BEHAVIOUR MANAGEMENT for CHILDREN with AUTISM

Teachers' handbook

Authors:
Ivana TRELLOVÁ et al.

Co-funded by the European Union

Project No: 2023-1-IE01-KA220-SCH-000152387

BEHAVIOUR MANAGEMENT for CHILDREN with AUTISM

Teachers' handbook

Authors:
Ivana TRELLOVÁ et al.

VYDAVATEĽSTVO PREŠOVSKEJ UNIVERZITY

Prešov, 2024

Behaviour Management for Children with Autism
Teachers´ handbook

Authors:
Mgr. Ivana Trellová, PhD., BCBA
Christian Sweeney, BA (Hons)
Mgr. Jana Kožárová, PhD.
Magdalena Jančec, MA, BCBA
Doc. Dr. Jasmina Troshanska
Alexandra Faka, MA et. MSc
Raymond Sweeney

Reviewed by
doc. PhDr. Tatiana Bugelová, CSc.
Mgr. Diana Čelárová, PhD., BCBA
Mgr. Ivana Lessner Lištiaková, PhD., SFHEA

Technical and administrative support
Development support and administration:
Typeset and graphic design: IDL

Language: English
Range: 93 pages
Edition: first

Publisher: University of Prešov in the University of Prešov Press, 2024
This publication was published electronically in the Digital Library of the University Library of the University of Prešov:
http://www.pulib.sk/web/kniznica/elpub/dokument/Trellova1

Supported by an ERASMUS+ grant entitled: Early childhood behaviour management training for preschool teachers through a digital game

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Project 2023-1-IE01-KA220-SCH-000152387 — Early childhood behaviour management training for preschool teachers through a digital game

ISBN 978-80-555-3326-1
EAN 9788055533261

Table of Content

TABLE OF ACRONYMS

ABA	Applied Behaviour Analysis
ABC	Antecedent - Behaviour - Consequence
AO	Abolishing Operations
APA	American Psychiatric Association
ASD	Autism Spectrum Disorders
BSP	Behaviour Support Plan
CDC	Centers for Disease Control and Prevention
DSM	Diagnostic and Statistical Manual of Mental Disorders
EBI	Evidenced-Based Interventions
EO	Establishing Operations
FAST	Functional Assessment Scoring Tool
FBA	Functional Behavioural Assessment
ICD	International Classification of Diseases
M-CHAT R/F	The Modified Checklist for Autism in Toddlers, Revised with Follow-Up
MAS	Motivation Assessment Scale
MO	Motivating Operations
PDD-NOS	Pervasive Developmental Disorder – Not Otherwise Specified
QABF	Questions About Behavioural Function

INTRODUCTION

The Autism Spectrum Disorder population is increasing together with their need for education and support. Having well-trained staff is key to ensuring good quality autism services, especially since people affected with autism generally tend to have higher support needs than other populations in terms of daily living, as well as their mental and physical health. Poorly trained staff can have detrimental effects on service provision and staff morale and can lead to staff burn-out, as well as increased service user anxiety and stress (Dillenburger et al., 2016).

A study conducted in 2017 by the European Agency for Special Needs and Inclusive Education (European Agency) found that "teacher training and professional development in the field of inclusive education varies greatly across Europe" and that "there is a need for more in-service teacher training, particularly in the areas of inclusive education and early childhood education." This suggests that there may be a general lack of training for preschool teachers across Europe.

The aforementioned findings have resulted in the formation of a consortium of experts in the field of ASD from six different countries (Ireland, the Republic of North Macedonia, Cyprus, Slovakia, France, and Croatia) within the European Union. The consortium's objective is to provide training and support to educators in order to facilitate the effective management of early childhood behaviour in their classrooms and to enable them to deliver high-quality education to young children.

Handbook for preschool teachers (from both mainstream and special education schools) covers the latest research and best practices in early childhood behaviour management. The Handbook is comprised of eight chapters, each of which adheres to a similar structural format. These include learning objectives, an introductory section, a theoretical framework, a summary, recommendations for supplementary reading, questions for reinforcement, ideas for practices in the classroom, and a list of resources.

The initial chapter will facilitate a deeper comprehension of the definition and characteristics of Autism Spectrum Disorder (ASD), in addition to elucidating the recent modifications in the nosological systems and classification manuals pertaining to this diagnosis. The initial chapter encompasses the identification and symptomatology of ASD, the detection of nascent indications of ASD in young children, and an examination of evidence-based interventions that have demonstrated efficacy in addressing the needs of this specific cohort of children.

The second chapter titled *Behaviour Modification* is focused on understanding behaviour modification and its definition. Furthermore, the reader will gain insight into the processes of identifying antecedents and consequences of behaviour, as well as the utilisation of the ABC data collection tool to modify the behaviour of children with ASD. The second chapter concludes with a brief discussion of the distinction

between diagnostic concepts pertaining to challenging behaviour and those associated with other behavioural disorders.

Principles of behaviour are the main concepts discussed in the third chapter. Furthermore, this chapter will introduce the reader to the significance of motivation, identification and the description of stimulus control. Furthermore, the chapter facilitates a more profound comprehension of the significance of reinforcement, identification, and decision-making in the use of punishment and extinction.

Chapter four deals with the *measurement of behaviour*. Its content is understanding and implementation of continuous and discontinuous types of measurement of behaviour and also hints to a reader for what type of measurement to use.

The fifth chapter presents an analysis of the *functions of behaviour*. The reader is provided with further insight into the four functions of behaviour, as well as guidance on how to identify these functions. A significant aspect of this chapter is the delineation of the distinction between the topography and function of the behaviour in question.

The sixth chapter discusses *functional behaviour assessment.* Within its content, the reader could find a description of the importance and process of functional behaviour assessment, identification and use of direct and indirect assessment methods. By the end of this chapter, the reader will learn about the use of skills assessment.

Strategies to eliminate challenging behaviour are discussed in the seventh chapter. Description and use of proactive and reactive strategies as well as the identification and teaching of replacement behaviour is provided within this chapter.

Finally, chapter number eight is focused on stress and burnout in the work with children with ASD. The aim of this chapter is to provide the reader with recognition of early signs of stress and burnout on themselves as well as on others and the use of stress management strategies to reduce stress.

This comprehensive guide provides a thorough understanding of various aspects of behaviour, from its principles and measurement to the strategies used for behaviour modification and assessment. Each chapter is authored by experts in the field, ensuring a rich and insightful exploration of these critical topics.

1

AUTISM SPECTRUM DISORDER

Learning objectives

After reading this chapter, learners will be able to:

1. Define and characterise Autism Spectrum Disorder (ASD)
2. Know the recent changes in classification manuals
3. Identify and characterise symptoms of ASD
4. Identify the early signs of autism in young children
5. Identify the evidence-based interventions for children with autism

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects all areas of a child's development (CDC, 2024). Children with autism may not show physical symptoms as with other diagnoses, such as Down Syndrome or Polio, but instead exhibit behavioural symptoms. These are characterised by stereotyped, repetitive behaviour, sensitivity to texture, sounds, foods or other stimuli,

and difficulties in understanding and expressing their needs or interacting appropriately with others. In some cases, limited communication or social skills can lead to challenging behaviours among children with autism. This can interfere with the inclusion of these children in the classroom. Teachers should have an understanding of the causes of challenging behaviours and how to address them effectively enabling children with autism to learn and interact with others.

Level of severity

Level 1 - requires support
Level 2 - requires substantial support
Level 3 - requires more substantial support.

Source: DSM-5, 2013

Individuals with autism may present a wide range of strengths and challenges (Denning & Moody, 2018). Therefore, we talk about the "spectrum" as it can vary from a child with significant impairment in communication, high incidents of challenging behaviours, and difficulties acquiring new skills easily to a child with above average level of intellectual ability and limited challenges in social interaction with others. According to Denning & Moody (2018), 44 % of individuals with autism have IQ levels within or above the normal range. Therefore, a child's lack of verbal communication may not signify intellectual difficulties.

1.1 Autism Classification

The new DSM-5 (APA, 2013) characterises autism spectrum disorder as an impairment in social communication and interaction and the presence of behavioural deficits. At the same time, it specifies a level of severity for the disorder, the presence of intellectual disability, and possible comorbidities. This differs significantly from the previous classification of autistic spectrum disorders in the DSM-IV, where autistic spectrum disorders were divided into individual diagnoses, namely: autistic disorder, Asperger's Disorder, Rett's Disorder, childhood disintegrative disorder, Pervasive developmental disorder - not otherwise specified (PDD-NOS). Since the new DSM-5 was published in 2013, all mentioned disorders were replaced by one single name – Autism Spectrum Disorder (ASD). Rett Syndrome is no longer classified as an autism spectrum disorder.

Similar changes are found in ICD-10 (2019)[1] and ICD-11. Autism spectrum disorder, formerly known as a pervasive developmental disorder, included several different diagnoses, including Rett syndrome (Table 1). Like the DSM, the ICD has been revised, and a new version, ICD-11 (2024)[2], introduces the umbrella term Autism Spectrum Disorders together with an indication of whether or not there is an intellectual disability and the extent of functional speech and language impairment.

[1] ICD-10 Retrieved from: https://icd.who.int/browse10/2019/en#/F84
[2] ICD-11 Retrieved from: https://icd.who.int/browse11/l-m/en#/http://id.who.int/icd/entity/437815624

Table 1 Classification of Autism Spectrum Disorder (ASD)

ICD-10	ICD-11	DSM-IV	DSM-5
Pervasive developmental disorder	**Autism Spectrum Disorder (ASD)**	**Pervasive developmental disorder**	**Autism Spectrum Disorder (ASD)**
Childhood autism	Specify if: - without a disorder of intellectual development - with a disorder of intellectual development - with mild or no impairment of functional language - with impaired functional language - with complete, or almost complete, absence of functional language.	Autistic disorder	Specify if: - with or without accompanying intellectual impairment - with or without accompanying language impairment - associated with another neurodevelopmental, mental, or behavioural disorder - with catatonia - associated with a known medical or genetic condition or environmental factors.
Atypical autism		Asperger's disorder	
Rett syndrome		Rett's disorder	
Other childhood disintegrative disorder		Childhood disintegrative disorder	
Overactive disorder associated with mental retardation and stereotyped movements		PDD-NOS	
Asperger syndrome			
Other disorders of psychological development	Other specified autism disorder		
Unspecified disorder of psychological development	Autism spectrum disorder, unspecified		

Source: Adapted from Trellová, Hlebová 2021; ICD-10; ICD-11; DSM-5

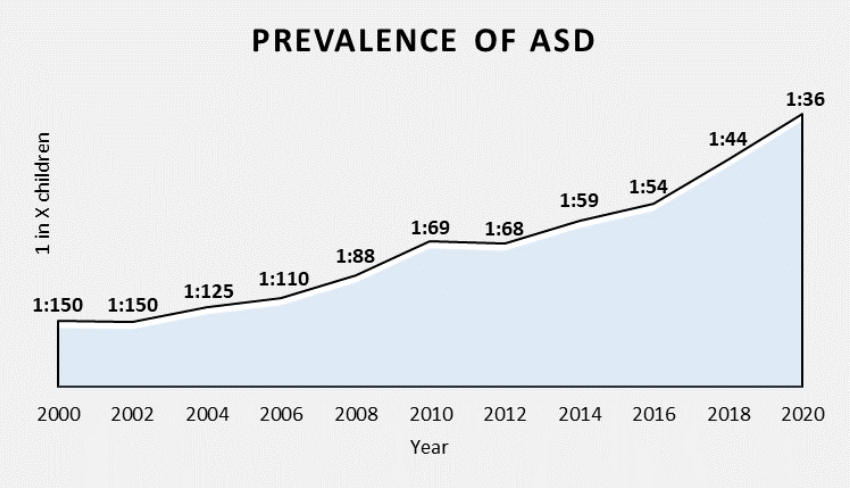
The terms "autism", "ASD", and "pervasive developmental disorder" can still be used interchangeably. However, the teachers should be familiar with current and previous classifications since they may encounter a person in their practice who was diagnosed prior to 2013.

1.2 Prevalence and Diagnosis of Autism

When autism was first included in DSM-III in 1980, the disorder was extremely rare. However, since then, the incidence and prevalence of autism have grown dramatically (Figure 1), and today, the prevalence of autism is 1:36 children (Maenner et al., 2022). The increase may be the result of more effective diagnosis, increased awareness, and available treatment, but also a genuine increase in the disorder's prevalence. There are many theories describing the cause of autism, but none have been confirmed. However, it is thought that autism is the result of the combined effects of adverse genes and environmental risk factors (Hnilicová & Ostatníková, 2018).

Figure 1 Prevalence of ASD

Source: adapted from cdc.com



Receiving a proper diagnosis is critical for a child. Often, the speech therapist, paediatrician, preschool teacher, or a parent refers a child for a diagnostic process if they notice challenging behaviours or a lack of skills compared to the child's peers. The diagnostic team will look at the quantity and quality of behaviours in areas of communication, social interaction and imagination and play. The key is to see whether a child displays too many or too few of the expected behaviours in these areas and what the behaviours look like. For example, a child might speak, however, his speech might mimic phrases memorised from TV shows.

There are various screening tools that can help teachers, parents, and other service providers to screen a child for autism. Some are already translated into your language. ASDetect[3] is a free app that helps parents to assess their young children for early signs of autism. It guides parents through the assessment questions using specially produced videos. The M-CHAT R/F™ questionnaire is a screening tool often used by paediatricians to identify children at risk of autism.

1.3 Symptomatology of ASD

Although every individual with autism is different, some common features are relevant to this diagnosis. In the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (APA, 2013) as well as in the latest version of the ICD-11, the characteristic areas of autism spectrum disorders have been reduced to 2 areas, namely:

- impairment in social interaction and communication
- the presence of repetitive patterns of behaviour.

[3] https://asdetect.org

Persistent deficits in social communication and social interaction (deficits in social-emotional reciprocity, communication, and developing and maintaining relationships):

- communication delays
- echolalia or stereotyped use of words
- non-functional use of words
- limited vocabulary
- difficulty expressing needs and wants
- peculiar speech intonation
- loss of previously learned words
- inability to converse with others
- inability to make and maintain friendships
- poor imaginary and social play
- difficulty expressing and understanding emotions
- avoidance of eye contact
- preference for solitude
- inadequate initiation of interaction
- reduced interest in sharing experiences.

Restricted, repetitive patterns of behaviour, interests, or activities (stereotypes or repetitive motor movement, use of objects or speech, insistence on sameness, inflexible adherence to routines, or ritualised patterns of verbal or nonverbal behaviour, or highly restricted, fixated interests):

- rocking, flailing arms, or other non-functional, self-stimulating movements
- difficulty adapting to change
- presence of dysfunctional routines and rituals
- lack of imagination in play
- repetitive use of toys
- selectivity in food or clothing
- postural abnormalities (toe-walking)
- fascination with movement (opening and closing doors, spinning toys).

Prognosis

Prognosis is individual and depends on several factors:

- ✓ the time of diagnosis
- ✓ the start of early intervention
- ✓ the intensity of the intervention
- ✓ the type of intervention.

In terms of restricted, repetitive patterns of behaviour, interests, or activities, the DSM-V (APA, 2013) includes hyper- or hypo-reactivity to sensory stimuli or unusual interest in sensory aspects of the environment. Examples include an inappropriate response to certain sounds or textures, excessive smelling or touching of objects, or a visual fascination with light or motion.

1.4 Early Warning Signs of Autism

Even though the first signs of autism can be seen as early as 18-24 months of age, children are usually diagnosed around age 3, and some as late as 5 years old. Early diagnosis grants children access to early interventions, which can significantly improve the prognosis or the future prognosis of the child's development. The autism diagnosis delay is caused by many factors, and these may vary from country to country. Common reasons for delayed diagnoses include variability of autism symptoms (there might be a prevalence of typical behaviour over atypical one), disagreement with parental concerns, short visits to the paediatrician, long waiting times for diagnosis, and lack of specialists.

Screening tools such ASDetect or M-CHAT R/F™ can help to identify early signs of autism. If the initial screening indicates a high risk of autism, parents should see a specialist who will conduct a thorough diagnostic evaluation.

A preschool teacher may notice that a child with suspected autism is less involved in standard classroom activities and tends to withdraw from them, struggles with small changes, and is particularly sensitive to the touch, sounds, group events, and the texture of food. A child may engage in more challenging behaviours (i.e., yelling or crying when there are loud sounds) as a way of communicating their needs and wants.

Table 2 Signs of autism in children aged 3-6 years old

Social communication and interaction	**Restricted or repetitive behaviour and interests**
• may not respond to hearing their name • lack of or limited eye contact • limited or no engagement in reciprocal or social games • difficulties with joint attention and sharing objects • lack of or delay in speech • hyperlexia • limited use of gestures such as pointing • echolalia • peculiar intonation • greater interest in objects than people • difficulties with following instructions • limited or no ability to express joy or recognise and reciprocate joy expressed by others.	• unusual play or playing with parts of objects • absence of imaginary play • interest in unusual objects (door handles, ropes, utensils) • lining up or ordering toys • repetitive play with objects • unusual motor movements such as toe-walking, finger flicking or hand flapping • difficulties with routine changes • unusual reactions to sensory stimuli • repeating certain actions.

Source: Adapted from standardnepostupy.sk

Individual characteristics of autism may change over time as children get older. Table 2 lists some common warning signs of autism that a teacher may observe in a child of preschool age, i.e., up to 6 years old (standardnepostupy.sk[4]). It is important to note that this list is not exhaustive, and the presence of some of these symptoms does not automatically imply a diagnosis of autism. Parents or teachers should observe the frequency and intensity of these warning signs and seek professional help if autism is suspected.

