay attention to if you want your child to mand. When motivation is high, we will try hard to get our request heard.

The manding process works as follows: the child says "banana" when he wants a banana. When he is given a banana, his language is reinforced through receiving the banana. The child is likely to repeat this action under similar conditions in the future as a result of being positively reinforced (immediately after his request). In essence, the child is taught to use language in a functional way by verbally requesting what he wants and, in turn, receiving what he requested.

Teaching commenting (Tacts)

A tact is the term for when language is used to comment on the environment. It is a form of verbal behavior where the speaker sees, hears, smells, tastes something and

then *comments* about it. It is often associated with expressive labels and is also referred to as labeling. However, tacting is slightly different to "labeling". With "Expressive Labelling" typically the child responds to the question "what is this"?

For example: The therapist holds up a card of a car and asks "What is this?". The child labels the item on the card and says it's a car!"

With the tact, the child is making **spontaneous** comments on the environment.

   Example of a tact:

A child sees a car pull into the driveway.

Child: "a car." (Tact)

Mother: "That's right, that's Grandma's car!" (Reinforcement)

Tacts are reinforced by social interactions, such as praise or attention, rather than access to the thing itself.

If you want your child to speak more, and in more complex sentences, teach them as many tacts as possible. Tact things in your environment, sounds, smells, tastes, and actions. The more tacts your child works to acquire, the better their communication skills will be.

In order to teach tacts, we follow a procedure called "discrimination training". Pre-requisites of discrimination training may be joint attention (focusing on something that another person is also focusing on), following simple one-step instructions (e.g., "touch your head'), and following the path of your finger when you point to something.

The Echoic (vocal imitation)

An echoic is simply repeating what you hear, such as a child hearing someone say the word "candy" and then repeating it. In typically developing infants and children vocal imitation skills emerge early in development and occur naturally.

Motor imitation is related to echoics and can be a stepping stone to learning echoic behavior. Echoics are a precursor to other verbal operants, such as tacts and mands and are an essential component in a learner's verbal behavior repertoire (Cooper et al., 2019). Your child being able to repeat what you say with point-to-point correspondence (an exact match to what you said) allows you to systematically teach your child many new words.

Like most ABA programs, echoics programs use shaping and reinforcement to gradually change the child's behaviour. You always start at the child's current level. The first step of an echoics program might be having them make an approximation that sounds similar to the target. For example, If the target is 'Mommy' it would be okay if the first response the learner emitted was 'Ma'. Once the learner is consistently saying 'Ma' we would change our expectation to something more complex. If your child currently does not articulate any sounds, you might start with accepting any sound they make during the programme.

The Intraverbal

The intraverbal is a response to what someone else says (i.e answering a question, or making a comment). This type of verbal behavior involves much of our day-to-day language, such as emitting words, phrases, and sentences that are in response to the words, phrases, and sentences of others. An intraverbal allows children to answer questions and discuss items that aren't present. They are an essential part of conversations and social interactions. In other words, intraverbals are the basis of our conversational skills.

Intraverbal behavior is the most complex verbal behavior to teach, however, we usually start by teaching WH-questions and simple fill-ins like "Ready, set…" "GO!" or filling in blanks from their favorite song. For example, If you ask your child, "What is mommy eating?" The child will say, "banana," thus using the word banana as an intraverbal.

In conclusion, the 4 main verbal operants:

Verbal Operant	Consequence	Example
Mand	Directly effective	Your child is thirsty and says "I want water". You give them water.
Tact	Social	The child sees a cat passing by and says "Look mum, a kitty". You affirm the comment by saying "that's right, there is an orange cat there."
Intraverbal	Social	You ask your child "How was your day?" They reply "Hard. I have a lot of homework". You reply "Do you need some help?".
Echoic	Social	You are holding a ball and say "ball". The child repeats "ball". You respond "Good!"

TOPIC 8: TEACHING SELF-HELP SKILLS

Self-Help Skills

Self-help skills are that daily self-care and household skills that provide autonomy and independence for children with autism. To achieve these skills, the ABA approach is well suited, thanks to its use of positive reinforcement and respect for the child's preferences and needs. Every child, and every person, needs access to independent and daily living skills training, functional as well as adaptive. Depending on the individual's stage in life, different activities are going to be addressed. For that reason, parents, teachers, and professionals who work with a child with autism should assess where the child is at in relation to life skills and being able to perform tasks independently and then prioritize the most attainable or relevant skill for that moment in time.

