Impact of Using Picture Schedules for a Child with Autism Spectrum Disorder (ASD) During Transitions: A case study

NOVUS PUBLISHERS (ITALY)

Sonam Yudon, Karma Jigyel

Paro College Of Education, Royal University of Bhutan, Bhutan

A B S T R A C T

Individuals with Autism Spectrum Disorders (ASD) have difficulty making the cognitive adjustments required to progress, thus find it difficult changing their routine. They have difficulty making the cognitive adjustments required to progress. As a result, transitions among individuals with autism are frequently fraught with stress, anxiety, and frustration. The need for early detection so that intervention can be provided is considered critical to provide children with ASD the necessary help. Studies conducted on ASD shows that early detection and interventions are effective in providing help for children with ASD. The use of visual support such as picture schedules is considered to be an efficient intervention in assisting children with ASD transition from one activity to another. Studies on ASD recognized and recommended the use of picture schedules to aid the transition of activities among children with ASD. The purpose of this study is to examine the impacts of using picture schedules for a child with ASD during transition. The study was conducted in one of the early childhood care and development centers in Bhutan. The approach considered for this research work was a qualitative, single-case experimental design. Data were gathered from a variety of sources, including observation of the case child, interviews with preschool facilitators, and parents of the case child. To analyze the data collected, visual analysis of the ABAB reversal design and thematic analysis for interviews were performed. To evaluate the effectiveness of the intervention, the popular design a single-subject reversal design (ABAB) was used, and the result indicated that the picture schedules had a significant effect on the case child. It was observed that the case child made smooth transitions with the support of the intervention implemented. Further, the data revealed a significant reduction in latency between the time the child was given instructions and the time she began the next activity when the picture schedules were introduced. However, the thematic analysis of semi-structured interview transcripts revealed that there were challenges faced by the parents and teachers in implementing the picture schedules as an intervention due to lack of resources, lack of expertise, inadequate knowledge of the ASD and time constrain in implementing the intervention.

Keywords: Autism Spectrum Disorder (ASD), transition, picture schedules, ABAB reversal design, information processing theory.

Introduction

According to The *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (*DSM-5*) ASD is the occurrence of persistent impairments in social interaction and the presence of restricted, repetitive patterns of behaviors, interests, or activities (**Maenner et al., 2021**). Similarly, Ozerk and Cardinal (2020) stated that autism is a developmental disability that affects how a person communicates with and relates to other people, as well as how that person experiences the world around them. Approximately 1/100 children are diagnosed with autism spectrum disorder around the world (**Zeidan et al., 2022**). Likewise, the most current study from the US Centers for Disease Control and Prevention reported an increase in the number of children with autism spectrum disorder (ASD) prevalence rate at 1 in 59 children (**Saito et al., 2020**). However, Hossain et al. (2017), revealed that the prevalence rate of ASD could not be determined in Bhutan due to the absence of a study and no proper record. This indicates that no research on the prevalence of autism has been conducted in Bhutan (**Lhamo & Sherab, 2021**). Antar (2012), reports that children with ASD are most likely to be over-focused, unable to shift their attention to the next task. They are frequently rigid in their habits and have a low tolerance

for change. They don't like change and disturbance in their routine. As a result, any change and disturbance in their routines could lead to difficulties with transitions, anxiety and challenging behaviors. This is further supported by Lequia et al. (2014) who asserted that students with ASD often exhibit rigidity, which can lead to difficulties with transitions. The inappropriate transition may include remaining on the task and being unable to shift their attention to the next task and not being able to start another or move from one location to another one to begin something new. These transition failures cause learners with ASD to feel lonely, isolated dejected and pathologically defensive (**Jackson et al. 2018**).