1.5 Evidence-Based Interventions for Children with Autism

Evidence-based interventions are those that are backed up consistently by research (Wilczynski et al., 2022). Applied behaviour analysis (ABA) treatment, also known as *behavioural intervention* or *behavioural treatment*, is supported by over 50 years of published, peer-reviewed research, and its success is well-evidenced in treating individuals with ASD. Treatment in this area is effective across an individual's lifespan and focuses on improving cognitive, language, social, and self-help skills while eliminating challenging behaviours that endanger an individual's health and safety or exclude them from school and community environment. For older individuals, ABA interventions can focus on teaching behaviours that are necessary to function successfully at home, school, and in the community (CASP[5], 2024). Children who participated in early and intensive ABA programmes experienced a reduction in challenging behaviours and learned new skills. ABA-based treatment can result in significant and lasting improvements to the ability of autistic people to function more effectively in different environments, regardless of age (Green, 1996).

According to The National Clearinghouse on Autism Evidence & Practice (2020), 28 evidence-based methods and procedures have been identified based on a review of 567 articles between 1990 and 2017 that have been effective in treating children with autism. Many of them are based on ABA principles.

[4] Retrieved from: https://www.standardnepostupy.sk/standardy-poruchy-autistickeho-spektra/

[5] The Council of Autism Service Providers (CASP). 2024. Applied behaviour Analysis Treatment of Autism Spectrum Disorder: Practice Guidelines for Healthcare Funders and Managers. Retrieved from: https://assets-002.noviams.com/novi-file-uploads/casp/pdfs-and-documents/ASD_Guidelines/ABA-ASD-Practice-Guidelines.pdf

Summary:

- ✓ Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterised by impairments in social communication and interaction and repetitive and restrictive behaviour or interests. With the arrival of new diagnostic and classification manuals, DSM-5 and ICD-11, there have been some changes in classification of autism spectrum disorder. All of the previous diagnosis, such as Asperger's syndrome, atypical autism, Childhood autism and others, are included under one name Autism Spectrum Disorder (ASD).
- ✓ The prevalence of autism has been increasing in recent years. According to recent data from the Centers for Disease Control and Prevention (CDC), 1 in 36 children are diagnosed with autism.
- ✓ Some of the symptoms of autism can be seen in children as young as 18 months. Screening tools such as ASDetect or M-CHAT R/FTM can help parents, teachers, or other professionals identify these signs.
- ✓ Evidence-based interventions are those that have been shown to be effective by a consistent body of research. Currently, ABA-based interventions are considered effective interventions for children with autism.

SUGGESTED READING

Casey, L.B., Carter, S.L. (2016). *Applied behaviour analysis in early childhood education. An introduction to evidence-based interventions and teaching strategies.* New York, NY: Routledge

National Institute of Mental Health. 2018. Autism Spectrum Disorders. Retrieved from: https://www.nimh.nih.gov/sites/default/files/documents/health/publications/autism-spectrum-disorder/19-mh-8084-autismspectrumdisorder.pdf

The National Clearinghouse on Autism Evidence & Practice. 2020. Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder. Dostupné na: https://ncaep.fpg.unc.edu/sites/ncaep.fpg.unc.edu/files/imce/documents/EBP%20Report%202020.pdf

Klintwall, L., Eikeseth, S., 2014. Early and Intensive behavioural Intervention (EIBI) in Autism. 10.1007/978-1-4614-4788-7_129.

World Health Organization. 2019. Autism Spectrum Disorders. Retrieved from: https://applications.emro.who.int/docs/EMRPUB_leaflet_2019_mnh_215_en.pdf

Questions

1. Which are the 3 diagnostic areas of autism spectrum disorder according to ICD-10?
2. How has the introduction of the new ICD-11 changed the classification of autism?
3. Which symptoms might preschool teachers observe in a child who is at risk of autism?
4. What screening tools might preschool teachers use to identify and recognize autistic traits in a child?
5. What are evidenced-based interventions (EBI)?

PRACTICE IN YOUR CLASSROOM

Identify a child that has autism, or you may suspect has autism in your classroom. Use this form to write down symptoms or behaviours that are interfering with his/her development and learning. Afterward, try to assign a goal or target that might address the challenges they face in each area.

Diagnostic area	Symptoms or behaviours that interfere with his/her learning *(for ex. No speech, no responding to his name, displays repetitive play with toys)*	They would benefit from learning or improving on these skills… *(e.g., increasing requests for favourite items, following simple instructions when called, increasing play skills with cause-and-effect toys and closed-ended activities)*
Communication skills deficits		
Social interaction deficits		
Restrictive and repetitive behaviours		

Adapted from Gilmore (2019)

2

BEHAVIOUR MODIFICATION

Learning objectives

After reading this chapter, learners will be able to:

1. Understand behaviour modification
2. Define behaviour
3. Identify antecedents and consequences of behaviour
4. Use a simple ABC data collection tool
5. Understand the difference between challenging behaviour and other behavioural disorders

Introduction

Applied behaviour intervention for children with autism focuses on teaching small units of behaviour or skills. Appropriate behaviour responses are followed by reinforcers (something pleasant that a child likes) that increase the likelihood of that behaviour in the future. Meanwhile, negative responses are intentionally not reinforced (ignored), and the child is guided towards more appropriate ones (Green, 1996).

Challenging behaviours in children with autism may cause distress for parents and teachers as they attempt to alter or change such behaviours. There is a need to bring clarity and understanding to variables that evoke the behaviour and the consequences that maintain it (O'Neill et al., 2015). Behaviour modification is a process of gathering information to create an effective and efficient behaviour support plan that not only on reduces challenging behaviours, but more importantly, teaches and maintains behaviours that help a child to learn and socialise.

2.1 Behaviour Modification

Behaviour modification procedures involve analysing and manipulating current environmental events to change behaviour by targeting behaviour excesses or behaviour deficits of an individual (Miltenberger, 2004).

Behaviour excesses are behaviours that an individual engages in too frequently, which may hinder their ability to function successfully in the environment, such as self-stimulatory behaviour, temper tantrums, self-harm or behaviours harmful to others, or obsession with sameness. On the other hand, behaviour deficits are behaviours that do not occur frequently enough. The ABA practitioner should aim to increase these behaviours to support an individual's independent and effective functioning in an environment. These behaviours comprise skills such as communication, social, play and life skills (simplesteps, 2024).

Analysing human behaviour involves identifying the functional relationship between the environment and a specific behaviour. Simply said, analysing an individual's behaviour aims to find out its cause. By altering the environment, one can change human behaviour in an attempt to teach more socially acceptable responses.

Applied Behaviour Analysis (ABA) is a scientific approach that applies principles of learning to influence behaviour. It is an applied branch of behaviour analysis, the science of behaviour, that aims to improve socially significant behaviour.

2.2 Behaviour and the ABC of Behaviour

Behaviour is what a person does or says. It is a reaction or response to certain stimuli in the environment. For example, when a person says, *"May I have a cup of tea?"*, this question is a behaviour triggered by a motivation to drink some tea (Cooper et al., 2007).

Behaviour can refer either to actions that interfere with daily life that the teacher wants to decrease (behaviour excesses) or to behaviours they want to increase, such as skills associated with independence (behaviour deficits).

An appropriate definition of behaviour is crucial in a behaviour modification process. One must be able to distinguish the difference between a behaviour label and a behaviour definition. For example, labelling a child as "bad" is vague. Describing the child's behaviour in observable terms, like crying and hitting, provides a clear definition (Miltenberger, 2004).

Some common challenging behaviour might include:

- ✓ physical or verbal aggression
- ✓ tantrums
- ✓ elopement (leaving the area without permission)
- ✓ self-injurious behaviour
- ✓ self-stimulatory behaviour
- ✓ mouthing objects.

Observable terms describe the behaviour as an action that can be seen. Measurable means that the behaviour can be counted, timed, or other way recorded. The behaviour should be defined clearly enough that a person unfamiliar with the child could recognize the behaviour without a doubt.

Behaviour label	**Behaviour definition**
Angry	banging a fist on the table, screaming, pulling hair, scratching another person
Disruptive	shouting out in class, turning, and talking to classmates, loud moaning
Defiant	not responding to given instructions within 5 seconds/engaging in an unsolicited behaviour

A common mistake when trying to address a challenging behaviour is that teachers often focus only on the behaviour itself: *I do not want him to scream*. They may not see that the behaviour is influenced by environmental events that precede and follow the behaviour. **The ABC of behaviour**, or **the three-term contingency**, helps determine why the behaviour occurred. Describing the ABC of behaviour is an attempt to identify a functional relationship between the behaviour and the stimuli that influence it (Casey & Carter, 2016). The stimuli that evoke the behaviour are called **antecedents** and those that occur after the behaviour are called **consequences**.

ABC of behaviour

Antecedent (A)	**Behaviour (B)**	**Consequence (C)**
What comes before the behaviour	**How the behaviour looks like**	**What happens during and after the behaviour**
Request: “It is time to put the toys away”.	A child screams.	A teacher lets the child play a little longer.
A teacher talks to a parent.	A child hits his mom.	Mom scolds a child for hitting her.

The antecedents evoke behaviours, and the consequences determine whether the behaviour will be repeated in the future in the same antecedent conditions. If a child knows that screaming will grant him more time playing with toys, the behaviour will repeat itself in the future. Therefore, changing the **antecedents** and/or **consequences** will change the behaviour in its topography (form), frequency, or duration.

Behaviours often follow similar patterns. The teacher might recognize that certain antecedents reliably precede the behaviour, and similar consequences routinely follow the behaviour (Casey & Carter, 2016). By recording the ABC data for a few weeks, the teacher might begin to recognize these patterns and better understand the behaviour's cause.

In identifying the antecedents and consequences of the behaviour, a teacher provides a descriptive narrative of the events that took place. If they are unsure which antecedent stimuli triggered the behaviour, describing other stimuli that occurred in the room is helpful. For example, if the child starts screaming and the teacher does not know why (no request was made, the child has his favourite toys), the teacher describes who else was in the room or what others in the room were doing (e.g., the janitor came into the room).

An antecedent can be a person, a request, or any event in which a particular response will be reinforced. Antecedent events occur **immediately** before the behaviour (Cooper et al., 2007).

Some examples of common **antecedents** in the classroom might be:

- a request to participate in tabletop activities
- a request to stop a preferred activity
- transitioning from preferred to non-preferred activity
- lack of a structured environment
- not receiving one-on-one attention from the teacher
- experiencing pain
- wanting an item that they can or cannot have
- sensory issues, such as an intense smell or noisy environment.

A **consequence** of a behaviour is the outcome that **follows** the behaviour. It is anything that a teacher does or says immediately after the behaviour starts (Cooper et al., 2007). It includes any positive or negative reaction to the behaviour. In some cases, the teacher may be unaware of their reaction to the child’s behaviour, and thus may unknowingly provide a consequence for the behaviour, such as raising their eyebrow when a child swears.

Some examples of common **consequences** in the classroom might be:

- sending the student to the "thinking chair"
- separating the student from the group
- giving the student a break
- reprimanding the student
- giving the student their favourite toy
- removing an aversive task.

Determining the ABCs of the behaviour can clarify the function of the behaviour and can serve as a basis for identifying appropriate replacement behaviours. Because of its simplicity, the ABC data form is often used in home and school settings. A teacher can choose descriptive or structured ABC forms. It is recommended to start by completing a descriptive ABC data form, where they describe in their own words what happened before and after the behaviour. Later, when the antecedents and consequences are clearer to the teacher, they can use the structured form, which is less time-consuming and easy to fill out.

Example:
Anna is playing with the animals and arranging them in a row, one next to each other. Mary, who is playing with the farmhouse near Anna, takes a sheep from her and puts it in the sheep pen. Anna hits Mary, who starts to cry and runs to tell the teacher what happened. Anna then takes the sheep and puts it back with her animals.

Descriptive ABC data form

Antecedent	Behaviour	Consequence
Mary takes a toy that Anna was playing with.	Anna hit Mary	Mary cries, leaves the toy, and runs to the teacher. Anna takes her toy back and continues to play.

Structured ABC data form

Antecedent	Behaviour	Consequence
● a request to do something ● a request to stop something ● transitioning ● lack of a structured environment ● no attention ● pain ✓ wanting an item	● tantrum ● crying ✓ hitting ● biting ● flopping ● self-injurious ● self-stimulation ● elopement	● "time-out" ● student was separated from the group ● student was given a break ● reprimands ✓ student gets his favourite toy ● aversive task was removed ● adult attention provided ● the task was removed

The key to completing the ABC data forms is to be objective about the challenging behaviour and to be specific about what happened before and after the behaviour. Even small, seemingly irrelevant details could be causing the recurrence of a behaviour. Avoid explaining or excusing the behaviour and making premature hypotheses about the reason why the behaviour occurred.

Instructions for filling out the ABC data sheet:

1) Choose one behaviour to target.
2) Every time the behaviour occurs, fill out the ABC data sheet with:
   - ✓ what happened immediately before the behaviour
   - ✓ what the behaviour looked like
   - ✓ what followed immediately after the behaviour.
   - ✓ any additional information that might be relevant to the situation (location, people).
3) Fill out the ABC data for at least four times the behaviour occurs (either for one day or over several days).

Van Diepen & Van Diepen (2019)

For example, in the situation where Anna hit Mary, it would be incorrect to write the following:

Antecedent	**Behaviour**	**Consequences**
Mary took a toy from Anna	Anna hit Mary	Anna does not know how to share with others.
Mary took a toy from Anna	Anna hit Mary	She did it because she has autism.

The teacher may observe that on some days, the particular antecedent triggers the behaviour, and on others, the behaviour does not occur even though the same antecedent preceded it. In this case, the teacher should look at the situation or event that occurred long before the antecedent. These are called **setting events**.

Setting events are prior events or occurrences that increase the likelihood that a particular antecedent will trigger a behaviour (O'Neill et al., 2015). They can be internal, such as hunger, or external, such as a substitute teacher. Setting events may occur hours or weeks before the behaviour, whereas antecedents occur immediately before the behaviour. Some of the setting events might be:

- lack of sleep
- changes in a morning routine
- unstable family environment
- changes in medication
- feeling ill
- absence of favourite caregiver
- feeling tired

- sensory overload
- refusal of a favourite item before coming to the classroom.

Setting events can be identified by asking parents about any changes or events that happened before coming to the classroom. Simple questions like *"How was your morning?"* or *"Is there anything we should know?"* can help the teacher make adjustments and prevent challenging behaviour. For example, if a child missed breakfast in the morning, the teacher could allow the child to eat first and then continue with classroom activities. This can significantly reduce the likelihood that an instruction such as *"come sit down"* will trigger challenging behaviour. Table 3 provides sample solutions for some of the most common setting events.

Table 3 A list of some possible solutions for a teacher concerning setting events

Setting event	Solution
Appears to be tired	● modify the difficulty and the length of the tasks ahead ● give less physically and mentally challenging activities ● give more frequent breaks during activities ● give more time to work on the task
Changes in routine	● inform the student of the changes immediately upon arrival to class ● use visual support to display classroom activities and any upcoming changes ● remind the student of changes a few minutes before they occur.
Favourite caregiver/ teacher missing	● give a child more positive attention than usual ● do more 1:1 activity with a child

Source: own compilation

The preschool teacher can create their own sheet of solutions related to setting events. These notes or sheets can also be helpful for substitute teachers or other school personnel working with the child.

2.3 Challenging Behaviour vs Behavioural Disorders

While challenging behaviours and behavioural disorders are characterised by actions that deviate from societal norms, they differ significantly in terms of severity, persistence, underlying causes, and required interventions. Challenging behaviours are often less severe and more manageable through behavioural strategies and support. In contrast, a behavioural disorder represents a more severe, pervasive pattern of behaviour that often requires a comprehensive, multimodal treatment approach involving therapy, family support, and sometimes medication. Understanding these distinctions is crucial for effective diagnosis, treatment, and support for individuals exhibiting these behaviours (APA, 2013).

The defining characteristic of conduct disorder is a pervasive pattern of violating the norms and rights of others, encompassing behaviours such as aggression and a propensity for destructive actions. A literature review revealed two lines of evidence that cast doubt on the validity of diagnosing conduct disorder in preschoolers. Firstly, as with oppositional defiant disorder, several behaviours are typical of this developmental period. For example, aggression is a relatively common response to frustration (Tremblay, 2004). Therefore, the same criteria for assessing the clinical significance of symptoms associated with oppositional defiant disorder would apply to conduct disorder. The second line of inquiry is based on the premise that the diagnosis of conduct disorder is contingent upon the assumption that the child is consciously violating the established rules. The prerequisite for such behaviour is a knowledge of the rules and an intention to disobey them.

Table 4 Comparison of challenging behaviour and behavioural disorders

Aspect	Challenging Behaviour	Behavioural Disorder
Severity	mild to moderate	severe and persistent
Pattern	situational, often context-specific	repetitive and pervasive
Examples	tantrums, meltdowns, disobedience, occasional lying or stealing	aggression, cruelty to animals, serious rule violations
Developmental Context	often part of normal development	beyond normal developmental behaviours
Underlying Factors	environmental and psychosocial stressors	genetic, neurobiological, psychological, and environmental
Intervention	behavioural strategies, parent training, counselling	multimodal approach, psychotherapy, family therapy, medication

Source: own compilation

The majority of preschool children are capable of comprehending the nature of the rules and regulating their behaviour accordingly. At this age, children begin to develop a conscience and internalisation, which enables them to prevent the manifestation of inappropriate behaviour and to follow the rules (Kochanska, 1998). Additionally, preschool children develop the cognitive ability to generalise hypothetical alternatives (Powel et al., 2006). Lewis et al. (1989) confirmed in their longitudinal study that children as young as three years old are capable of deliberate deception when asked about rule violations. This indicates that although children at this age may lack comprehensive awareness of long-term consequences, they demonstrate a fundamental comprehension of the impact of their actions on others and are able to regulate their conduct based on the acquisition of norms.