We can divide the self-help skills to be worked on into categories:

1. **Personal Care.** This includes tasks related to hygiene and toileting, such as hand washing, face washing, bathing, showering, combing, hair washing, and using the toilet. And when they grow older, it also involves exercise, nutrition, dealing with an illness, and coping with stress. Some of these skills may be targeted by creating and rehearsing routines, making task breakdown lists (task analyses), and using chaining and prompting procedures.

2. **Practical Living Skills.** These skills encompass the areas of finding information (using the internet, books, newspapers, etc..), money skills (budgeting, making change, managing bank accounts and credit cards, etc..), travel (reading a map, using transportation, planning a trip, etc..), clothing (dressing, undressing, zipping and unzipping, fastening the belt, laundering, and organizing clothes, etc..), home care (cleaning, safety, etc..), cooking, and shopping. Involving the child in a daily routine is the best way to teach these skills. The earlier the child is involved in some of these activities, the longer they have to develop comfort and routines in these important

areas. They can be started by daily chores like cleaning, setting the table, clearing the plates, and some other regular chores.

3. **Executive Functioning Skills.** These are organizational skills that are needed to plan the day, break down a task, create a "to-do" list, and plan ahead for chores, outings, etc. Building these skills is an ongoing process, and it is challenging for most of those with ASD.

4. **Job Skills**. Children may be too young for activities related to this area. However, when they are younger you might be able to get them involved with some kind of organisation or volunteer. Then when they grow up they might work on creating a resume, looking for a job, and getting work experience, etc.

5. **People Skills.** This would fall under the topic of social skills. Areas that need to be developed are working in a group, making friends, asking for help, dealing with family relationships, and communicating over the phone, etc. Social skills is a broad topic. Social rules, etiquette, flexibility in thinking and perspective-taking may all be targeted.

6. **Personal Safety.** This is a tough topic to teach. Many children will memorize rules like don't talk to strangers, but will not know when to break those rules if necessary. To make communicating in difficult situations easier for your child, consider teaching them to carry around a card with a few statements which can serve as a prompt for asking for assistance in the community, or have contact information that can be provided to a community helper. Teach what risks are, and how to avoid unsafe situations.

7. **Self-advocacy.** A topic that is often forgotten, children need to be taught how to get their needs met effectively. They need to know how and when to ask questions, who to approach for help, when to give their opinion, and how to say no.

In order to work on these categories, ABA-based strategies are used, together with the necessary visual, technological, and professional materials. This can be done by means of verbal instructions, making use of visual aids such as video modelling; executing

these actions, or performing them with role-plays; dividing up the tasks and executing them as in shaping, task analysis and chaining; doing it by means of face-to-face modelling, or with social stories... without forgetting the use of reinforcement, and constant evaluation by the professionals or instructors to check progress, impact, and adapt the activities as needed.

The aim of self-help skills programmes is to improve the quality of life of your child. They are adapted to their individual capacities and needs. The great variability of degrees and levels that the group of people with ASD presents, makes it necessary to promote varied and individualised programmes in each of the areas of life, and in each of the moments of their life cycle. Thus, the teaching of self-help skills will be adapted to these criteria.

It is important to promote programmes that pursue personal autonomy in the areas of clothing, personal hygiene and nutrition. Promote personal life skills that allow them to acquire greater autonomy in daily life, and facilitate planning and execution skills for the processes of autonomy in daily life.

To make sure that the intervention process is effective there are some conditions that the programmes must fulfil. The first prerequisite is that any intervention must be individualised. This must encompass all the interests, abilities and needs of each child. When programming, the learning style and pace of work of each person with ASD should be taken into account. In this way, programming, individualised planning, as well as the choice of supports and materials, will be selected after a thorough analysis of the child's needs.

Programmes, and interventions, will be aimed at enhancing personal development in all areas of daily life. They shall be planned in such a way that the achievements are relevant and have an impact on the person's life. The impact of the intervention in each area, and on the individual's quality of life, will be evaluated. All ABA professionals will evaluate the development and organisation, so that progress can be analysed and improvements in planning can be made that may be beneficial for your child.

Using Modeling and Shaping for Self-Help Skills

Shaping is a technique where small steps are used to teach a new skill. It gradually teaches new behaviour through the use of reinforcement until the target behaviour is achieved. In order for shaping to be successful, it is important to clearly define the behavioural objective and the target behaviour. It is also important, in order to achieve the target behaviour, to choose the right time to deliver or withhold reinforcement (Wolfgang, 2009).