Summary:

- ✓ Behaviour modification focuses on analysing and modifying human behaviour. Behaviour modification procedures are not designed to change personal traits or individual characteristics. For that reason, behaviour modification is not used to change autism, rather it is used to change challenging behaviour exhibited by children with autism.
- ✓ Behaviours targeted for change can be categorised as behaviour deficits, anything that a child does too little, and a teacher wants to increase and behaviour excesses, anything that a child does too often, and a teacher wants to decrease.
- ✓ ABC of behaviour is a way to determine why a behaviour occurs by describing the events preceding and following the behaviour. A simple ABC data form can be used in the classroom to record every incident of challenging behaviour.
- ✓ Behavioural disorders are unlike challenging behaviour in that they typically involve a more persistent and pervasive pattern of disruptive or maladaptive behaviours, often rooted in underlying psychological or neurological conditions. In contrast, challenging behaviour may be situational, temporary, or a response to specific circumstances.

SUGGESTED READINGS

Simple Steps Autism. Available at: https://simplestepsautism.com/

Meadan, H., Ayvazo, S., Ostrosky, M. (2014). The ABCs of Challenging behaviour: Understanding Basic Concepts. In *Young Exceptional Children*. 19. 10.1177/1096250614523969. Available at: https://www.researchgate.net/publication/270600837_The_ABCs_of_Challenging_behaviour_Understanding_Basic_Concepts

Questions

1. What does behaviour modification entail?
2. What are behaviour excesses and behaviour deficits?
3. What does it mean to analyse behaviour?
4. Describe the ABC of behaviour.
5. What are some common antecedents and consequences?
6. What types of ABC data can teachers use?
7. What is the difference between antecedents and setting events?
8. What is the difference between challenging behaviours and behavioural disorders?

9. Write an observable and measurable definition for the following behaviours.

a) **Tantrum behaviour:**

_____

b) **Aggressive behaviour:**

_____

c) **Self-stimulatory behaviour:**

_____

10. Fill out the ABC data form for the following scenarios.

During Storytime, when the teacher asked questions, Andrew shouted out the answer and began to cry if the teacher didn't call on him. When this happened, the teacher took Andrew aside and verbally comforted him until he calmed down.

Antecedent	Behaviour	Consequence

PRACTICE IN YOUR CLASSROOM

Select a child in your classroom. Identify one behaviour targeted for change and define it in observable and measurable terms. Observe the child on several occasions and collect ABC data for each behaviour occurrence.

Behaviour for change: _____

Defined as: _____

ABC data form:

Antecedent	Behaviour	Consequence

Setting event (if any): _____

Antecedent	Behaviour	Consequence

Setting event (if any): _____

Antecedent	Behaviour	Consequence

Setting event (if any): _____

3

PRINCIPLES OF BEHAVIOUR

Learning objectives

After reading this chapter, learners will be able to:

1. Understand the principles of behaviour
2. Identify and understand the importance of motivation
3. Identify and describe stimulus control
4. Identify and understand the importance of reinforcement
5. Identify and decide on the use of punishment and extinction

Introduction

The chapter is designed to equip preschool teachers with the knowledge and skills needed to identify positive or harmful behaviours among children with ASD and implement personalised strategies that encourage or discourage children from continuing these behaviours. By understanding these behaviour

management concepts, teachers can profoundly impact the educational engagement of children with ASD and encourage behaviours at an early stage that lead to an improved quality of life in the future. As preschool teachers, acquiring a robust understanding of behavioural principles is the first step towards effectively implementing applied behaviour analysis (ABA) techniques. These principles help educators see behaviour as a form of communication, rather than just a series of actions to be managed.

3.1 Background to Principles of Behaviour

Law of Effect: First articulated by Edward Thorndike, this principle suggests that people who are rewarded after demonstrating a certain action or behaviour are likely to repeat it and are less likely to exhibit a behaviour if it is followed by an unpleasant outcome. For example, if a child receives praise after helping a classmate, they are more likely to offer help again in the future. This simple concept is crucial for understanding how to motivate good behaviours in school settings (Gunderson et al., 2013).

Operant Conditioning: B.F. Skinner's theory of operant conditioning expands on the Law of Effect, introducing a systematic approach to understanding the role of reinforcements and punishments in shaping behaviour. According to Skinner, the consequences of a behaviour determine whether it will be more or less likely to occur again. This fundamental principle has been supported and expanded in numerous studies and continues to be a cornerstone in behavioural interventions used in schools today (Sundberg & Michael, 2001), including for children with ASD.

3.2 Motivation

Motivation is a driving force that shapes behaviour and learning. In ABA, it refers to the motivation an individual feels to exhibit a certain behaviour. By understanding the factors that motivate children with ASD to exhibit positive behaviours associated with learning, teachers can significantly improve classroom behaviour.

The Role of Motivation in ABA

In ABA, motivation is explored through motivating operations (MOs), which influence the effectiveness of an action employed by the teacher to encourage or reduce a behaviour, and the likelihood of the behaviour being repeated. Motivating operations can be categorised into two types (Cooper et al., 2007):

1. **Establishing Operations (EO)**: these increase the effectiveness of a stimulus (item, person, activity) as a reinforcer for a behaviour. For instance, a teacher observes that preschoolers are more likely to sit quietly and listen during circle time when they are told they can play a certain game afterward. This incentive makes the task more appealing and increases engagement.

2. **Abolishing Operations (AO)**: these decrease the attractiveness of a stimulus as a reinforcer. An example might be when a child has so much access to a particular toy that it no longer serves as a compelling reward for good behaviour.

Both intrinsic and extrinsic motivations play crucial roles in these operations. **Intrinsic motivation** comes from within the student, driving them to engage in behaviour for its own sake, such as reading a book for enjoyment. On the other hand, **extrinsic motivation** involves external rewards or incentives, like getting a sticker for a job well done. Effective teaching strategies should aim to balance these types of motivations to maximise their impact on student behaviour and learning (Ryan & Deci, 2000) and encourage children to not only participate actively but also enjoy classroom activities.

Examples of Motivation in School Settings

Example 1: Sustaining Engagement Through Establishing Operations (EO)

- **Scenario:** A student with autism who was initially motivated to complete tasks by the prospect of using a tablet for leisure activities begins to show decreased interest in the tablet, affecting their motivation to complete academic tasks. The student became satiated with the tablet, which resulted in a decreased frequency of any behaviour to get the tablet.

- **Application:** To maintain the effectiveness of the reinforcement system, the teacher introduces a variety of new, equally preferred activities. This increases the value of those rewards due to deprivation (the student hasn't had access to them recently), thus increasing the student's motivation to engage in behaviours that earn those rewards.
  Research supports that diversifying rewards can help maintain engagement levels in children with autism who may quickly satiate on specific reinforcers (Vollmer & Iwata, 1991).

Example 2: Decreasing a Challenging behaviour by Managing Abolishing Operations (AO)

- **Scenario:** A student with autism became physically aggressive toward the teacher during group activities. The teacher observed that the behaviour only occurred when she was with the entire class and never when working with the student alone.

- **Application:** The teacher decided to pay more attention to the student, even during group activities. By providing more attention to the student during group activities, the teacher satiates the student's need for attention. This decreases the value of attention as a reinforcer, leading to decreased challenging behaviours previously used to gain attention.

3.3 Stimulus Control

Stimulus control is a core principle in ABA that significantly enhances the effectiveness of behaviour management strategies, especially in educational settings. It refers to the process where a particular stimulus (cue, signal, item, or person) becomes associated with a specific behaviour and its consequences.

Understanding Stimulus Control

Stimulus control refers to the ability of a stimulus to evoke a particular behaviour because that behaviour has been reinforced in the presence of that stimulus in the past (Cooper et al., 2007). This can be a vital tool for preschool teachers of children with ASD, as it helps ensure that desired behaviours are more likely to occur in the right context by presenting specific cues.

Key Components of Stimulus Control:

1. **Discriminative Stimulus:** This is a cue that indicates a certain behaviour is encouraged. For example, a teacher might hold up a quiet sign to indicate that it is time to listen, signaling that attention could be rewarded.

2. **S-delta:** This is a cue that indicates a behaviour is not appropriate or is encouraged. For instance, the lights being on might signal that it's not time for a nap or rest.

By understanding how to implement effective stimulus control, teachers can help students understand when and where certain behaviours are expected and rewarded, promoting a structured learning environment (Case-Smith et al., 2014).

HINT: Be sure to consider the rest of the class when identifying and selecting appropriate stimulus control measures. Certain stimuli may be effective for some but disruptive to others. The most effective strategies are those that work for the whole class.

Example 1: Using Discriminative Stimulus to Facilitate Transitions

- **Scenario:** A teacher working with preschoolers with autism uses a visual timer combined with a specific song to signal transitions from free play to structured learning activities. Many children with autism find transitions challenging and respond well to visual and auditory cues.

- **Application:** The consistent use of the visual timer and musical cue teaches the children to anticipate and prepare for the change in activity. This structured approach reduces anxiety associated with transitions and improves compliance with classroom routines. The effectiveness

of using combined sensory cues to aid transitions in children with autism is well-supported by research (Case-Smith et al., 2014).

Stimulus control is a powerful tool for shaping and managing behaviour in educational settings. By clearly encouraging when certain behaviours are expected and will be reinforced, teachers can create a structured and predictable environment that enhances learning and reduces disruptive behaviour, especially for children with ASD.

3.4 Reinforcement

Reinforcement plays a critical role in shaping and maintaining desired behaviours, particularly in educational settings for children with autism. Equipped with an understanding of reinforcement, teachers of preschool children are better able to encourage positive behaviours among children with autism and reduce harmful behaviours that cause them to disengage or become excluded during the school day.

What is Reinforcement?

Reinforcement is a strategy that teachers can employ to increase the likelihood that a desired behaviour will recur in the future (Cooper et al., 2007). It involves implementing a positive outcome immediately after a behaviour, enhancing the probability of its repetition. There are two primary types of reinforcement:

1. **Positive Reinforcement**: Occurs when a behaviour is followed by adding a positive stimulus, thereby increasing the likelihood of its recurrence. For example, offering a child a sticker or other reward after successfully engaging in a social interaction encourages them to repeat this positive behaviour.

2. **Negative Reinforcement:** Involves the removal of an aversive stimulus following a behaviour, which also increases the likelihood of the behaviour's recurrence. For instance, if a child with autism completes a challenging task, they might be relieved from an upcoming less preferred activity, motivating them to attempt difficult tasks in the future.

Both forms of reinforcement are crucial tools for teachers, particularly in enhancing and guiding the behaviours of students with autism (Call et al., 2013). In preschool settings that include children with developmental challenges like autism, reinforcement is a vital component of educational strategy. Properly implemented, reinforcement not only promotes learning but also supports effective behaviour management.

Example: Encouraging Social Interaction

- **Scenario**: Increasing social interaction among students with autism.

- **Application**: A teacher uses immediate verbal praise and tangible rewards, such as preferred small toys, when a child initiates or responds appropriately in a social interaction. Consistently reinforcing these social behaviours enhances engagement and helps build social skills (Ziegler & Morrier, 2022).

Example 2: Enhancing Task Engagement

- **Scenario**: A child with autism struggles with sustaining task engagement.
- **Application**: The teacher introduces a system where the child can earn short breaks to engage in preferred activities after spending a designated amount of time on a task. This form of negative reinforcement effectively increases the duration the child spends on tasks by temporarily removing the demand when the goal is achieved (Koegel et al., 2010).

HINT: To implement reinforcement effectively, it is critical to observe and engage with children with autism to identify what they consider a reward. Teachers can also use formal preference assessments to determine the most effective reinforcers. With this knowledge, a teacher will be able to reward positive behaviour and motivate the recurrence of positive behaviour. By gaining insight into reinforcers among children with autism, teachers will be better able to encourage positive behaviours and enhance student engagement.

RULES FOR PROPER USE OF REINFORCEMENT:

Reinforcement must be given immediately after the desired behaviour.

Reinforcement should be given with enthusiasm. When using material reinforcers (e.g., toys), it is important to pair them with verbal praise ("great!", "wow, perfect").

The stimuli you identify as reinforcers should not be freely available to the child.

The amount of reinforcement must be appropriate to the task.

If you can, it's a good idea to label the behaviour being reinforced. For example, "Wow! I like the way you put your toys away."

Conduct frequent preference assessments so that you continue to use the most effective reinforcers.

Give choices. It is good if the child can choose from 2 - 3 reinforcers.

Gradually fade out reinforcement for skills that have been learned and retained.

3.5 Punishment

Punishment is a strategy used to decrease the likelihood of an undesirable behaviour occurring (Cooper et al., 2007). While effective in certain scenarios, the use of punishment must be approached with extreme caution, especially when dealing with children with autism, due to potential impacts on their emotional and psychological development. This section focuses not only on improving the understanding of punishment and the ability to implement it but also on delivering it ethically and appropriately.

Understanding Punishment

In ABA, punishment involves either introducing a consequence or removing a preferred stimulus following a behaviour, with the goal of reducing the behaviour's frequency. There are two main types of punishment:

1. **Positive Punishment**: This method involves presenting an aversive stimulus after a behaviour. For example, a child with autism might receive additional tasks as a consequence for disruptive behaviour.

2. **Negative Punishment**: This approach involves removing a desirable stimulus following an undesirable behaviour. For instance, removing a favourite sensory toy when a child engages in aggressive behaviour.

Both types of punishment can be effective but must be used cautiously to prevent adverse effects such as increased aggression, anxiety, or fear, which are particularly significant considerations for children with autism (Luman et al., 2011).

Ethical Considerations in Using Punishment

The use of punishment in educational settings, especially with children who have autism, requires careful ethical consideration. It should be considered only when necessary and when positive reinforcement strategies have proven insufficient. Key ethical guidelines include:

- **Proportional and Minimal**: The punishment should be proportionate to the behaviour and not excessive.
- **Consistent**: Punishment must be applied consistently across similar behaviours to avoid confusion and mixed signals.
- **Integrated Strategy**: Punishment should *always* be used in conjunction with teaching appropriate behaviours and positive reinforcement.

Modern Perspectives and Guidelines

Recent research suggests that while punishment can reduce unwanted behaviours, its use should be limited and carefully managed to avoid negative outcomes. Studies have shown that strategies emphasising positive reinforcement are generally more effective and lead to better long-term behaviour change than punishment-focused strategies, particularly in children with autism (Matson & LoVullo, 2008)

Example of Punishment:

- **Scenario**: A child with autism constantly disrupts the class by shouting out answers.

- **Application**: After attempts to reinforce raising hands before speaking (e.g., praising the child when they raise their hand), the teacher might implement a mild negative punishment by temporarily removing the child from a preferred group activity if they shout out, thus teaching them that such behaviour leads to less enjoyable consequences.

3.6 Extinction

Extinction involves decreasing unwanted behaviours by removing the reinforcements that sustain them (Cooper et al., 2007). This section explores how teachers can effectively implement extinction in preschool environments specifically for children with autism, considering ethical considerations and best practices for application.

Understanding Extinction

Extinction involves discontinuing the reinforcement (like attention or treats) that a behaviour receives, leading to a gradual decrease in that behaviour over time. For example, if a child with autism learns that tantrums no longer result in extra playtime, they may eventually reduce or stop using tantrums to achieve desired outcomes. However, the teacher should differentiate between tantrum behaviour and meltdowns. While a tantrum is a deliberate attempt to get something, a meltdown is an involuntary response to an overwhelming situation.

Key Considerations:

1. **Consistency**: Extinction must be consistently applied. Inconsistent application can cause the unwanted behaviour to increase, as the child receives mixed signals about the consequences of their behaviour.
2. **Teaching Alternative Behaviours**: It is crucial not only to remove the reinforcement for unwanted behaviours but also to teach and reinforce alternative acceptable behaviours. This approach helps prevent the child from feeling frustrated and possibly exhibiting other challenging behaviours.

3. **Creating a Supportive Environment**: Extinction should be implemented within a caring and supportive setting where children with autism feel secure and understood, minimising potential negative emotional reactions.
4. **Behavioural Assessment**: Thoroughly understand the behaviour before applying extinction to ensure it is the right approach for the specific child and situation.

HINT: Integrating extinction with other behavioural strategies, such as reinforcing desired behaviours, is often more effective and can reduce potential negative effects like increased aggression or distress. This approach helps children with autism learn which behaviours are appropriate and which are not (Fritz et al., 2017).

Example of Extinction:

- **Scenario**: A child with autism frequently screams to get attention from the teacher.
- **Application**: The teacher consciously stops responding to the screaming. Simultaneously, they encourage the child to use a quieter voice or raise their hand by giving attention when these more appropriate behaviours are used.

Summary:

✓ Motivation refers to the motivation felt by an individual to exhibit a certain behaviour, which is explored through motivating operations. Establishing operation increases the value of stimulus as a reinforcer and increases the frequency of all behaviours that provide access to the reinforcer. Abolishing operation decreases the value of stimulus as a reinforcer and decreases the frequency of all behaviours that provide access to the reinforcer.

✓ Reinforcement (positive and negative) is used to increase the likelihood that a desired behaviour will occur in the future.

✓ Stimulus control refers to the ability of a stimulus to evoke a particular behaviour because that behaviour has been reinforced in the presence of that stimulus in the past.

✓ Punishment involves either introducing a consequence or removing a stimulus following a behaviour, with the goal of reducing that behaviour.

✓ Extinction involves discontinuing the reinforcement that a behaviour receives, leading to a gradual decrease in that behaviour over time.

✓ Punishment and extinction must be used ethically and only when positive reinforcement has proven unsuccessful.

SUGGESTED READINGS

Simple Steps Autism. Available at: https://simplestepsautism.com/

Watling, R. & Schwartz, I. (2004). Understanding and Implementing Positive Reinforcement as an Intervention Strategy for Children With Disabilities. The American journal of occupational therapy: official publication of the American Occupational Therapy Association. 58. 113-6. 10.5014/ajot.58.1.113.

Questions

1. What is a motivating operation (MO) in the context of ABA?
2. Which type of motivating operation increases the effectiveness of a stimulus as a reinforcer?
3. How can teachers manage abolishing operations to sustain student engagement?
4. What does the term "stimulus control" refer to in the context of ABA?
5. What is a discriminative stimulus?
6. What does positive punishment involve in the context of ABA?
7. Which are key ethical considerations when using punishment with children who have autism?
8. What does extinction involve in the context of ABA?
9. Why is consistency important when applying extinction?

PRACTICE IN YOUR CLASSROOM

1. Select one or more behaviours in an individual or group that you would like to **increase** and write down suggestions for using the principles of motivation, stimulus control, and reinforcement that might help you increase the future occurrence of that behaviour.

Behaviour	**Motivation**

Behaviour	**Stimulus control**

Behaviour	**Reinforcement**

2. Choose a behaviour you want to **reduce** in the future and write down the steps for implementing extinction.

Challenging behaviour	**Way to implement extinction**
	

4

MEASUREMENT OF BEHAVIOUR

Learning objectives

After reading this chapter, learners will be able to:

1. Understand and be able to implement continuous types of measurement of behaviour
2. Understand and be able to implement discontinuous types of measurement of behaviour
3. Decide what type of measurement to use

Introduction

It is necessary to collect data to evaluate the overall progress and effectiveness of interventions. Based on the data, the teacher can easily analyse whether the treatment needs to be modified or can continue as originally planned.

Data collection is the process of collecting information about behaviours the preschool teacher wants to decrease (aggression, yelling, pinching, hitting) or increase (requesting, playing, raising hands). Data collection makes it easy for teachers to see if their selected intervention works and provides objective information regarding the behaviour.

Why record the behaviour and collect data?

- ✓ Data helps you make an informed decision about treatment effectiveness.
- ✓ Data provides you with the information if the behaviour is changing the way you intended it in the first place.
- ✓ Data helps you identify other environmental factors that influence behaviour.

Procedures for measuring behaviour typically involve one or a combination of the following: event recording, timing, and time sampling methods (interval recording). In this chapter the teacher will learn how to choose the most effective data collection system, as well as the most common behaviour measurement methods, such as frequency, duration, and interval data recording.

COMMON TYPES OF DATA COLLECTION:

Frequency	- how often did the behaviour occur?
Rate	- how often within a certain time did the behaviour occur?
Duration	- how long did the behaviour occur?
Partial Interval	- did the behaviour occur at any time during the set interval?
Whole Interval	- did the behaviour occur during the whole interval?
Momentary Time Sampling	- did the behaviour occur at the end of the interval?

4.1 Continuous Measurement

In general, continuous measurement is more recommended than discontinuous measurement because it records each occurrence of the behaviour (Tarbox & Tarbox, 2017). It includes frequency, rate, and duration of the behaviour.

HINT: When choosing a continuous measurement system, consider the following rules:

- The behaviour must have a clear beginning and end
- The behaviour must occur at a frequency that can be counted.

Frequency of behaviour

When choosing a frequency type of data collection, you want to know *how often* the behaviour occurs. **Frequency**, or event recording is a type of behaviour measurement that detects and records the number of times a behaviour is observed. Combining observation time with the counting the observed behaviour yields one of the most widely used measures in applied behaviour analysis – **the rate** of responding, defined as the number of responses per unit of time (Cooper et al., 2007).

When recording the **frequency** of a behaviour, the teacher records the number of times the behaviour occurs by simply making a tally mark on a data form or by using a clicker.

Example of using frequency data

A preschool teacher wants to know how often children raise their hands during group activities instead of shouting the answer. On a data sheet, they make a tally mark for each time children raise their hands and wait to be called on.

Frequency data sheet

Behaviour: raising hands

Day	Mon	Tue	Wed	Thur	Fri
Frequency	III	~~IIII~~	~~IIII~~ I	IIII	~~IIII~~ II

Four easy steps for recording the frequency data:

1. Define the behaviour (rocking back-and-forth while sitting in their seat during the lesson).
2. Prepare a data sheet.
3. Record the behaviour each time it occurs within your designated observation time frame.
4. Include important observation details, such as the child's name and the date and duration of the observation session.

Frequency data is the easiest way to measure behaviour, since you simply count how often it happens. However, it can be difficult to collect frequency data on each instance of behaviour when a teacher juggles many other responsibilities (Tarbox & Tarbox, 2017). Devices they can use include wrist counters, digital counters, masking tape, paper clips, etc.

Rate

When choosing a rate type of data collection, you want to know *how often* the behaviour occurs *over a certain period*.

A preschool teacher can collect rate data as counts per unit of time, such as counts per 10 seconds, counts per minute, counts per day, counts per week, counts per month, or counts per year. This is useful when the observation time is different each time a teacher collects a frequency of a behaviour.

When recording the **rate** of behaviour, the adult records the frequency by making a tally mark on a data form or by using a mechanical counter (clicker) and divides the total number by the duration of the observation.

Example of using rate data

While teaching communication skills to a child with autism, a preschool teacher records the number of times a child requests a favourite toy or activity during playtime. She marks each time a child asks for a toy or specific activity and divides the total number by the observation time.

Day	Frequency	Observation time	Rate
Mon	**35**	8:00 – 9:30 90 min	0.4 times per min.
Tue	**42**	9:05 – 10:00 55 min	0.8 times per min.
Wed	**76**	8:30 – 10:15 105 min	0.7 times per min.

Frequency/event and rate recording is only appropriate for behaviours that have clear beginnings and endings and do not occur so frequently that it is impossible to record them accurately, such as self-stimming behaviours. In addition, this type of measurement requires the observer to continuously observe the behaviour, which may not always be feasible in preschool settings (LeBlanc et al., 2015).

Sample behaviour measured by frequency/rate:

- hitting
- requesting a break
- raising hand
- talking out
- verbal aggression
- saying “thank you”.

Duration

A duration data collection is suitable when you want to know *how long* the behaviour lasts. **Duration** refers to the amount of time in which behaviour occurs (Cooper et al., 2007).

Measuring duration is critical to assessing the amount of time an individual spends engaged in the targeted behaviour. Duration is also appropriate for frequent behaviours (e.g., rocking; rapid jerks of the head, hands, legs) or task-oriented continuous behaviours that occur for an extended time (e.g., cooperative play, on-task behaviour, off-task behaviour).

Like event recording, however, duration recording requires constant vigilance, which might limit its practicality. Duration recording also requires a timing device that must be easily accessible yet discreet, for example, a computer application, stopwatch, wall clock, or app (LeBlanc et al., 2015).

When recording the **duration** of a behaviour, the teacher starts timing when the behaviour begins and stops timing when the behaviour ends. The teacher can record the duration of **each episode** of the target behaviour as well as the **total duration** per day by combining the duration of each episode.

Total Duration per Day: Total duration measures the cumulative amount of time a person engages in the target behaviour. For example, if a teacher observes a child rocking back and forth in his seat four times in one 8-hour school day, with durations of 30 seconds, 20 seconds, 25 seconds, and 15 seconds, the total duration would be 30 + 20 + 25 + 15, which equals 90 seconds.

Duration per Episode: Duration per episode or occurrence is a measure of the duration of time that each instance of the target behaviour occurs. For example, each time the student leaves his seat, the teacher starts the stopwatch and disengages it when he returns to his seat. The time is recorded, and the stopwatch is reset to zero.

Example of using duration data

Duration of **challenging behaviour**: A preschool teacher decides to measure the amount of time a child throws a tantrum when asked to perform an undesirable task. At the end of the day, they combine the duration of each episode into a total duration per day.

Duration data

Behaviour: Tantrum **Date:**

Episodes	Duration
1. x	7 min 30 sec.
2. x	5 min
3. x	11 min 45 sec.
4.	
5.	
6.	
7.	
Total: 3	Total: 24 min 15 sec.

Duration of **a desired behaviour**: During a preference assessment, a preschool teacher tracks the amount of time a child spends with a preferred toy or activity as positive reinforcement. They record each episode by timing a child playing with a particular toy or engaging in a particular activity. They

find that the most preferred play activity is a sandbox, in which a child spends 10 minutes and 20 seconds.

Here is a four-step sequential process for recording duration data:

1. Define the behaviour (rocking back-and-forth motion while sitting in his seat during the lesson).
2. Start timing when the behaviour begins, being mindful of the triggers or antecedents.
3. Cease timing when the behaviour concludes.
4. Document the duration of the student's behaviour (the time on your stopwatch).

Sample behaviour measured by duration:

- crying
- throwing a tantrum
- reading a book
- independent work
- playing.

4.2 Discontinuous Measurement

Discontinuous measurement of behaviour does not record all the behaviour but records an estimate of the occurrence of the behaviour over a period. This type of measurement system is used when a continuous one would not be feasible due to the nature of the behaviour (e.g., high frequency), or when there are constraints on time and resources (Tarbox & Tarbox, 2017). In discontinuous measurement, a session is divided into intervals, and behaviour data is collected within these intervals. There are three types of time sampling (interval) measurement procedures: whole-interval recording, partial-interval recording, and momentary time sampling (Cooper et al., 2007).

Whole Interval Recording

Whole-interval recording is often used to measure continuous behaviours (e.g., cooperative play) by dividing an observation period into a series of brief time intervals (typically from 5 to 15 seconds). At the end of each interval, the teacher records whether the target behaviour occurred *throughout* the entire interval.

Examples:

The teacher wants to increase the play skills of the child with autism. The goal is for the child to engage in functional play with blocks, cars, and a track for 10 minutes.

Application: She divides the observation period (10 min) into 15-second intervals. If the child plays for the entire 15 seconds, the teacher records that the behaviour occurred in that interval. However, if the child plays for 10 seconds and does not play for the rest of the interval, the teacher leaves the interval blank.

HINT: When to choose a whole interval recording:

- when aiming to increase a behaviour
- when continuous data collection is impractical.

Whole interval recording is appropriate for increasing positive behaviours. By scoring the interval only if the behaviour occurred for the entire interval, this type of measurement system *underestimates* behaviours. That means it appears that the behaviour occurred less frequently than it did. In this way, the teacher will want to work on the behaviour or skill even more.

Sample behaviour measured by whole interval recording:

- functional play
- reading
- task completion – project
- group interaction/ play.

Partial Interval Recording

When using **partial-interval recording**, the observer records at the end of the interval whether the behaviour occurred *at any time* during the interval (Cooper et al., 2007). If the behaviour occurred more than once in the given interval, the teacher records only one occurrence of the behaviour for that interval. Even if the behaviour occurred only for 1 second out of a 15-second interval, the teacher still records it as a behaviour that occurred during that interval.

Example:

A child with autism frequently engages in self-stimulatory behaviour, such as fidgeting with his fingers. The teacher realises that the behaviour interferes with the student's learning and aims to reduce it. She uses partial interval recording to measure how often the behaviour occurs.

Application: She observed the child during independent work time and divided the observation period (10 minutes) into 15-second intervals. If the child engaged in self-stimulatory behaviour at any time during the 15-second interval, the teacher would record that the behaviour occurred during that interval. She would leave the interval block blank only if the child did not engage in any self-stimulatory finger movements during that interval.

HINT: When choosing a partial interval recording:

- when aiming to decrease a behaviour
- when continuous data collection is impractical due to time constraints
- for behaviours with infrequent occurrences.

Partial interval recording is appropriate for the challenging behaviours that the teacher wants to decrease. Because the interval is scored even if the behaviour occurred for a brief (1 second) moment, this type of measurement system tends to overestimate the behaviour. In other words, it appears that the behaviour occurred more often than it actually did.

Sample behaviour measured by partial interval recording:

- vocal self-stimming behaviour
- thumb sucking
- out-of-seat behaviour.

Partial-interval data, like *whole-interval data*, is most often reported as a percentage of total intervals in which the target behaviour was scored. Partial-interval data represents the proportion of the entire observation period in which the target behaviour occurred, but unlike whole-interval recording, the results of partial-interval recording do not provide any information on duration per occurrence. That is because any instance of the target behaviour, regardless of its brief duration, will cause an interval to be scored.

Momentary Time Sampling

A teacher using **momentary time sampling** records whether the target behaviour occurs at the end of each time interval. For example, with 1-minute intervals, a teacher looks at the child at the 1-minute mark, immediately determines whether the behaviour was occurring, and records this on the data collection form. This procedure would continue at each 1-minute interval mark until the end of the observation period. Data from momentary time sampling is typically reported as percentages of the total number of intervals in which the behaviour occurred (Cooper et al., 2007).

Examples:

The teacher wants to increase the social interaction of a child with autism with his classroom peers. She observes the child at the playground where children usually play together.

Application: She divides the observation time (15 minutes) into 1-minute intervals. At the end of each 1-minute interval, she looks at the child. If they are interacting with others at that moment, she records

it on the data sheets as the behaviour occurred. If he was not interacting with others, she left the interval blank.

HINT: When to choose a momentary time sampling:

- when improving classroom engagement
- when improving social interaction.

Summary:

✓ Data collection provides the teacher with objective information about the target behaviour. It helps to verify whether the treatment is effective.

✓ There are six types of common data collection procedures. These measure the frequency, duration, or percentage of occurrence of the target behaviour: frequency, rate, duration, partial interval, whole interval, and momentary time sampling.

✓ Continuous measurement records each occurrence of the behaviour, while discontinuous measurement records some estimate of the occurrence of the behaviour during the observation period.

✓ For behaviours that occur frequently, discontinuous measurement is recommended.

✓ When recording a behaviour, the teacher can choose the observation period during which they collect data.

SUGGESTED READINGS

Artemis ABA. Available at: https://www.artemisaba.com/our-blog

Fiske K, Delmolino L. Use of discontinuous methods of data collection in behavioural intervention: guidelines for practitioners. behaviour Analysis in Practice. 2012;5(2):77–81. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3592492/.

LeBlanc LA, Raetz PB, Sellers TP, Carr JE. A Proposed Model for Selecting Measurement Procedures for the Assessment and Treatment of Problem behaviour. Behav Anal Pract. 2015 Oct 13;9(1):77-83. Retrieved from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4788644/.

Questions

1. List common continuous types of measurement procedures.
2. List common discontinuous types of measurement procedures.
3. What data collection method would you use if your main concern is to know how long the behaviour lasts?
4. Which data collection method would you use if: *The behaviour does not occur often, but when it does, it occurs for a long time?*
5. Which data collection method would you use if: *You need to know exactly how many times the behaviour occurs per hour.*
6. Which data collection method would you use if: *The behaviour occurs too frequently?*
7. Which data collection method would you use if: *You want to increase the length of practising the handwriting?*

PRACTICE IN YOUR CLASSROOM

Choose a challenging behaviour for which you want to know *how often* the behaviour occurs. Collect frequency data for one week. Try to analyse your findings. *Did the behaviour happen more on certain days of the week? Did the behaviour happen more in the morning or in the afternoon? What was the most common antecedent to the behaviour?*

Behaviour: _____

	Monday	Tuesday	Wednesday	Thursday	Friday
Time of the observation	From: To:	From: To:	From: To:	From: To:	From: To:
Frequency					

Most common antecedent: _____

5

FUNCTIONS OF BEHAVIOUR

Learning objectives

After reading this chapter, learners will be able to:

1. Understand the functions of behaviour
2. Identify the behaviour by its function
3. Understand and describe the difference between topography and function of the behaviour

Introduction

A behaviour-analytic approach to teaching new skills and behaviours involves assessing a student's current level of performance and assumptions about what causes a behaviour. In behaviour analysis, the immediate environment (people, activities, routines, objects) is viewed as the primary cause of behaviour. The assumption is that behaviours are not random; rather, they happen for a reason. To truly understand behaviour, we must investigate what triggers it and what consequences follow it (see Chapter 2).

Preschool teachers can benefit from understanding the WHY behind the challenging behaviour. This will help them to choose the right intervention and work effectively with all children in the classroom. In this chapter, we will learn to identify the functions of behaviour, distinguishing between its form (topography) and purpose (function).

In the field of applied behaviour analysis, behaviour is often categorised into two main categories (Cooper et al., 2007):

- **either to get something** (positive reinforcement)
- or **avoid something** (negative reinforcement).

The reason for the behaviour:

✓ To get something
- attention
- item
- sensory outcome

✓ To avoid something
- instruction
- people
- places
- pain

5.1 Understanding the Functions of Behaviour

Understanding the reason for challenging behaviours is vital to addressing them. It is then possible to implement an intervention that appropriately addresses the behaviour. The function of the behaviour refers to the reason why the behaviour recurs.

A preschool teacher may notice that a child in their classroom has temper tantrums or meltdowns when it is time to come in from the playground as well as when the class is cleaning up after playtime. Upon closer observation, they determined that the reason for the child's behaviour was difficulty transitioning from his preferred activities.