Reinforcement is key to ABA, and shaping behaviour is teaching the child steps while positively reinforcing all of them. These steps are leading toward a specific behaviour, or skill, that is wanted to be accomplished. By using this approach, reinforcement and behaviour shaping, it is possible to teach children, verbal or nonverbal ones, all kinds of relatively complex behaviours, for example, washing your hands before coming to the dinner table, or how to ask for help in certain situations.

For example, if the skill we want to teach to your child is how to make the bed, the initial goal would be to pull and straighten the sheets and comforter. After mastering each step, your child can have access to a reinforcer. The following step can be decided considering the child's routine, or what he or she is more familiar with. It could be to pull up the sheets and comforter, or it might be added to put the pyjamas aside. This time the reinforcement would be given when those two steps are completed. By using this method different dimensions of the child's performance can be shaped, such as frequency/rate to increase the number of responses per unit of time (e.g., how often he makes his bed each week); latency, how quickly someone responds after an instruction (e.g., how quickly he makes his bed after you ask him to do so); duration, how long someone is engaged in an activity (e.g., how long it takes him to make the bed); or amplitude/magnitude, the level of intensity used.

Behaviour **modeling** can be used to teach your child specific skills. We can use it for different purposes and learning processes. By copying the behaviour, either in person or

in a video (video modeling), the child can learn from what he or she sees. You can have a structured social situation or the performance of a task, and by following what the instructor or the video does, he/she can learn. Some children are better at imitating, and learn better by watching how something is done, than understanding an explanation. These techniques can be used to teach routines, and promote independence in daily routines. For example, we can unload the dishwasher or have the child watch a video of another person doing it and then have him imitate.

You can use a video of someone else, but if you choose this option, it might be helpful if the main character in the video resembles the viewer, so they can feel closer and more identified with the person. After watching the video, role plays are a good option to recreate what they just watched, and carry out the actions to acquire the skill. Another option is to create your own video, this option was further elaborated on in Section 6. We can catch the child engaging in the desired behaviour or task, so the child can review it and see herself or himself mastering the task. This may motivate the child, and he or she can mimic the video task to carry out the action one more time. This strategy can be combined with some of the other strategies, such as role-play, as we have mentioned above, task analysis with chaining, or shaping.

Using Task Analyses and Chaining for Self-Help Skills

The goal of a task analysis is to break down and simplify complex tasks in order to provide step-by-step guidance on how to complete specific behaviours. This way the child is able to learn a task easier.

There are different ways of breaking these down into simpler tasks. You can decide to break the desired skill into discrete steps that are performed in sequence. These steps can be linked via chaining, which means that you must complete one step before proceeding to the next. For instance, a task or skill such as washing your hands appropriately. On the other hand, a task can also be divided according to time. If it's a 20-min task we may break it into segments (e.g., expecting the child to initially spend 2

minutes cleaning his room and then gradually increase the requirement to ultimately reach 25 minutes on the task). This method is frequently associated with shaping. This approach focuses on teaching new behaviours by reinforcing successive approximations of the behaviour (versions of the behaviour that move systematically closer to the terminal behaviour goal) rather than repeating the same target behaviour.

The use of **task analyses and chaining procedures** were described in an earlier section. However, just to review, task analyses used with chaining teaching procedures, can help a child with autism successfully acquire some of the steps of a target self-help skill. This systematic instruction that relies on teaching steps as discrete trials helps to deal with the possible variables that can complicate learning. Thus, the child can master a variety of steps before the end goal. For example, in self-help activities such as tying your shoes.

Here we can find a demonstration suggested by Jerry Webster (2018) as an example of how to use a task analysis in targeting teaching teeth brushing. Brushing teeth is an example of an activity that can be challenging for children with ASD. The teaching begins by reinforcing the reason for the activity, which is to have clean, healthy teeth. Then we will divide the task into a sequence of discrete actions so that the child can feel more comfortable and confident when performing each subtask correctly. In this case, Regis College suggests 18 different steps for the act of brushing one's teeth: pick up the toothbrush, turn on the water tap, wash and rinse the toothbrush, turn off the water, pick up the toothpaste tube, remove the cap from the tube, place a dab of toothpaste on the bristles of the toothbrush, put the cap back on the tube of toothpaste, use the bristle end of the brush to scrub all of the teeth gently (this step may need to be broken into several subtasks, such as, "start brushing the teeth in the top left corner of your mouth, then brush the top centre, then the top right, then the bottom right," etc.), after brushing all the teeth, spit the toothpaste into the sink, turn on the water, rinse off the toothbrush, place the toothbrush back into its holder, pick up a rinsing cup, fill it partially with water, turn off the water, rinse the mouth with water from the cup, and spit the water into the sink.