There are four basic functions of behaviour. An easy way to remember them is through the acronym "SEAT":

1. **sensory** (escape or seeking items or activities related to touch, smell, sound, taste, or sight)
2. **escape** (from work, people, or location)
3. **attention** (from peers or adults)
4. **tangible** (wanting a food, item, or activity) (Denning & Moody, 2018).

Furthermore, some behaviourists consider "**medical"** to be a function itself. An easy way to remember the functions of behaviour (including medical) is with the word TEAMS, formed by their initials.

Each of these functions fulfils specific purposes for the individual exhibiting the behaviour. Behaviours can serve multiple functions depending on the situation a person is in. For example, a child may cry when they want the teacher's attention, who may then soothe the child with a hug. Or a child may cry when they do not want to participate in a group activity. The same behaviour - crying, has different functions in such cases and requires different intervention strategies depending on the situation.

At the same time, multiple behaviours can have the same function. For example, a child may cry, bite, and kick to avoid putting on their shoes. All three forms of behaviour serve the same function, which is to escape an instruction.

5.2 Identifying the Function of the Behaviour

As seen in previous examples, behaviours allow us to gain a desired experience or eliminate an undesired one. When dealing with challenging behaviours, it is essential to understand that the topography of the behaviour does not tell us why the child is engaging in it. Therefore, it would be wrong to respond to behaviour based solely on its form.

If a child lacks an appropriate skill, such as communication, challenging behaviours like crying or kicking will be effective in getting what they want. By focusing on the form of the behaviour (crying and kicking), a teacher will miss the reason for it; simply said, what the child is trying to say through the behaviour.

Identifying the function of the behaviour is not always easy, but there are some general clues from which a teacher can form a hypothesis. However, a more comprehensive functional behavioural assessment is warranted to confirm the hypothesis (see Chapter 6 for Functional Behavioural Assessment).

Sensory (also called Automatic): The behaviours refer to stimulating the senses, or self-stimulating. The behaviour maintained by sensory function gives the person some kind of internal sensation that pleases them (Cooper et al., 2007) or removes an internal sensation they don't like.

Sensory function

- The child displays the challenging behaviour during any activity, anywhere, alone or with others.
- The behaviour does not change when the environment or activity changes.

Example:

A simple example of this is scratching. A child might scratch their skin due to bug bites or sunburn to relieve the feeling of itching.

Another example is when an individual engages in repetitive movements or behaviours to regulate their sensory experiences. This may vary individually: One child might enjoy and feel sensory stimulation from fast sports, but another child might rock back and forth to de-stimulate their senses (Alberto & Troutman, 2003).

Escape: Behaviours that are used to avoid or escape from undesired situations or tasks (Cooper et al., 2007).

Escape function

- Behaviour begins with demands.
- The child stops the behaviour when he is told that he does not have to do it.

Example:

This could include a child refusing to complete a tabletop activity. When he is asked to do a colouring task, a child will shout “no” and break the pencil. The teacher firmly tells him that such behaviour is unacceptable and that he should sit in a quiet corner. This child soon learns that this behaviour will get him out of doing work.

Attention-Seeking: Behaviours that are enacted to gain attention or recognition from others. The attention may not always be positive. A child may behave in a certain way to elicit anger or scolding from a parent or teacher. Therefore, attention may be given in the form of facial expressions, gasps, reprimands, verbal interactions to distract or soothe, and physical attention such as hugs or being picked up, etc. (Cooper et al., 2007).

Attention function

- Challenging behaviour happens when an adult is busy doing something else or attending to someone else.
- The behaviour does not happen when the adult is attending to the child.
- The child appears to be waiting for the adult to respond.

Example:

A child may interrupt conversations or engage in disruptive behaviour when a teacher is talking to a principal. A teacher then stops the conversation and responds to the child's behaviour by explaining why he must wait when he sees two adults talking. The child stops the behaviour and listens carefully to the teacher but begins the behaviour immediately after the teacher turns away and continues the conversation with the principal.

Tangible: Behaviours that are aimed at obtaining tangible items or desirable activities (Cooper et al., 2007).

Tangible function

- Challenging behaviours occur when a child wants something or when he is denied something.
- The behaviour stops once a child gets what he wants.

Example:

A child hits a peer who took a toy. The peer begins to cry and runs to the teacher while the child takes the toy back and continues to play.

Medical: Behaviours that stem from underlying medical conditions or discomfort. These behaviours may indicate pain, discomfort, or other medical issues.

Medical function

- A child behaves differently than usual in certain situations (e.g., crying during a favourite game, refusing lunch).
- They may hold a body part that hurts.
- Their behaviour suddenly worsens.

Example of a medical function of behaviour:

A 4-year-old non-verbal boy with autism shows no severe behaviours and usually participates in activities without problems. One day, however, he starts biting his hand. The teacher notices that the behaviour occurs not only when he is asked to do something but also during activities that he normally enjoys. She notices that he is uncomfortable and crying for no apparent reason. The parents visit the doctor and learn that the child has several cavities, which may cause him immense pain.

Preschool teachers should remember that functions of behaviour are dynamic and can change over time. Therefore, re-assessing the function of a challenging behaviour regularly is important as an intervention may lose its effectiveness over time due to the function of challenging behaviour changing with time (Lerman et al., 1994).

Recognizing behaviours based on their underlying functions is crucial for targeted intervention and support. ABC data collection (see Chapter 2) helps to identify patterns, triggers, and maintaining factors associated with behaviours.

When analysing the ABC data, ask yourself the following questions:

- Could the behaviour be indicative of an underlying **medical** condition or discomfort?

If you have excluded any underlying medical conditions, consider the four remaining functions:

- Does the behaviour serve to fulfil sensory needs or regulate sensory experiences? (If YES, possible function: **Sensory**)
- Does the behaviour occur while with others *and* alone? (If YES, possible function: **Sensory**)
- Does the behaviour involve accessing a specific item? (If NO, possible function: **Sensory**)
- Does the behaviour allow the person to avoid a specific stimulus, event, etc.? (If NO, possible function: **Sensory**)
- Is the behaviour an attempt to avoid or escape from a particular situation or task? (If YES, possible function: **Escape/Avoidance**)

- Does the behaviour often occur right after the individual is presented with a task? (If YES, possible function: **Escape/Avoidance**)
- Is the behaviour driven by a desire for attention or recognition from others? (If YES, possible function: **Attention**)
- Does the behaviour result in the individual gaining attention from others (peers or adults)? (If YES, possible function: **Attention**)
- Does the behaviour result in the individual being reprimanded by the teacher/parent? (If YES, possible function: **Attention**)
- Does the behaviour aim for/result in the individual obtaining something tangible, such as objects or activities? (If YES, possible function: **Tangible**).

5.3 Distinguishing Topography from Function

Topography refers to the observable characteristics of the behaviour (the way a behaviour looks), such as its physical actions or verbal expressions (Pierce & Cheney, 2004). The function of behaviour refers to the purpose it serves for the individual (the reason why the behaviour occurs).

The function of behaviour may not be readily understood based on the topography (Table 5). In this case, a preschool teacher can conduct a systematic assessment or an objective evaluation of the situation to help her understand why the behaviour occurs.

Table 5 Examples of the topography of behaviour and its function

Topography of Behaviour	**Possible Function**
During class, Peter makes jokes, and his peers laugh.	**Attention**
During a group activity, Peter says that he is sick, and the teacher tells him to rest at his desk.	**Escape**
During playtime, Peter hits his peer, and he gives him his toy back.	**Tangible**
During story time, Peter hums a song.	**Sensory**

Adapted from Casey & Carter (2016)

Also remember that two individuals may exhibit a behaviour that appears similar, such as yelling (same topography); however, one may do so to gain attention (attention-seeking function), while the other may engage in the behaviour to escape a stressful situation (escape function) (Kennedy et al., 2000). Therefore, it is the function and not the topography of behaviour that enables us to tailor interventions effectively.

Summary:

- ✓ All behaviours happen for a reason.
- ✓ First, exclude any underlying medical reasons causing the behaviour (medical function).
- ✓ Other than the medical function, there are four main functions of behaviour: Sensory, Escape/avoidance, Attention, and Tangible.
- ✓ Collecting ABC data will help you identify the potential function(s) of a behaviour.
- ✓ A comprehensive Functional Behaviour Assessment (FBA) must be conducted to further validate and refine these hypotheses.
- ✓ Topography refers to the form of a behaviour - what a behaviour looks like.
- ✓ Function refers to the reason - why the behaviour occurs.
- ✓ Behaviours that look the same (similar topography) can serve multiple functions for an individual.
- ✓ Reprimands and other behaviours considered as "undesirable" can also reinforce behaviours. For example, reprimanding a child who throws a tantrum in the class could potentially reinforce the tantrums, if the function of the tantrum behaviour is "attention".

SUGGESTED READINGS

Hong, E., Dixon, D., Stevens, E., Burns, C. & Linstead, E. (2018). Topography and Function of Challenging behaviours in Individuals with Autism Spectrum Disorder. Advances in Neurodevelopmental Disorders. 2. 1-10. 10.1007/s41252-018-0063-7.

Autism Speak. (2024). Challenging behaviour tool kit. Retrieved from: https://www.autismspeaks.org/tool-kit/challenging-behaviours-tool-kit.

QUESTIONS

1. Explain what the function and topography of behaviour mean.

2. What are the four main functions of human behaviour?

3. What is the function of the behaviour in the following scenario?

   During math class, John is given a worksheet to complete. John crumples up the worksheet and throws it on the floor. The teacher notices John's frustration and allows him to take a break from the worksheet to calm down. The next day, John's behaviour repeats under the same circumstances.

4. What is the function of the behaviour in the following scenario?

   During independent work, Emily repeatedly calls out the teacher for help. The teacher encourages Emily to complete the task herself because she knows the task is quite easy for her. Later, the teacher realises that Emily asks for help more often when she is asked to work alone.

5. Describe the difference between the function and topography of behaviour.

6. Why is it important to know the function of a behaviour?

PRACTICE IN YOUR CLASSROOM

Based on the data you collected in Chapter 2, identify the possible function (s) of behaviour for your student.

Behaviour for change: _____

Define as: _____

ABC data form:

Antecedent	Behaviour	Consequence	Possible Function (s)

Setting event (if any): _____

Antecedent	Behaviour	Consequence	Possible Function (s)

Setting event (if any): _____

Now based on identified function (s), is the behaviour more likely to increase or decrease in the future?

Antecedent	Behaviour	Consequence	Possible Function	Increase/Decrease

6

FUNCTIONAL BEHAVIOUR ASSESSMENT

Learning objectives

After reading this chapter, learners will be able to:

1. Describe the importance and process of a functional behaviour assessment
2. Identify and use indirect functional assessment methods
3. Identify and use direct functional assessment methods
4. Identify and use skills assessments

Introduction

Behaviour management is an integral part of creating an effective learning environment in a classroom. Certain factors may trigger challenging behaviours in some children with autism. These factors may range from neurobiological impairments related to sensory processing to discomfort or pain related to medical comorbidity or even an inability to communicate areas of discomfort or pain (Edelson, 2022).

6.1 Functional Behaviour Assessment

The primary purpose of an FBA is to determine why a child is engaging in challenging behaviour and what environmental events may be eliciting or otherwise influencing the behaviour. This knowledge helps develop a behaviour support plan for preventing challenging behaviour and teaching alternative appropriate behaviours (Dunlap & Fox, 2002). For example, if the function of the behaviour is to escape work, a behaviour support plan would include teaching the child the appropriate way to request a break when needed. In this way, they learn the skills to help them complete the work.

Note: *FBA should always be done by trained professionals, such as the behaviour analyst, and should be used when crafting intervention programs that specifically address the individual's needs and behaviours.*

Two main methods for conducting a functional behaviour assessment:

- ✓ **indirect** assessment
- ✓ **direct** assessment.

Steps to conduct an FBA

FBA is a systematic process that helps to understand why someone is engaging in challenging behaviour. Usually, this process involves the following steps:

1. **Referral and Consent:** The process typically begins once a teacher, parent, or other professional gives a referral. An agreement is first reached with the person who is being assessed before the start of an assessment.
2. **Data Collection:** This may be intentional, either by indirect means (interviewing and record reviews) or by direct observation of behaviour in various settings. The collected data is analysed to reveal the patterns and relations between the individual's behaviour and numerous environmental factors influencing it to identify the function of behaviour.
3. **Hypothesis Development:** This data analysis leads to the development of a hypothesis about the behaviour's function. This hypothesis is tested through further observation and data collection.
4. **Behaviour Support Plan (BSP):** Once the behaviour's function is identified, a Behaviour Support Plan is developed, which includes intervention strategies for increasing appropriate behaviour and eliminating the occurrence of challenging behaviour.
5. **Implementation and Monitoring:** A BSP is adopted and monitored for its effectiveness in reducing challenging behaviour and increasing positive, functional behaviour (Cooper et al., 2020).

6.2 Assessment Methods

The functional behaviour Assessment process aids preschool educators in comprehending and handling challenging behaviours, guaranteeing that interventions are tailored to each child. FBA involves gathering information to evaluate the necessity of a behaviour support plan, pinpointing the time and

location of behaviours, and comprehending their outcomes. Data is collected through direct and indirect evaluations (Henley, 2012).

1. Indirect methods = ask 

2. Direct methods = see 

In the beginning, preschool teachers might utilize indirect assessment techniques to collect details on the child's behaviour, examine records and converse with individuals who interact with the child. Once they establish a theory about the purpose of the conduct, they can employ direct evaluation techniques to validate the theory.

6.3 Indirect Methods

Gathering information from various sources is part of indirect methods. The teacher can learn important information about the person's actions and what influences them. Indirect evaluations are commonly done via interviews, surveys, and examination of the person's documents and background. The data gathered through these techniques can help create effective interventions and tactics to control behaviour (O'Neill et al., 1997).

INDIRECT ASSESSMENT METHODS

- ✓ Record Review
- ✓ Interview
- ✓ Questionnaires

Reviewing records involves gathering and examining documents and reports concerning the child's conduct, including medical records, past evaluations, and educational reports. This approach can offer important insights into the child's background, behaviours, and situations that lead to challenging behaviour.

Interviews involve speaking with individuals who are acquainted with the child's conduct, like parents, educators, and guardians. Interviewing entails posing open-ended questions that enable the interviewee to elaborate on a challenging behaviour with thorough information. The interviewer might inquire about the timing of the behaviour or what precedes it to learn more about its environmental influences.

Questionnaires can help create a thorough grasp of the person's actions, pinpointing what causes them and why they occur. Three commonly used questionnaires in the FBA process are the Motivation Assessment Scale (MAS) by Durand & Crimmins in 1988, the Functional Assessment Scoring Tool (FAST) by Iwata, DeLeon & Roscoe in 2013, and the Questions about Behavioural Function (QABF) by Matson & Vollmer in 1995. Surveys can be used to collect information from integral people like

parents, teachers, or caregivers regarding the child's behaviour patterns, triggers, and potential reasons for their behaviour.

It is crucial to understand that record reviews, interviews, questionnaires, or surveys alone are insufficient for assessment and should be complemented by methods like observations and tests for a comprehensive understanding of behaviour and its functions.

Indirect functional behaviour assessment methods are simple to use and do not require special equipment or training. They are also minimally invasive, decreasing any discomfort the person experiences.

Nonetheless, they depend on subjective feedback that may not always be precise or thorough and could lead to overlooking crucial aspects of the child's behaviour.

6.4 Direct Methods

Direct methods involve examining a person's actions in different situations to pinpoint the triggers, outcomes, and possible factors that reinforce a behaviour.

Direct assessment usually happens in a person's natural setting, like their home or classroom, and consists of watching and documenting a behaviour with methods like ABC recording or narrative recording. Data from ABC (discussed in Chapter 2) enables the teacher to observe the triggers (antecedents) and consequences of behaviour (outcomes) that make the behaviour happen again (Cooper et al., 2020).

Direct assessment aims to:

- verify the data collected from the indirect evaluation
- include preceding events and subsequent outcomes that may not be disclosed in the interview
- verify the purpose of the conduct
- give a synopsis of the functional behaviour assessment.

DIRECT ASSESSMENT METHODS

- ✓ ABC recording
- ✓ Observation

Information gathered from firsthand observation can determine patterns and purposes of behaviour, which can be used to inform the creation of interventions.

Direct functional behaviour assessment techniques provide precise and thorough data on individual behaviour and its influencing factors, which is especially beneficial for addressing behaviour in children diagnosed with autism. Nevertheless, they could be time-consuming, require specialised training and tools, and could be influenced by the presence of observers or testers. Despite their disadvantages, direct

assessments provide important knowledge for creating successful interventions and plans to improve quality of life (O'Neill et al., 1997).

6.5 Assessing Skills

The Benefits of Skill Assessment

Behaviours may arise from hidden difficulties in children with autism, and effectively handling these behaviours necessitates a thorough grasp of the child's distinct abilities. Principles of effective skill assessment include:

- **Revealing Causes:** picture a child who has a meltdown every time the lights are on for circle time. Assessing sensory sensitivities may reveal that light sensitivity is the trigger. This information will allow you to provide sunglasses or dim the lights during circle time.
- **Individualising plans:** this may be more effective than a general "time-out" for meeting the needs of nonverbal children experiencing communication difficulties. Evaluation can assist in recognising communication challenges and empower the teacher to create specific approaches, like utilising picture exchange cards or providing sign language training to tackle the underlying reason for the behaviour.
- **Empowering of Positive Reinforcement:** knowing that a child excels at matching games but struggles with following spoken instructions opens up positive reinforcement opportunities. The teacher can incorporate matching activities as rewards for desired behaviours, making the management process more motivating and positive for the child.

What Skills to Assess?