By breaking down the task into subtasks, the child is less likely to feel overwhelmed, and it can boost their confidence when they master each step. These smaller activities will be taught by using forward chaining or backward chaining. If the child can learn multiple steps at one time, you might make the decision to use **forward chaining**. The steps are going to be linked in the proper sequence via modeling and verbal prompts, so when the child can perform the steps without guidance, the next linked step can be taught. This same process can be followed when targeting other self-help skills, too, like how to tie one's shoes, wash hands, and brush one's teeth.

On the other hand, **backward chaining** may be considered appropriate for children who lack strong language skills. In this case, you may decide to name each step when performing them. Thus, the child will have the opportunity to practice and learn the vocabulary at the same time. For example, by learning how to use laundry the process would start when a load of laundry is completed. The child can start by removing the laundry from the dryer and folding it, the next step backwards would be to start the dryer, and it would culminate with lessons in how to sort the dirty laundry and load it into the washer.

Using Instructions and Role-Play for Self-Help Skills

Role-plays are a good resource for children with autism to get familiar with different types of situations they may encounter in their daily lives. These can equip them with language and actions to appropriately participate in all kinds of situations, especially social interactions and novel situations they may often struggle with.

When planning a role play, there are some steps that would be useful to follow to set up this activity.

1. Choose a situation that would occur in the child's natural environment and for which the child should be prepared.
2. Identify the people involved in the situation.

3. Develop a simple script.
4. Model the role play for your child.
5. Practice the role play at home with your child taking the appropriate part.
6. Support your child while he/she practices the role play in the practice (contrived) setting.
7. Support your child while he/she performs the script in an authentic setting.

Role-plays are good to perform and execute tasks that have been taught using strategies like instructions and modeling. Using this strategy allows self-help skills to develop in a private, safe environment. In role-plays, the target behaviour is demonstrated. The behaviour is modelled using the targeted participants *in vivo.* The target participants play out scenarios depicting the target behaviour. For instance, in an article that reviewed procedures for teaching safety skills, Dixon et al. (2010) discussed teaching safety skills to persons with intellectual disabilities and found that, across multiple studies, basic behaviour procedures were most effective. These included prompt and prompt- fading, reinforcement, and role-playing.

The fact that role-playing situations are *in vivo* proved to be important due to the high generalization effects. If the skill is learned in the actual environment in which it needs to occur, it is likely to continue, as opposed to in an analogue (contrived to practice) setting. According to a study by Alyce Avenell (2012), role-playing and video modeling complement each other well; the video model provides a constant model for the participants and can be replayed for effect in role playing vignettes (Charlop-Christy, Le, & Freeman, 2000). In a study comparing video modeling with in vivo modeling in children with autism, Charlop-Christy et al. (2000) studied the effects of both video modeling and in vivo modeling in isolation and compared the effects of both to each other. The in vivo modeling was conducted using therapists familiar to the children. The children watched the in vivo models demonstrate skill and were then observed for generalization. The same procedures were used for the video modeling sessions. The authors found video modeling to be more effective and efficient in teaching skills to children with autism. Video-modeling leads to the quicker acquisition of skills and was found to be far less time consuming once considering the time necessary to repeatedly

employ the in vivo models for each session (Charlop-Christy, et al., 2000). The results of the study showed that two interventions, video modeling alone and video modeling combined with role-playing, increased appropriate student interactions across three classroom settings. The second intervention, video modeling plus role-play, proved more successful as the intervention had higher rates of appropriate interaction compared to both the video modeling intervention and baseline.

Strategies for Generalization and Maintenance of Self-Help Skills

Intervention strategies used with children with autism should cover individualized needs in multiple environments and throughout the life cycle, favouring positive personal and social development, as well as the improvement of their quality of life across domains. Children with ASD may have severe impairments in the main areas of development. For this reason, support is needed based on a comprehensive, specific, flexible model that covers the whole life cycle (Barthélemy et al., 2002).

Intervention is offered through services and strategies aimed at facilitating the mastery of those functional aspects necessary for participation in community life and maximum personal development in each of the areas of life; such as social skills, the ability to communicate in a functional way, and self-help skills that allow the maximum independence of the individual.

To achieve these results over time, an intervention must be based on a forward-looking approach, consolidating networks of services that cover all needs, rights, areas and stages of life. How can this be achieved? Cuesta, J., Sánchez, S., Orozco, M., Valenti, A., & Cottini, L. (2017) have agreed over the years that achieving results of this long-term objective implies contemplating aspects as varied as physical conditions of the centres; ratio; training, specialisation and profile of the professionals; type and variety of activities; specific and individualised intervention programmes; capacity for constant adaptation and flexibility; attention to ageing processes; social inclusion; and application of new technologies among other things.

TOPIC 9: TOKEN ECONOMIES

Token Economy System

A **token economy is a system** of positive reinforcement that can increase the frequency of desired behaviors. Reinforcement is one of the best ways to change your child's behavior because it places attention on the behaviors you want to see more often. When a behavior is reinforced, or rewarded, it is likely to be repeated. For example, when you do something that earns a smile, a "thumbs up," or a pat on the back from a friend, family member, or colleague, it is more likely that you will do it again. The same is true for a child who earns a reward for completing his homework. If the reward, or reinforcer, is something he really wants, he will likely repeat the behavior that earned him the reward.

This response to positive reinforcement is a part of everyday life that we can utilize when we work to modify the behaviors of children and adults with special needs.

Token Economy is Similar to the World Economy

A token economy works similarly to the world economy. An individual earns tokens by completing tasks or displaying desired behaviors. The tokens are then exchanged for something of value to the individual (known as a backup reinforcer).

Money is a great example of a token in that by itself **it is just a piece of paper** but by exchanging it the person can freely gain access to **desired items and activities** like for example: water, food, car, entertainment, etc.

Token economies are used as a method of strengthening a behavior, or increasing its frequency, because the tokens are a way of "paying" children for completing tasks and the children can then use these tokens to buy desired activities or items (Miltenberger, 2008).

ECONOMY	TASK	INITIAL OUTCOME	FINAL OUTCOME
World economy	Go to work	Earn money	Trade money for a car
Token economy	Do your homework	Earn token	Trade tokens for a toy

Within ABA, a token economy is a system for providing positive reinforcement to a child or children by giving them tokens for completing tasks or behaving in desired ways.

Decades of research support the use of token economy as a means of delivering reinforcement in a variety of settings to address diverse behaviors (Matson & Boisjoli, 2009; Boniecki & Moore, 2203; Carnett et al., 2014).

Example of a positive reinforcement

You place photographs of common fruits on the desk in front of your child, Mateo, and then ask him to point to specific ones. For example, place one photo of an apple and one photo of a banana on the desk and then say "point to apple" and Mateo must point to the apple.

Let's say that you have found that Mateo is only getting 3 out of 10 discriminations correct. As a way to try and increase his correct behavior you can decide to use a token economy as a way of providing positive reinforcement to Mateo for responding correctly.

For every correct response you will give Mateo a token. These tokens are like money for him where he can earn them for completing his work and then use them to buy things that he wants such as fun activities, toys or candies. The more correct responses he makes the more tokens he earns and so there will (or should) be an increased future frequency of correct responding because more tokens mean more desired things.

Token Economy Mechanism

The mechanism of the token economy is very simple: do > earn > pay > enjoy. The child earns a certain number of tokens by engaging in desired behaviors (target behaviors) and can then exchange these tokens – effectively using them as assets for payment – to gain access to desired items or activities (backup reinforcers).

A **backup reinforcer** is an activity, item or privilege that the child likes and enjoys. The token economy works because the tokens become paired with the earning of the

back-up reinforcers and the child only gets tokens for engaging in desired behaviors (Miltenberger, 2008).

Chart: The cycle of a token economy

1. Child has no tokens and no access to **desirable items/ activities**

2. Child engages in **target behaviours**

3. Child is **payed in tokens** for engaging in those target behaviours

4. Child **pays with tokens to buy desirable items/ activities**

The **target behaviors** could be anything. For example, completing homework, or it could be saying hello to an older person on the street, or putting garbage in the trash can.

What a target behavior will be depends on each individual child. Some token economies could be used to increase a child's positive behaviors (e.g., completion of household

chores) while another token economy could be used to decrease the amount of negative behaviors (e.g., making fewer than 2 unkind comments to a sibling during dinner).