An all-encompassing evaluation should showcase the child's complete skill set. Here are a few important factors to take into account (Hyman et al., 2020):

Communication Skills: Is the child capable of comprehending verbal directions? Is it possible for them to communicate their desires using spoken words or other forms, such as sign language or picture cards?

Social Skills: In what way does the child engage with peers and adults? Are they establishing eye contact? Is it possible for them to alternate and share toys with each other?

Sensory Processing: Certain children with autism may experience heightened or reduced sensitivities to sights, sounds, touches, tastes, and smells. Through evaluating sensory processing, you can recognize possible environmental cues and offer sensory aids such as noise-cancelling headphones or fidget toys in order to establish a more comfortable and predictable environment.

Motor Skills: The ability to grip objects, use utensils, and jump and run can affect a child's involvement in classroom tasks. Evaluating the child's motor skills can pinpoint areas where extra assistance or adjustments may be needed to prevent frustration and outbursts.

Cognitive abilities: Identifying a child's cognitive strengths and weaknesses, such as memory, attention span, and problem-solving skills, can guide teaching methods and behaviour management techniques. For example, a child who struggles with paying attention may find shorter, more targeted tasks helpful in reducing feelings of frustration.

Summary

- ✓ Functional Behaviour Assessment (FBA) is a procedure designed to uncover the underlying causes of difficult behaviours exhibited by individuals diagnosed with autism. It includes examining situations to comprehend the purpose of the behaviour and creating specific interventions.
- ✓ Two types of assessment methods are utilised in FBA: indirect and direct.
- ✓ Evaluating abilities such as communication, social skills, and sensory processing aids in developing focused interventions.
- ✓ The outcomes of Functional behaviour Assessments are used to create a behaviour Support Plan (BSP) that includes defined objectives and tactics. The evaluation determines using communication methods, sensory supports, and positive reinforcement.
- ✓ FBAs are crucial for comprehending and addressing difficult behaviours in people with autism. They are vital for developing specific interventions, encouraging positive behavioural shifts, and enhancing overall wellness.

SUGGESTED READINGS

Here are some resources geared toward preschool teachers interested in learning more about FBAs:

Websites:

- https://behaviour.education.qld.gov.au/supportingStudentBehaviour/PositiveBehaviourforLearning/Documents/functional-behaviour-assessment-schools-guide.pdf
- https://www.cceionline.com/how-to-deal-with-challenging-behaviors-in-preschool/
- https://mybrightwheel.com/blog/challenging-behavior

Articles:

Understanding Your Child's Challenging Behaviour: http://csefel.vanderbilt.edu/resources/wwb/wwb9.html

Books:

Glasberg, B. A. (2006). Functional Behavior Assessment for People With Autism: Making Sense of Seemingly Senseless Behavior

Umbreit, J. et al. (2024). Functional Assessment-Based Intervention: Effective Individualized Support for Students

QUESTIONS

1. What is the primary goal of a Functional Behaviour Assessment (FBA)?
2. Define and describe indirect methods used in FBA.
3. Define and describe direct methods used in FBA.
4. Information from an FBA can be used to develop a(n) _____ to address challenging behaviours.

PRACTICE IN YOUR CLASSROOM

Identify the student exhibiting challenging behaviour in your classroom. Try following the same steps to create a potential intervention strategy plan based on your understanding of the behaviour's function.

1. **Identify the behaviour**: Clearly define the challenging behaviour you will observe.

   _____

2. **Indirect FBA**:
   - Interview Strategy: Develop a short list of questions to ask a child's parents/guardians, teachers about his behaviour at home or other settings.
     - Sample Questions:
       - Does a child exhibit similar behaviours at home?
       - What are some things that typically trigger these behaviours at home?
       - How do you usually respond to these behaviours at home?

     _____

     _____
   - Record Review: Review any documentation related to the child's behaviour (e.g., past behaviour reports, incident reports).

     _____

     _____
3. **Direct FBA**:
   - Choose a Data Collection Method: Select a method to record the occurrence of behaviour. It can be a narrative description of a behaviour incidence or ABC data collection.

     _____
4. **Analyse and Reflect**:
   - Based on your indirect and direct FBA methods, what are some possible reasons (functions) for a child's behaviour? Consider:
     - Does the behaviour seem to be attention-seeking?
     - Is he trying to avoid or to get anything?

- Does he have the skills necessary to engage in appropriate behaviour?

_____

_____

_____

5. **Next Steps**:
   - Briefly outline a potential intervention strategy based on your understanding of the behaviour's function.
   - This might involve teaching a child alternative ways to communicate his needs, providing him with fidget tools to manage frustration while waiting, or others.

_____

_____

_____

Remember: This is a practice task. A real FBA might involve a more comprehensive approach and collaboration with other professionals like behaviour specialists.

7

STRATEGIES TO ELIMINATECHALLENGING BEHAVIOUR

Learning objectives

After reading this chapter, learners will be able to:

1. Understand and describe the behavioural strategies to eliminate challenging behaviour
2. Describe and use proactive strategies
3. Describe and use reactive strategies
4. Identify and teach replacement behaviour
5. Analyse the progress and make necessary changes

Introduction

Challenging behaviours cause turbulence in people's daily lives. With the proper interventions, these behaviours can be reduced or eliminated, which can significantly impact children's well-being and

mental health long term, as well as the lives of their families. Behaviour intervention incorporates antecedent (proactive) strategies, consequence (reactive) strategies, and strategies to teach alternative behaviour that interferes with the challenging behaviour. This chapter aims to equip teachers with a clear understanding of how challenging behaviours can be eliminated.

7.1 Proactive/Antecedent Strategies

Proactive strategies, or **antecedent interventions,** involve modifying the environment to eliminate the possibility of challenging behaviours while teaching more socially desirable behaviours. They may include teaching functional communication, task modification, slowly increasing task amount and difficulty (demand fading), using visual support, offering a choice, mixing easy and difficult tasks, or reducing distractions.

For example, the preschool teacher may encourage children to share toys by displaying a visual rule poster near the play area. This provides a clear cue to promote the desired behaviour without constant reminders. Or the teacher may choose to highlight only a few of the activities on the worksheet to reduce the likelihood of the escape-maintained challenging behaviour.

WARNING! Proactive strategies are not intended to avoid challenging behaviours, but rather to promote the emergence of socially desirable behaviours.

When considering the use of **proactive** (antecedent) strategies to increase a behaviour, a teacher should ask themselves what they can change in the classroom to promote the desired behaviour.

7.2 Proactive Strategies by Function

SENSORY function

Proactive strategies for behaviour maintained by the sensory function mostly involve manipulating the environment. To decrease the challenging behaviour, the teacher must replace it with more appropriate behaviour and make the new behaviour more motivating for the child. This may include the following:

- teach an alternative behaviour that gives the student the same sensation as the challenging behaviour (e.g., biting a chewy stick instead of chewing a T-shirt)
- provide easy access to the alternatives.

ESCAPE function

The teacher can use strategies to increase motivation to complete the task or use any cue that tells the child what is expected. This may include the following:

- give a choice of tasks (choices)
- use visual support (first – then card)
- start with easy tasks (behavioural momentum)

- let the student know what will follow next
- give clear and simple instructions
- provide student with frequent breaks in the absence of challenging behaviour (noncontingent reinforcement)
- modify the difficulty or length of the task
- use visual schedules and timers
- teach to request a break or more time on a task appropriately.

ATTENTION function

The teacher should modify the environment so that a child receives attention without engaging in challenging behaviour. This may include the following:

- place the child close to the teacher
- teach the appropriate way to ask for attention
- teach peer interaction so that the child will receive attention from his peers
- "satiate" the child with attention in the absence of challenging behaviour.

TANGIBLE function

The teacher may use strategies that reduce the motivation to engage in the challenging behaviour to access a preferred item or activity. This may include the following:

- inform the child in advance when moving away from a favourite activity/item (priming strategy)
- use visual support to let the student know when they will have access to their favourite activity/subject
- provide more frequent access to favourite items in the absence of challenging behaviour (noncontingent reinforcement strategy)
- use a visual schedule or timer
- teach how to appropriately request a favourite item, activity, person, etc.

Proactive strategies are used BEFORE the challenging behaviour occurs. They are designed to increase the likelihood of appropriate, more desirable behaviours and eliminate challenging behaviours. For each challenging behaviour, the teacher must determine its function and then select the strategy/procedure to be used. Consistency in using the procedure is the key to changing the behaviour because the behaviour will not change overnight.

The following are examples of strategies commonly used in the classroom:

Priming strategy

Prepare the student for a change in activity or a new situation, which often triggers challenging behaviour (Van Diepen & Van Diepen, 2019).

Example

A child with autism has difficulty transitioning from the playground back to the classroom. The teacher decides to use a priming strategy to increase the likelihood that the child will comply with the instruction to leave the playground. Five minutes before it is time to go inside, she reminds the child that he still has 5 minutes to play. Later, she tells him that he has 2 more minutes and finally that it is almost time to go inside.

Other situations to use priming:

- schedule changes (there is no music today, but we will have art instead)
- a new situation (we will have a birthday party where we will watch Kate open her presents)
- the start of a task ("5 more minutes and we will do a new task", "you still have 2 minutes", ...).

Tip: Consider using visual support to increase the effectiveness of the priming procedure!

Noncontingent reinforcement

Noncontingent reinforcement is a procedure where reinforcement is given to a child not contingent on any behaviour. It is given for free after a specific amount of time. However, the reinforcement must match the function of the challenging behaviour (Tarbox & Tarbox, 2017).

Examples:

- A teacher gives attention to a child every 5 minutes.
- A child holds his favourite toy throughout the day.
- A teacher gives a child 5 minutes of free play every 30 minutes.

Task modification

Task modification refers to changing some aspects of the task completion process. It involves a different way of presenting the task materials or incorporating the learner's preferences (Tarbox & Tarbox, 2017).

Example

During a counting activity, the teacher uses small dinosaur toys with a child who doesn't like to count but enjoys anything with dinosaurs.

Choice

The teacher should provide a choice of either the task or the reward. Frequent use of choice when working with children with autism will help decrease their motivation to engage in challenging behaviours and increase cooperation and task completion.

Example of choice related to task

Do you want to trace or count letters first?

Do you want to write with a pen or pencil?

Do you want to look at the book alone or with me?

Examples of choice related to rewards

After cleaning up, do you want to look at the book or listen to the music?

After we come to the classroom, do you want to play or help me prepare an activity?

Environment modification

By altering the environment, the teacher promotes more appropriate behaviour to emerge. First, they must identify the triggers for challenging behaviour and then try to change the environment to limit those triggers (Van Diepen & Van Diepen, 2019).

Example

During the Morning Circle activity, the teacher seats the child with autism with his back to the window so that the view of the playground is not distracting.

Other examples of altering the environment:

- Clear the table of unnecessary items before asking the student to complete a task.
- Sit between students to prevent challenging behaviour (hitting or arguing).
- Place a communication card near the student for use when they are working on a difficult task (asking for help).

7.3 Reactive/Consequence Strategies

Reactive or consequence strategies refer to behavioural interventions to address challenging or maladaptive behaviour. These strategies are used after a behaviour has occurred to reduce its likelihood of recurring. They include positive reinforcement, negative reinforcement, punishment, and extinction (Cooper et al., 2020).

It should be noted that reactive strategies, especially punishment-based strategies, may elicit distress or result in potential harm. Therefore, punishment strategies should only be applied as a last resort where

less intrusive strategies have been ineffective. Positive reinforcement and extinction are less intrusive and more ethical in addressing challenging behaviours (Smith et al., 2016).

Decrease behaviour through extinction

Extinction is a behavioural process that involves reducing the frequency or occurrence of a behaviour by removing the reinforcing consequences that maintain it. When a behaviour is no longer reinforced, it tends to decrease in frequency until it eventually disappears. Extinction is often used to decrease challenging behaviours, such as tantrums, aggression, and other challenging behaviours in children and adults (Cooper et al., 2020).

According to the principles of behaviourism, behaviours are shaped and maintained by their consequences. Some consequences, such as rewards or praise, increase the likelihood of a behaviour, while other consequences, such as punishment or reprimands, decrease the likelihood. Extinction works by removing the positive consequences that maintain a behaviour, decreasing its frequency over time (Miltenberger, 2016).

Example

If a child constantly interrupts the teacher during circle time to gain attention, then extinction could be applied whereby the teacher ignores the interruptions and reinforces only waiting for one's turn to speak. Eventually, they will learn that interrupting to get attention will not work, and they will begin to wait for their turn to speak.

Extinction usually occurs together with other behavioural interventions, either with the reinforcement of alternative behaviours or in teaching new skills. It might be important to note that sometimes extinction increases the frequency or intensity of the behaviour before it finally decreases. This is called an extinction burst (Cooper et al., 2020).

Decrease behaviour through punishment

While punishment may appear to be an effective solution for reducing undesired behaviour, research evidence shows it is far from being the best behaviour change strategy. In addition, it has many side effects. One reason punishment should not be the first choice is that it might create fear, anxiety, and resentment in the person (Kazdin, 2008).

Positive reinforcement is a more effective and neuro-affirming approach to behaviour change (Mathur, 2024). Focusing on positive reinforcement can create a more supportive and empowering environment that promotes positive behaviour.

7.4 Teaching Alternative and Desired Behaviour

Behaviour modification involves the use of proactive strategies, reactive strategies, and the teaching of alternative or desired behaviours. All three components are essential to teaching new, more socially appropriate behaviours in children with or without autism. Challenging behaviours result from limited skills such as communication or social skills. Therefore, the teacher should focus on identifying the function of the challenging behaviour and teach the child an alternative topography of that behaviour that is more socially acceptable.

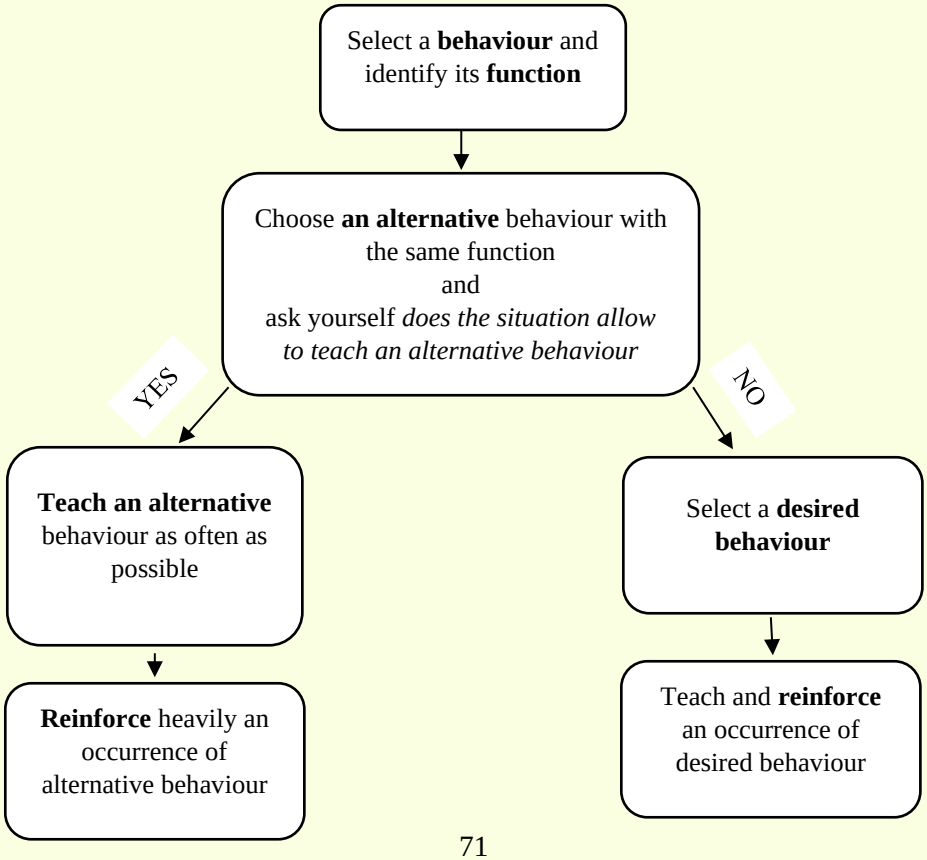
Alternative behaviour

Alternative behaviour has the same function as challenging behaviour. If the child cries because they want a toy (tangible) an alternative behaviour would be teaching them to request a toy by speaking, signing, or handing a picture of the item.

Desired behaviour

Unlike alternative behaviour, desired behaviour does not have the same function as challenging behaviour. In the example above, if the child is crying because he wants a toy and wants to play, but it is time to go home, the desired behaviour would be to accept "not now" and go home without the challenging behaviour.

Steps to select an alternative or desired behaviour



7.5 Alternative and Desired Behaviour by Functions of Behaviour

The following is a list of possible alternative and desired behaviours to replace the occurrence of the challenging behaviour (Table 6). Please note that this is not an exhaustive list, and the teacher should select a behaviour after considering other factors such as the child's individual preferences and needs, situations, age, and current skill level.

Table 6 Alternative and desired behaviour based on its function

Function	Alternative behaviour	Desired behaviour
Tangible	● Requesting items or activities	● Sharing ● Accepting "No" ● Waiting for an item or activity ● Choosing an alternative activity
Escape	● Requesting a break ● Requesting help ● Requesting removing aversive stimuli ● Requesting a headphone (to remove noise) ● Requesting to leave the room (to avoid a person or noise)	● Completing a task ● Staying with the group ● Accepting a noisy environment ● Following the instruction
Attention	● Addressing a person by saying his name, tapping on his shoulder, or saying "hey"	● Waiting (for attention) ● Sharing the attention with others ● Selecting another person to interact with
Medical	● Describing and communicating pain ● Requesting a break	● Describing and communicating pain
Sensory	● Alternative more appropriate way to receive sensation (chewy tubes, fidgety toys) ● Requesting sensory items ● Requesting time to engage in self-stimulatory behaviour	● Staying quiet (in the absence of vocal stereotypes) ● Engaging in functional play ● Completing a task

Source: Adapted from Mikurčíková & Trellová, 2020

When addressing challenging behaviour, the teacher must apply proactive and reactive, and at the same time they must teach a new replacement behaviour. The following are examples of addressing challenging behaviour based on its function.