Building a Token Economy System at Home

Building a token economy system is easy to implement and doesn't require extensive resources. Parents with no experience in using a token economy can start with a simpler system and afterward develop more complex systems that can target more than one behavior.

No matter the system complexity, there are seven components that need to be defined when implementing a token economy:

- **Target behavior** – Select the desirable target behaviors to be strengthened. You can choose up to 3 behaviors to focus on. However, if you and your child are new to reinforcement being delivered through a token economy begin with just one behavior.
- **Type of tokens** - The tokens to be used as conditioned reinforcers (chips, stars etc.).
- **Backup reinforcers** - The backup reinforcers to be exchanged for tokens (desired candies, toys, activities etc.). Be sure you choose something that your child finds valuable.
- **Reinforcement schedule** - A reinforcement schedule for token delivery. A schedule of reinforcement is a protocol or set of rules that you will follow when delivering tokens. The "rules" might state that reinforcement is given after every correct response to a question or when a certain amount of time has elapsed (five seconds of eye contact).

- **Exchange criterion** - How many tokens are needed to be exchanged for the backup reinforcers. When deciding on an exchange criterion consider the size and appeal of the reinforcer as well as the difficulty of the task and how often your child will need to complete the task.
- **Token market** - A time and place for exchanging tokens for backup reinforcers.
- **Response cost** (not always used) – A penalty or fine where tokens are taken away from the child for breaking rules or engaging in inappropriate behaviors. In some cases, a response cost component, in which the undesirable target behaviors to be eliminated are identified, together with the rate of token loss for each instance of these behaviors. It's important that children are aware of the rules before any response cost would be used so it's crystal clear what is a rule and what is a broken rule.

Token Economy Chart/ Board

Token economy chart or board is a tool that helps both the child and the parent to "agree" on the main components of the token system. More importantly, this board helps the child understand the whole concept of the token economy by visualizing what is expected from him and what he is working towards.

There is no one single type of token economy chart. Some will have a space where an image of something being earned - a reinforcer - can be placed (as in the image below), others will have space to write down what is being earned while others will be used only to record how many tokens have been earned.

For token charts where there is no place for a reinforcer there will typically be some method of choosing from a group of possible reinforcers once the chart is filled up or there might be a list of reinforcers that all "cost" different amounts of tokens, like a pricelist, and it is up to the child to decide when they want to trade in their tokens for a specific reinforcer.

Picture 1: Example of simple token economy chart with space to place a reinforcer and four tokens.
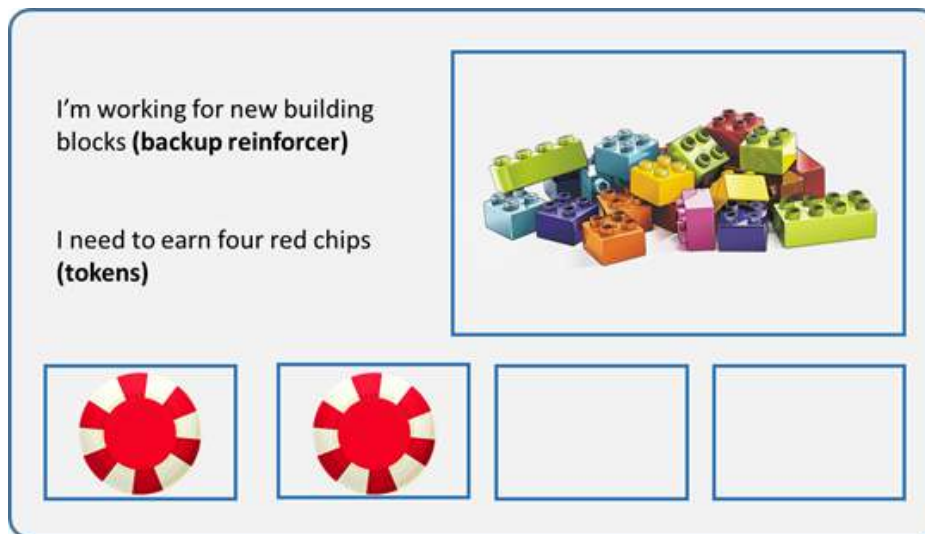
Create Engaging Tokens

The term "token" refers to something physical that can be held in hand. Some token economies do use physical objects such as poker chips, printed cards with smiley faces, stars, fake money etc.

Children with autism may have highly focused interests. If you are able to use a token that is in line with his interests he may be more engaged in the process. Carnett et al. (2014) discovered that using tokens based on the perseverative interests of the child resulted in a greater behavior change. What this means is that if your child has a special interest in a particular topic (e.g., the sea), you should use that topic (e.g., pictures of sea creatures) to create your token economy system.

Build Token Value

Don't expect your child to immediately understand the concept of a token economy. In fact, at first, he/she may not be motivated to earn the tokens because they doesn't see their value.

If your child faces difficulties comprehending the concept, do not rush to implement the whole concept at once. Begin slowly by following these steps:

1. Begin with a simple token board that clearly shows where tokens belong on the board.
2. Remove only 1 token for the board. See picture below:

3. When the learner earns a token, provide immediate tangible reinforcement along with the token and verbal praise "Nice work! You earned a token! Here's ice-cream."
4. After the learner has several opportunities to earn the identified reinforcer, remove 2 tokens from the board. See picture below.

I'm working for

5. When the learner earns the first token, pair that token with a reinforcer (ideally something edible or something else you don't need to remove such as physical touch) along with verbal praise "You did it! You earned a token! One more to go!"

6. When the learner earns the second token, provide immediate tangible reinforcement along with the token and verbal praise "Nice work! You earned a token! Here's your candy/toy."

7. Continue to pair tokens with established reinforcers while gradually removing more tokens from the board until the learner needs to earn all tokens on his board to exchange for the backup reinforcer.

8. Gradually reduce pairing the token with other tangible reinforcers, but continue to pair them with verbal praise.

Choose Motivating Back-up Reinforcers

It must be clear to the child what their tokens will earn them. When children know what they are working for, they feel motivated to complete the task.

Choosing the right reinforcer is one of the most important components for establishing an effective token economy system. It is important to choose a backup reinforcer that is of value to your child. It should be of sufficient current value to your child that he is excited to earn the tokens in order to get the reward. If your child is not excited to earn the backup reinforcer the token economy would not be successful.

What is motivating to one child, may not be for your child. Also, what is reinforcing for the child at one time may not be at another. Each child is unique and they change over time. To choose an effective reinforcer for an ABA strategy you need to consider the unique preferences for your child, and adapt over time.

The significant reason that a token economy is a great system is because you can change what you exchange the token for. If you notice that the reinforcer that worked earlier for a child has lost its attraction, you can replace it with another effective reinforcer.

You should be flexible and prepared with a backup reinforcer in case the one you have selected is suddenly not the best choice. For example, if your child likes airplanes you might consider using airplane toys to reinforce certain behaviors. However, if the behavior you're trying to reinforce happens immediately after your child got a flying drone for his last birthday, the airplane toy probably will be less effective.

Your child is only going to work for a reinforcer if he has a strong preference for it. Don't assume that just because many people are motivated by candy or money that your child will be as well. Look for items or activities that your child enjoys above all others. Furthermore, the reinforcer should commensurate with the task difficulty. Save the most desired things for more difficult tasks (make the most desired items "cost" the most).

For choosing rewards, follow this tips:

- Provide your child with choices of rewards to keep their interest. Change the choices often and include your child in choosing rewards.
- Choose rewards that fit in naturally with the behavior or your daily routine (i.e. TV time when homework is completed on time) are better than options that take extra time and effort to provide (i.e. an outing, toy).
- Have both big and small rewards. It can be helpful to have small rewards that can be earned daily to keep children's interest, but also larger, more exciting rewards that hold interest over time.

● Rewards should be things that your child will not get otherwise. For example, if they get to have a friend over regardless of whether or not they earn it, this would not be a good option.

In the table below you can find some sample reward menu ideas, but always keep in mind that you need to consider the unique preferences for your child.

Daily	Weekly	Big Rewards (ask for your child's input)
1 token = 5 minutes of screen time - Dessert after dinner 1 video game with parent 20 minutes later bedtime 30 minutes play on cell phone - Extra book at bedtime - Treat in lunchbox - Listening to favorite music in car - Watch TV during breakfast - Chewing gum	- Bake a special treat 1 hour board game of choice - Invite a friend over - Scavenger hunt - Go out for ice cream - Pick a rental movie - Paint toenails - Go to pet store to see puppies - Allowance - Day off from chores - Special activity with parent - Bubble bath	- Family bowling/mini-golf night - Inexpensive toy - Pick out a new shirt - Pet goldfish (earn tank, rocks, and plant first) - Having a sleepover - Eating favorite fast food - Pick new book or art supply

Deliver the Back-up Reinforcer

The token economy is effective when the child makes the **association** between the back-up reinforcers and the tokens for engaging in the desired behaviors.