Sensory

Proactive strategies (before the behaviour):

- incorporate the type of sensory input into the day (sensory diet)
- let the child engage in physical activities (i.e. walking).

Replacement (alternative or desired) **behaviour**:

- teach the child to request the type of stimulation they need
- teach behaviours that cannot be done at the same time as the sensory-seeking behaviour (e.g., playing with a toy is incompatible with waving the fingers in front of the eyes).

Reactive strategies (after the behaviour):

- do not provide any additional reinforcement when sensory stimulation occurs
- redirect the sensory behaviour to activities in the environment.

Escape

Proactive strategies (before the behaviour):

- use visuals (i.e. first-then board, visual schedule)
- provide clear expectations
- break down tasks into shorter/more achievable tasks
- provide breaks frequently throughout the day or during the task/activity.

Replacement (alternative or desired) **behaviour**:

- teach the child appropriate ways to ask to escape (e.g., “break”, “all done”, “no”).

Reactive strategies (after the behaviour):

- follow through with expectations. Ensure the child follows through with the demand, even if you need to help them
- stay neutral when challenging behaviour happens.

Attention

Proactive strategies (before the behaviour):

- give lots of attention throughout the day when the child is not engaging in challenging behaviour.

Replacement (alternative or desired) **behaviour**:

- teach more appropriate ways to seek attention (e.g., raising a hand, calling someone’s name, tapping someone on the shoulder, holding someone’s hand”).

Reactive strategies (after the behaviour)

- stay neutral (e.g., no eye contact, no instructions, and do not provide any feedback when challenging behaviour happens)

- when the child appropriately asks for attention, give lots of praise and attention!

Tangible

Proactive strategies (before the behaviour):

- warn the child a few minutes before they must give up the item/activity
- use visual supports and timers to show the child how many times or for how long they can have the item throughout the day.

Replacement (alternative or desired) **behaviour**:

- teach how to properly request an activity or item
- teach them to wait for an item.

Reactive strategies (after the behaviour):

- do NOT give access to the item when challenging behaviour has happened
- give a choice of other similar items they can have.

7.6 Behaviour Support Plan

A behaviour support plan (BSP) is a written document that outlines proactive and reactive strategies to promote positive behaviours and suppress challenging behaviours. The plan must be person-centred and developed based on individual needs, involving the service user, family, and caregivers (Cooper et al., 2020).

The behaviour support plan should include the following components:

1) **Description of the challenging behaviour**: A clear and concise description of the challenging behaviour.
2) **Function of the behaviour**: It should identify the function of the behaviour
3) **Proactive strategies**: The plan should include proactive strategies that will be used to promote positive behaviour and prevent the occurrence of challenging behaviour.
4) **Reactive strategies**: These should include reactive strategies that will be used to address challenging behaviour when it occurs.
5) **Replacement behaviour**: It should identify the alternative behaviour that will be taught and reinforced to replace the challenging behaviour.
6) **Reinforcement plan**: The plan should include a reinforcement plan that outlines the positive consequences that will be provided for appropriate behaviour.

Evaluate the procedures

It is essential to closely observe and evaluate the progress of the behaviour support plan to identify any shortcomings in case the desired behaviour is not improving.

If the procedures are not working, it is crucial to investigate the reasons why and make any necessary adjustments. For instance, if the alternative behaviour is not practised enough, it may be necessary to increase the practice time or adjust the reinforcement schedule. If the procedures are not being applied correctly, additional training or supervision may be necessary. Finally, if the function of the behaviour is misidentified, the procedures need to be adjusted to target the correct function.

Monitoring progress regularly and adjusting as needed is necessary to ensure the procedures work correctly. Collaboration with professionals in the field can also provide valuable insights and feedback to improve the plan's effectiveness.

Here are some common reasons why behaviour support plans might not work:

1. **Inconsistent implementation**: If the plan is not consistently implemented, it can hinder progress.
2. **Insufficient reinforcement**: Poorly designed reinforcement schedules can lead to a lack of motivation for behaviour change.
3. **Environmental factors**: The individual's environment may not be conducive to the desired behaviour change.
4. **Inappropriate behaviour selection**: The chosen alternative behaviour may not be suitable for the individual.
5. **Lack of individualisation**: If the plan doesn't meet the individual's unique needs, it may not be effective.

Summary:

- ✓ Proactive strategies are applied before the behaviour, including manipulating discriminative stimuli or cues, manipulating establishing operation, and manipulating response effort. They are not intended to avoid challenging behaviours but rather to promote the incidence of more socially desirable behaviours.
- ✓ Reactive strategies are used once the behaviour emerges and include reinforcement of the desired behaviour and applying an extinction to undesirable behaviour.
- ✓ Punishment procedures should be used only after reinforcement strategies have been used. Due to their numerous negative effects on children, punishment strategies should not be the first intervention.
- ✓ Replacement strategies include selecting and teaching an alternative or desired behaviour.
- ✓ Proactive, reactive and replacement behaviours should be selected based on the behaviour function.

SUGGESTED READINGS

Queensland Government. Department of Education. Guide to Individual Behaviour Support Planning for Schools. Available at: https://behaviour.education.qld.gov.au/supportingStudentBehaviour/PositiveBehaviourforLearning/Documents/individual-behaviour-support-planning-schools-guide.pdf

QUESTIONS

1. List three components of the behaviour modification process.
2. Describe and identify some examples of proactive strategies.
3. Describe and identify some examples of reactive strategies.
4. What is the main difference between an alternative and a desired behaviour?
5. List some alternative behaviours for an escape-maintained challenging behaviour.
6. List some desired behaviours for an attention-maintained behaviour.

PRACTICE IN YOUR CLASSROOM

Select the challenging behaviour(s) with a function that you frequently see in your classroom. Remember that more than one behaviour may have the same function, but you should choose intervention strategies based on the function, not the number and topography of the behaviour(s).
Identify the function of the selected behaviour(s) and choose a replacement behaviour. Then list some proactive strategies that will help with the emergence and acquisition of the replacement behaviour, as well as reactive strategies for the challenging behaviour.

Behaviour(s): _____ Function: _____

Replacement (alternative or desired behaviour): _____

Proactive strategies:

-
-
-
-

Reactive strategies:

-
-
-
-

8

STRESS AND BURNOUT

Learning objectives

After reading this chapter, learners will be able to:

1. Learn to recognise signs of stress and burnout on themself and others
2. Use stress management strategies to reduce stress

8.1 Identifying Stress and Burnout

In the context of preschool education, stress can be defined as the psychological and physical response teachers experience when job demands exceed their coping abilities. Stress is characterised by feelings of overload, strain, and pressure, often triggered by specific incidents or daily challenges (Setyawan et al., 2022).

Burnout represents a more chronic condition resulting from prolonged exposure to stress, distinguished by:

- **Emotional Exhaustion:** Teachers feel drained and lack the energy to engage emotionally with their students.

- **Depersonalisation:** Teachers may become detached, caring less about their students.
- **Reduced Personal Accomplishment:** Teachers experience declining satisfaction and effectiveness at work (Songhori & Sadegh, 2021).

SIGNS OF BURNOUT AND STRESS

- ✓ Reluctance to go to work
- ✓ Feeling overworked, feeling disorganized
- ✓ Feeling that you don't know what you are doing
- ✓ Feeling like you aren't making a difference anyway
- ✓ Feeling irritable, whether with a child or with colleagues
- ✓ A decrease in productivity – taking longer to complete a task, or often drifting off from a task.

While stress is a response to immediate pressures, burnout is an accumulation of stress leading to long-term energy and motivation depletion.

Relevance to Preschool Teachers

Preschool teachers are particularly vulnerable to stress and burnout due to their role in managing young children who require constant care and attention, especially those with ASD who possess additional needs. The presence of challenging behaviours, such as tantrums and meltdowns, demands high levels of patience and adaptive strategies, intensifying stress levels (Cheng & Toran, 2022).

8.2 Identifying Sources of Stress and Burnout

Every individual experiences stress differently, and some are affected more by certain situations or occurrences than others. Teachers can experience stress from multiple sources, including:

- **Behavioural Challenges:** Dealing with challenging behaviours like noncompliance and aggression regularly can escalate stress, pushing teachers toward burnout (Zhang et al., 2023).
- **Environmental Factors**: Large class sizes, diverse student needs, and inadequate support can amplify stress (Arvidsson et al., 2019).
- **Personal Vulnerability:** Factors such as personal life stresses, lack of experience, or insufficient training can increase susceptibility to stress (Mudin et al., 2023).

Impact on Teachers and Students

- **Impact on Teachers:** Chronic stress leads to health issues such as anxiety and depression, affecting teachers' professional performance and personal lives (Saeed et al., 2023).
- **Impact on Students:** Stress and burnout in teachers can lead to a less supportive classroom environment, adversely affecting students' academic and emotional development (Herman et al., 2017).

HOW TO REDUCE STRESS AND BURNOUT:

- ✓ Seek supervision or mentoring.
- ✓ Communicate and brainstorm with colleagues on new ideas.
- ✓ Continue educating yourself through webinars, hands-on training, and courses.
- ✓ Find out what you're passionate about and continue to grow in that field.
- ✓ Don't create a toxic work environment. Find common interests and activities with colleagues outside of work.
- ✓ Organize your responsibilities well. Find ways to monitor your work and meet deadlines.
- ✓ Separate personal time from work time.
- ✓ Recognize triggers, or "warning signs," when you know you are one step away from burnout. Identify them and find ways to control them.

8.3 Practical Strategies to Reduce Stress and Burnout

Preventing burnout among preschool teachers requires a combination of good organisational support and individual self-care strategies.

There are a variety of strategies that can be employed to manage any stress and burnout issues identified in the previous section. These include:

1. Structured Daily Reflection

- **Activity Description:** Set aside 10-15 minutes at the end of each day to reflect on the day's events. Use a journal to document what went well and what was challenging. Focus on identifying moments where you felt most stressed and consider what might help improve these situations.
- **Purpose:** This practice can help increase self-awareness of stress triggers and provide a structured way to track improvements over time.

2. Mindfulness and Breathing Exercises

- **Activity Description:** Integrate short mindfulness exercises into the daily routine. This could be as simple as taking a few deep breaths before transitioning between activities or using a guided meditation app during a break.
- **Purpose:** Mindfulness exercises can help lower immediate stress levels and increase overall emotional resilience.

3. Peer Support Sessions

- **Activity Description:** Participate in or organise regular meetings with other teachers who work with similar age groups or challenges. Use these sessions to share experiences, offer support, and exchange coping strategies.

- **Purpose:** Building a supportive community can alleviate feelings of isolation and provide shared strategies for common challenges.

4. Physical Activity Breaks

- **Activity Description:** Incorporate short physical activities into the day, such as stretching, yoga, or a brief walk. Ideally, these should be integrated into the school schedule.
- **Purpose:** Physical activity is a proven stress reliever that can improve mental and physical health.

5. Scheduled Time for Creative Outlets

- **Activity Description:** Dedicate time each week to relaxing and joyful activities such as art, music, or gardening. These can be personal hobbies or integrated into classroom activities.
- **Purpose:** Creative activities can be a therapeutic outlet for emotions and stress.

6. Emotional Exhaustion Check-ins

- **Activity Description:** Use tools like mood trackers or stress level scales to regularly assess your state of emotional exhaustion. Recognizing early signs of burnout is crucial for timely intervention.
- **Purpose:** Regular monitoring of emotional health helps in the early identification of burnout, allowing for quicker responses to mitigate its effects.

Summary:

- ✓ Stress is a response to immediate pressures leading to feelings of overload and strain, and burnout is an accumulation of stress leading to long-term energy and motivation depletion.
- ✓ Stress and burnout can originate from multiple different sources, especially from classroom behavioural issues.
- ✓ Both stress and burnout can be identified and managed in order to improve the education for both teachers and students.

SUGGESTED READINGS

MacDonald, E., & Shirley, D. (2014). The Mindful Teacher. Teachers College Press.

Bährer-Kohler, S. (Ed.). (2013). *Burnout for Experts: Prevention in the Context of Living and Working*. Springer.

Baylis, L. (2020). Self-Compassion for Educators: Mindful Practices to Awaken Your Well-Being and Grow Resilience. Corwin Press.

Jennings, P. A. (2015). *Mindfulness for Teachers: Simple Skills for Peace and Productivity in the Classroom*. W.W. Norton & Company.

QUESTIONS

1. List some possible signs of burnout.

2. What might be some symptoms of emotional exhaustion?

3. How can peer support help to manage stress and burnout?

PRACTICE IN YOUR CLASSROOM

Classroom Activity: Identifying stress and burnout issues

Goal: To identify stress and burnout issues that have resulted from classroom behaviour. Complete the following worksheet, which has been designed to help to identify stress and burnout issues that may have been caused by behaviours exhibited by children with or without autism in your classroom. It is vital to answer these honestly, and this process will allow you to identify behavioural challenges and better implement appropriate behaviour strategies.

Daily Reflection Journal Template for Preschool Teachers

Date: [Insert date]

1. Description of Challenging Behaviours:

Time of Incident:

Behaviour Observed:

- [ ] Tantrum
- [ ] Aggression
- [ ] Noncompliance
- [ ] Other (Please specify): _____

Context/Trigger (if identifiable):

2. Teacher's Immediate Emotional Response:

- [ ] Frustrated
- [ ] Overwhelmed
- [ ] Calm

- [ ] Anxious

- [ ] Other (Please specify): _____

3. Emotional Exhaustion Indicators:

How did you feel at the end of the school day?

- [ ] Exhausted

- [ ] Slightly worn out

- [ ] Neutral

- [ ] Energised

Additional notes: _____

4. Depersonalisation Occurrences:

Did you feel detached or less caring towards students today?

- [ ] Yes

- [ ] No

Additional notes: _____

5. Sense of Accomplishment:

How successful do you feel in managing classroom behaviour today?

- [ ] Very successful

- [ ] Moderately successful

- [ ] Unsuccessful

Additional notes: _____

6. Physical, Emotional, and Cognitive Symptoms Checklist:

Physical Symptoms:

- [ ] Headaches

- [ ] Fatigue

- [ ] Changes in appetite

- [ ] Difficulty sleeping

- [ ] None of the above (I was unaffected)

Emotional Symptoms:

- [ ] Irritability
- [ ] Sadness
- [ ] Anxiety
- [ ] None of the above (I was unaffected)

Cognitive Symptoms:

- [ ] Difficulty concentrating
- [ ] Making poor decisions
- [ ] Memory problems
- [ ] None of the above (I was unaffected)

7. Open Reflection:

Additional thoughts or feelings about today's classroom management or personal well-being:

REFERENCES

Alberto, P., & Troutman, A. (2003). *Applied Behaviour Analysis for Teachers* (6th ed.). New Jersey: Merrill Prentice Hall.

American Psychiatric Association (APA, 2013). *Diagnostic and Statistical Manual of Mental Disorders: DSM-5™* (5th ed.). American Psychiatric Publishing, Inc.

Arvidsson, I., Leo, U., Larsson, A., Håkansson, C., Persson, R., & Björk, J. (2019). Burnout among school teachers: quantitative and qualitative results from a follow-up study in southern Sweden. *BMC Public Health*, *19*(1).

Call, N.A., Shillingsburg, M.A., Bowen, C.N., Reavis, A.R., & Findley, A.J. (2013). Direct assessment of preferences for social interactions in children with autism. *Journal of Applied Behaviour Analysis*, *46*(4), 821-826.

Case-Smith, J., Weaver, L.L., & Fristad, M.A. (2014). A systematic review of sensory processing interventions for children with autism spectrum disorders. *Autism*, *19*(2), 133-148.

Casey, L.B., & Carter, S.L. (2016). *Applied Behavior Analysis in Early Childhood Education. An introduction to evidence-based interventions and teaching strategies.* New York, NY: Routledge.

CDC. (2024). About Autism Spectrum Disorder. Retrieved from: https://www.cdc.gov/autism/about/index.html.

Cheng, S.N., & Toran, H. (2022). Knowledge, practice and challenges of special education teachers in managing the behaviour of students with learning disabilities. *International Journal of Academic Research in Progressive Education and Development*, *11*(3).

Cooper, J.O., Heron, T.E., & Heward, W.L. (2007). *Applied Behavior Analysis. (2nd ed.).* Upper Saddle River: Pearson.

Cooper, J.O., Heron, T.E., & Heward, W.L. (2020). *Applied Behavior Analysis* (3rd ed.). Upper Saddle River: Pearson.

Denning, Ch.B., & Moody, A.K. (2018). *Inclusion and Autism Spectrum Disorder*. *Proactive strategies to support students.* New York, NY: Routledge.

Dunlap, G., & Fox, L. (2011). Function-based interventions for children with challenging behavior. *Journal of Early Intervention*, *33*(4), 333-343.

Durand, V.M., & Crimmins, D.B. (1988). Identifying the variables maintaining self-injurious behavior. *Journal of Autism and Developmental Disorders*, *18*(1), 99-117.

Edelson, S.M. (2022). Understanding challenging behaviors in autism spectrum disorder: A multi-component, interdisciplinary model. *Journal of Personalized Medicine*, *12*(7), 1127.

Fritz, J.N., Jackson, L.M., Stiefler, N.A., Wimberly, B.S., & Richardson, A.R. (2017). Noncontingent reinforcement without extinction plus differential reinforcement of alternative behavior during treatment of problem behavior. *Journal of Applied behavior Analysis*, *50*(3), 590-599.

Green, G. (1996). Early behavioral intervention for autism: What does research tell us? In Maurice, C. (ed), Green, G., & Luce, S.C. (Co-eds.). *Behavioral Intervention for Young Children with Autism: A manual for parents and professionals.* Austin, TX: PRO-ED.

Gunderson, E.A., Gripshover, S., Romero, C., Dweck, C.S., Goldin-Meadow, S., & Levine, S.C. (2013). Parent praise to 1- to 3-year-olds predicts children's motivational frameworks 5 years later. *Child Development*, *84*(5), 1526-1541.

Hanley G.P. (2012). Functional assessment of problem behavior: dispelling myths, overcoming implementation obstacles, and developing new role. *Behavior Analysis in Practice*, *5*(1), 54-72.

Herman, K.C., Hickmon-Rosa, J., & Reinke, W.M. (2017). Empirically derived profiles of teacher stress, burnout, self-efficacy, and coping and associated student outcomes. *Journal of Positive Behavior Interventions*, *20*(2), 90-100.

Hnilicová, S., & Ostatníková, D. (2018). Poruchy autistického spectra – včasná diagnostika a skríning. *Pediatria pre Prax*. *19*(2), pp. 52-56.

Hyman, S.L., Levy, S.E., & Myers, S.M. (2020). Identification, evaluation, and management of children with autism spectrum disorder. *Pediatrics*, *145*(1), e20193447.

Iwata, B.A., Deleon, I.G., & Roscoe, E.M. (2013). Reliability and validity of the functional analysis screening tool. *Journal of Applied Behavior Analysis*, *46*(1), 271-284.

Kazdin, A.E. (2008). Evidence-based treatment and practice: New opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist*, 146-159.

Kennedy, C.H., Meyer, K.A., Knowles, T., & Shukla, S. (2000). Analyzing the multiple functions of stereotypical behavior for students with autism: Implications for assessment and treatment. *Journal of Applied Behavior Analysis*, *33*(4), 559-571.

Kochanska, G. (2008). Children´s temperament, mother´s discipline and security of attachment: Multiple pathways to emerging internalization. *Child development.* 66(3), 597-615.
Koegel, L., Singh, A., & Koegel, R.L. (2010). Improving motivation for academics in children with autism. *Journal of Autism and Developmental Disorders*, *40*(9), 1057-1066.
LeBlanc, L., Raetz, P., Sellers, T., & Carr, J.A. (2015). Proposed model for selecting measurement procedures for the assessment and treatment of problem behavior. *Behavior Analysis in Practice, 13;9*(1):77-83.
Lerman, D.C., Iwata, B.A., Smith, R.G., Zarcone, J.R., & Vollmer, T.R. (1994). Transfer of behavioral function as a contributing factor in treatment relapse. *Journal of Applied Behavior Analysis, 27*(2), 357-370.
Lewis, M., Stanger, C., & Sullivan, M.W. (1989). Deception in 3-year-olds. *Developmental Psychology, 25,* 439-443.
Luman, M., Meel, C.S.V., Osterlan, J., & Geurts, H.M. (2011). Reward and punishment sensitivity in children with ADHD: validating the sensitivity to punishment and sensitivity to reward questionnaire for children. *Journal of Abnormal Child Psychology*, *40*(1), 145-157.
Maenner M.J., Warren Z, Williams A.R., et al. (2023). Prevalence and characteristics of autism spectrum disorder among children aged 8 years - autism and developmental disabilities monitoring network, 11 Sites, United States, 2020. *MMWR Surveill Summ, 72*(2),1-14.
Marthur, R.T., Renz, E., & Tarbox, J. (2024). Affirming neurodiversity within applied behavior analysis. *Behavior Analysis in Practice*, *17*(2).
Matson, J.L. & LoVullo, S.V. (2008). A review of behavioral treatments for self-injurious behaviors of persons with autism spectrum disorders. *Behavior Modification*, *32*(1), 61-76.
Matson, J.L., & Vollmer, T.R. (1995). *User's guide: Questions About Behavioral Function (QABF).* Baton Rouge, LA: Scientific Publishers, Inc.
Mikurčíková, L., & Trellová, I. (2020). Učenie alternatívneho a žiaduceho správania pri riešení problémového správania u detí s poruchou autistického spektra. In: L. Mikurčíková, T. Harčaríková, I. Scholtzová, eds. *Špeciálnopedagogické vedecké a praxeologické problémy v kontexte transformačných procesov: zborník.* Prešov: Vydavateľstvo Prešovskej univerzity, pp. 264-283.
Miltenberger, R.G. (2004). *Behavior Modification. Principles and procedures* (3rd ed.). Belmont, CA: Wadsworth/Thomson Learning.
Miltenberger, R.G. (2016). *Behavior Modification: Principles and procedures* (6th ed.). Cengage Learning.
Mudin, N.S., Ahmad, A., & Kee, P. (2023). Association of stress on wellbeing among teacher: a systematic literature review. *International Journal of Academic Research in Progressive Education and Development, 12*(3).
O'Neill, R.E., Albin, R.W., Storey, K., Horner, R.H., & Sprague, J.R. (2015). *Functional Assessment and Program Development for Problem Behaviors. A practical handbook (3rd edition).* Stamford, CT: Cengage Learning.
O'Neill, R.E., Horner, R.H., Albin, R.W., Sprague, J.R., Storey, K., & Newton, J.S. (1997). *Functional Assessment and Program Development for Problem Behavior: A practical handbook.* Pacific Grove, CA: Brooks/Cole.
Pierce, W.D., & Cheney, C.D. (2004). *Behavior Analysis and Learning* (3rd ed.). Lawrence Erlbaum Associates Publishers.
Powell, D., Dunlap, G., & Fox, L. (2006). Prevention and intervention for the challenging behaviors of toddlers and preschoolers. *Infants and Young Children*, *19*, 25−35.
Ryan, R.M., & Deci, E.L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54-67.
Saeed, H., Qureshi, A.F., Rasool, M.F., Islam, M., Hashmi, F.K., Saeed, A., & Qureshi, A.A. (2023). Determinants of anxiety and depression among university teachers during third wave of COVID-19. *BMC Psychiatry*, *23*(1).
Setyawan, H., Denny, H.M., Nurjazuli, N., & Dewi, E.K. (2022). Effect of increasing physical workload and environmental noise exposure on physiological stress among textile industry workers in the care covid-19. *Proceeding of International Conference on Climate Change*, 1-6.
Simplesteps. Leading the way in behavioural change. A Guide Book.
Songhori, M.H., Atashpanjeh, A., & Sadegh, M.N. (2021). Effort-reward imbalance and burnout among EFL teachers in Iran. *International Journal of Foreign Language Teaching and Research*, *9*(38), 175-189.
Sundberg, M.L., & Michael, J. (2001). The benefits of Skinner's analysis of verbal behavior for children with autism. *Behavior Modification*, *25*(5), 698-724.
Tarbox, J., & Tarbox, C. (2017). *Training Manual for Behavior Technicians Working with Individuals with Autism.* London, UK: Academic Press.
The National Clearinghouse on Autism Evidence & Practice. (2020). Evidence-Based Practices for Children, Youth, and Young Adults with Autism Spectrum Disorder. Retrieved from: https://ncaep.fpg.unc.edu/sites/ncaep.fpg.unc.edu/files/imce/documents/EBP%20Report%202020.pdf
Trellová, I., & Hlebová, B. (2021). *Evalvácia Behaviorálnych Procedúr pri Zvyšovaní Komunikačnej Kompetencie Detí s Poruchami Autistického Spektra.* Prešov: Prešovská univerzita v Prešove.

Van Diepen, M., & Van Diepen, B. (2019). *ABA Visualized. A visual guidebook for parents and teachers.* Studio Van Diepen

Vollmer, T.R., & Iwata, B.A. (1991). Establishing operations and reinforcement dynamics. *Journal of Applied Behaviour Analysis, 24*(3), 279-291.

Wilczynski, S.M., Magnusen, A., Sundberg, S., & Seifert, B. (2022). Evidence-based practice. Finding the right treatment that works. In L. Chezan, E. Drasgow, E., & K. Wolfe (Eds.). *Guide to Evidence-Based Practices for Practitioners Working with Individuals with Autism Spectrum Disorder.* Rowman & Littlefield.

Zhang, X., Guo, J., Li, M., Xu, R., Wang, J., Yang, Y., & Shen, H. (2023). Teacher stress among public primary and secondary school teachers in Datong, a city of Shanxi province, China: association between teacher stress and standardized workload. *International Journal of Occupational Medicine and Environmental Health, 36*(2), 161-176.

Ziegler, S.M.T., & Morrier, M.J. (2022). Increasing Social Interactions of Preschool Children with Autism through Cooperative Outdoor Play. *Journal of Special Education, 56*(1), 49-60.

APPENDIX

Appendix 1 Data Sheets

Narrative ABC Data

ABC DATA SHEET

Name: _____

Instructions: The ABC data sheet helps a teacher to determine the reason the problem behaviour is occurring by looking at events happening before and after the behaviour. For each behaviour incident, briefly describe the antecedent, behaviour, and consequence. Based on this information, determine a possible function of the behaviour (sensory, escape, tangible, attention, medical), by looking at re-occurring antecedents and consequences of the behaviour.

Date/ Time	Location	Antecedent	Behaviour	Consequence	Possible function
					□ Tangible □ Escape □ Attention □ Sensory □ Medical
					□ Tangible □ Escape □ Attention □ Sensory □ Medical
					□ Tangible □ Escape □ Attention □ Sensory □ Medical
					□ Tangible □ Escape □ Attention □ Sensory □ Medical
					□ Tangible □ Escape □ Attention □ Sensory □ Medical
					□ Tangible □ Escape □ Attention □ Sensory □ Medical

https://preschoolaba.eu/

Structured ABC Data

Co-funded by the European Union

ABC DATA SHEET

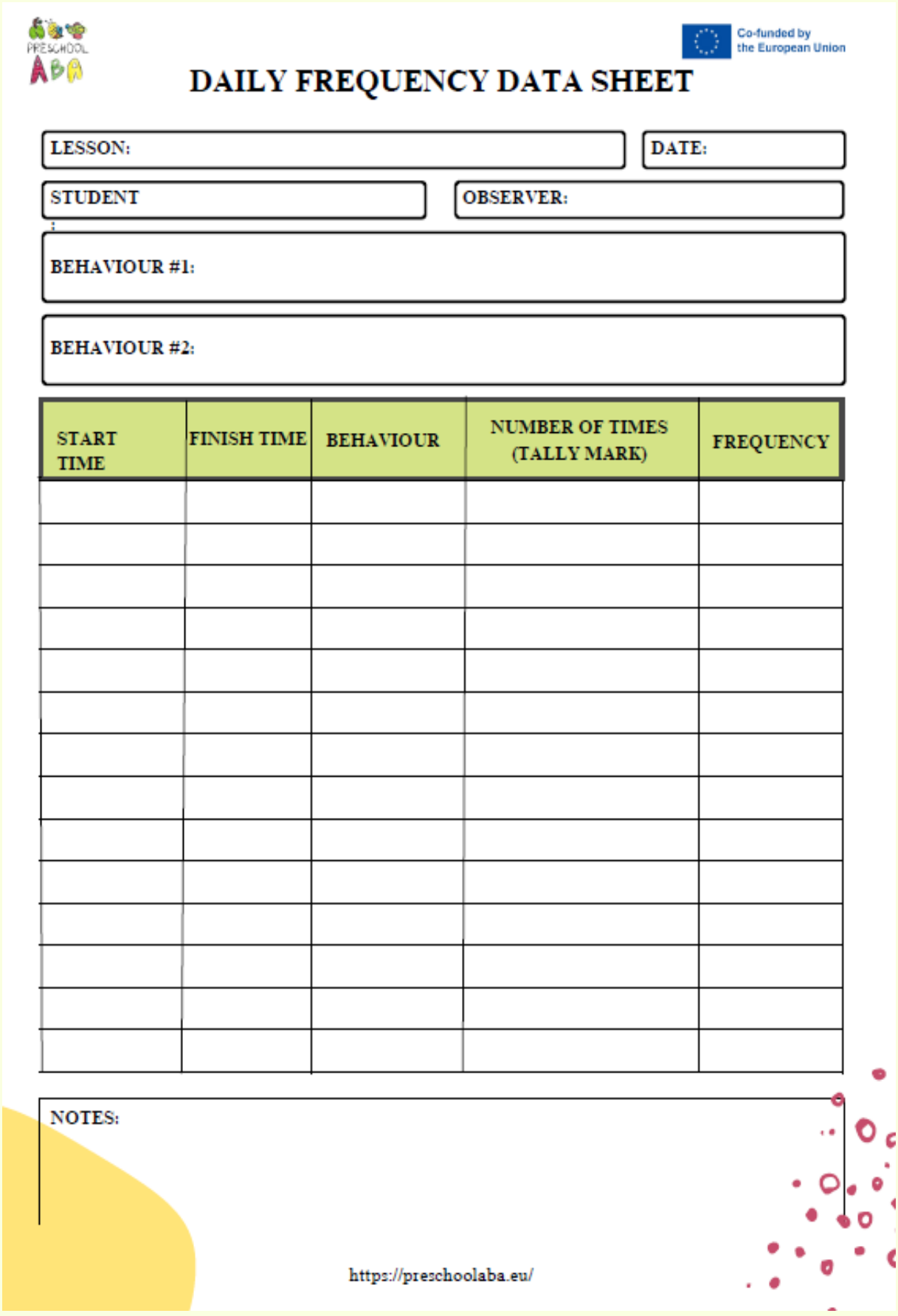
Name: _____

Instructions: The ABC data sheet helps a teacher to determine the reason the problem behaviour is occurring by looking at events happening before and after the behaviour. For each behaviour incident, write down date and time, as well as location where the problem behaviour happened. In each section (setting events, antecedent, behaviour, and consequences, check the box ☑ that corresponds to what happened at that moment. Use the information you collected to determine the likely function of the behaviour, by looking at re-occurring antecedents and consequences of the behaviour.

Data/ Time	Location	**Setting events**								**Antecedent**								**Behaviour**								**Consequences**									
		Lack of sleep	Changes in morning routine	Changes in medication	Feeling ill	Favorite caregiver/ parent absent	Prior denial of item	Other:	No identified setting event	Ask to do something	Bored (no activity/ material)	Denied access to desired item	Noisy environment	Nothing " out of the blue"	Interrupted during an activity	Transition time	Attention is given to others	Other:	Screaming	Aggression to others	Aggression to self	Tantrum	Flopping	Non-compliance	Self-stimulatory behaviour	Other:	Removed demand	Left alone	Provided attention	Got preferred item/ activity	Prompted desire behaviour	Ignored problem behaviour	Blocked access to reinforcing items	Follow through with the demand	Verbally redirected to activity	Other:
	Total count																																		
		Specify "other":								Specify "other":									Specify "other":								Specify "other":									

https://preschoolaba.eu/

Frequency Data Sheet



Co-funded by the European Union

DAILY FREQUENCY DATA SHEET

LESSON:

DATE:

STUDENT:

OBSERVER:

BEHAVIOUR #1:

BEHAVIOUR #2:

START TIME	FINISH TIME	BEHAVIOUR	NUMBER OF TIMES (TALLY MARK)	FREQUENCY

NOTES:

https://preschoolaba.eu/

Duration Data Sheet

PRESCHOOL ABA

Co-funded by the European Union

WEEKLY DURATION DATA SHEET

STUDENT		OBSERVER	
WEEK			
BEHAVIOUR			

MONDAY		
Start time	End time	Duration

TUESDAY		
Start time	End time	Duration

WEDNESDAY		
Start time	End time	Duration

THURSDAY		
Start time	End time	Duration

FRIDAY		
Start time	End time	Duration

	Average	% of Observation with Behaviour
MONDAY		
TUESDAY		
WEDNESDAY		
THURSDAY		
FRIDAY		

Average Duration: Sum the total duration from each episode and divide by the total number of episodes.
Percentage: Number of minutes/seconds of behaviour divided by the total of minutes of observation, then multiply by 100

https://preschoolaba.eu/

Download all datasheets at https://preschoolaba.eu/

Appendix 2 Behaviour Support Plan

BEHAVIOUR SUPPORT PLAN (BSP)

Name:	**Date:**
Teacher's name:	

Behaviour

Definition of challenging behaviour:

Function(s) of behaviour:

Replacement behaviour **(Ask yourself:** ***What behaviour(s) do I want to see instead of challenging behaviour?)***

Alternative behaviour:

Desire behaviour:

Proactive strategies (Ask yourself: *What will I do, so the child will engage in replacement behaviour?* E.g. use the "first-then" card, use the time, inform them in advance about upcoming changes)

.
.
.
.
.

Reinforcement strategies for replacement behaviour (The teacher should describe how they reinforce the occurrence of the replacement behaviour to ensure its repeatability)

.
.

Reactive strategies (Ask yourself: *What will I do, if the child engages in challenging behaviour?* E.g. not respond to the behaviour, but ensure child's safety, wait for the behaviour to cease and prompt appropriate response)

.
.
.
.
.

Data collection and monitoring progress (The teacher should describe the following: how the teacher will collect data, how often they will re-evaluate the progress)

.
.

Other key information others should know regarding the child and challenging behaviour

https://preschoolaba.eu/