The timing of rewards matters. When you give a token **immediately** after the desired behavior, it's easier for the child to understand what behavior they are being rewarded for. A long delay between the behavior and the reinforcer causes the link between the two to be broken.

For children with neurodevelopmental disabilities the immediacy might make a major difference because they do well when they see immediate results of their efforts.

Only give the reinforcer **if the task has been performed**. In order for the reinforcer to be effective, your child must do something to get it. Receipt of the item or activity has to be dependent on your child completing the task or behavior. If they get the reinforcer randomly (even if behavior is not completed) the reinforcer won't be as motivating for your child. Also, if you give them the reinforcer even if they don't complete the task then your child will be less motivated to perform the task.

Reducing Inappropriate Behaviors with the Token Economy

Reinforcement itself does not reduce inappropriate behaviors. However, when you strengthen an alternative behavior using reinforcement you are likely to see the collateral effect of reducing the inappropriate behavior. So, in this case you need to think of a behavior your child can do instead of the inappropriate behavior.

Ideally you would choose a behavior that your child can't do at the same time as the inappropriate behavior. For example, if you want your child to stop hitting his sister when he's angry, any other activity that involves his hands at that moment will be incompatible behavior. This is known in ABA as a **replacement behavior**.

Example of reducing inappropriate behaviors

Let's say you want to use a token economy with your son Mateo. He has been throwing toys around when you ask him to put them away. In this case you would create a token economy for putting his toys away (in the toy box). Depending on his age and ability you might decide to give Mateo one token for each toy he puts in the toy box.

Once you've implemented the token economy, you would ignore the behavior you're trying to stop (throwing toys) and give all your attention to the replacement behavior (putting toys in the toy box).

Advantages and Disadvantages of a Token Economy

According to Kazdin and Bootzin (1972) the use of tokens as a method of delivering reinforcement through the child exchanging them for back-up reinforcers has a number of advantages. For example, they:

- Bridge the delay between the target response and back-up reinforcement.
- Permit the reinforcement of a response at any time.
- May be used to maintain performance over extended periods of time when the back-up reinforcer cannot be parsed out.
- Allow sequences of responses to be reinforced without interruption.
- Maintain their reinforcing properties because of their relative independence of deprivation states.
- Are less subject to satiation effects.
- Provide the same reinforcement for individuals who have different preferences in back-up reinforcers.

- May take on greater incentive value than a single primary reinforcer.

Additionally, Miltenberger (2008) highlights how:

- Positive reinforcement, via the tokens, can be provided immediately after the target behavior occurs.
- A token economy is structured therefore there will be consistency with how positive reinforcement is delivered for target behaviors.
- A child's future planning skills can be developed because different amounts of tokens need to be earned for different types of backup reinforcers and the tokens must be kept until enough has been earned.

A response cost should be utilized only for major undesirable behaviors that need to be suppressed quickly. The parent's primary attention should always be focused on reinforcing positive behavior. Additionally, a response cost should never be used if a child does not already have tokens.

A token economy is an effective tool, but it might not be the best choice in all circumstances. Consider the following disadvantages before implementing it:

- Tokens don't have innate value. Even after trying to teach the child the value of the token, he/she might struggle to understand this idea and become frustrated with this process.

- For a token economy system to work, it requires a lot of planning. So, make sure you have time for that activity.

- The child might lose interest or become frustrated. He/she might struggle to learn the value of the tokens, maybe the backup reinforcer might not be motivating or your child does not earn tokens fast enough. If your system doesn't seem to be working try choosing a different backup reinforcer or making it easier for the child to earn tokens. You can continue to adjust over time.

Although a token economy might not help you meet all your needs, it's definitely something worth trying in your home.

Tips for Implementing a Token Economy System

For easier implementation of a token economy system consider the following tips:

- When beginning with this new concept, set the goal low. If it's too hard to achieve, your child won't be motivated.
- Raise the goal over time. Make the reward bigger for a bigger goal, smaller for a smaller goal.
- Celebrate every earned token. Make it a big deal.
- Involve your child in the process of designing the token economy system. If they are able to choose their tokens and how to store them they will be more engaged in the game.
- Modify your system as you go. It may take trial and error to learn how many tokens keep your child engaged without making it too easy to earn the reinforcer.

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