However, children are required to make a lot of transitions in school. They spent time at school doing transitional tasks including switching classrooms, walking outdoors for recess or lunch, putting things in lockers, or getting materials for a task. Transitioning from one activity to another is a part of life at home, work, school, and in the community. Transitions involve stopping one activity and starting another or moving from one location to another one to begin something new. Among children with ASD, resistance to routine school transition activities is common. Individuals with autism may resist transitions by exhibiting a host of problem behaviours such as aggression and tantrums (**Sterling-Turner & Jordan, 2007**). These are due to the rigidity of routine. So children with ASD face a lot of challenges during transitions and have been documented to exhibit problematic behavior when transitioning between activities. But, there is increasing evidence that early intervention improves outcomes for children with ASD, and there is an urgent need to enhance early detection and intervention efforts (**Martínez-Pedraza & Carter, 2009**). Intensive early intervention is crucial for them to have the best possible results, so, earlier the intervention, better and the outcome. Visual prompts, often in the form of visual schedules, are commonly recommended to aid in transitions for children with autism (**Waters et al., 2009**). However, there are different types of visual schedules. For instance picture schedules, objects, photos, line drawings, or written words can be used to provide information to individuals for a smooth transition. The purpose of visual schedules is to visually get the person with ASD ready for the upcoming activity or next step within an activity or series of activities. The usage of a visual schedule can help children during transition. It is known that few schools that cater to Special Educational Needs Programs initiated the use of picture schedules to provide support to children with autism in transition.

Autism is a complex neurobiological disorder that typically lasts the entire lifespan and it is more common than pediatric cancer, diabetes, and AIDS combined. Boys are four times more likely to experience it than girls, and it affects people of all racial, ethnic, and social backgrounds. According to the research done by Giarelli et al. (2010), one of the most consistent features of ASD is the predominance among males, with approximately four males to every female. This is further supported by Politte et al. (2015) that males are 4.5 times more likely to be diagnosed with ASD than females.

Transitions between activities seem to present challenges to people with autism-triggering problem behaviors (**Williams, 2015**). Transitions can be difficult for children with ASD due to their tendency to perseverate on tasks, as well as their preference to follow specific routines. However, early intervention can improve them in transition. For instance, intervention can improve a child's overall development. Results showed that whichever intervention group children were in, younger age at baseline and greater intensity of intervention both resulted in better outcomes in terms of general developmental progress and reduction in autistic symptomatology (**Williams, 2015**). Likewise, if people take into account the unique and individual needs and strengths of a student with ASD and offer appropriate support and accommodations in education, student life and daily living, young adults with ASD will potentially show higher retention and an enhanced quality of life (**Van Hees et al., 2014**). Since, early intervention is the gold standard for best outcomes in children with developmental disabilities such as ASD (**Hewitt, 2011**), they can make great strides academically, socially, and personally. So, children with autism have a higher chance of living a better life with early intervention. On the other hand, some educators and parents are not aware that providing visual support help student with ASD in a variety of activities (**Rao &Gagie, 2006**). Moreover, there is no study conducted so far on this case in the Bhutanese context although there are literatures available on it in the international context. Hence, this paper will examine the impact of using visual schedules for a child with ASD during transitions with the following aims and objectives.

In Bhutan, the understanding of children with ASD is still in its infancy stage, particularly more with intervention strategies in supporting these children at schools and homes for meaningful conduct and interactions. Therefore, this research aims to understand the effects of using picture schedules for children with ASD having transitioning issues. The results of this study may have significant impacts on many different fields.

> **Firstly**, this practical study can be useful for the teachers in the field who deal with children with ASD facing transitioning issues. They will be in a position to support them in the classroom using this evidence-based intervention and enable them to have a positive learning environment.
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> **Secondly**, this study will benefit the parents in home-based learning for their child as the researcher will be able to share the best intervention that truly works for their child in addressing transitioning issues. In this way, they can assist in enhancing their child's transitioning skills. Therefore, the current study will be able to improve the child's transitioning skills and also will bring significant changes in the behavior.
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> **Thirdly**, it will help the child gain more independence with the use of picture schedules since these enable the child to organize and follow a routine. It gives a very clear idea about what a child is expected to do and therefore signaling upcoming activities making the child a feeling of ease and control.

Last but not least, it is expected that the study will be able to contribute to the dearth of literature in the local context. Hence, this can be a resource for future researchers too.

Literature Review

Disabilities rate in Bhutan

As per Bhutan's national housing and population census, there are about 15,567 individuals with disabilities, or 2.1 percent of the population (**National Statistics Bureau, 2018**) and at least 21.7% of Bhutanese children between the ages of two and nine have been reported to have mild to severe disabilities as per the Two-Stage Disability Study (2010–2011). Among these are children with ASD. The number of children diagnosed with ASD has significantly increased. This may be due to the better diagnostic techniques which have made it possible for specialists to spot the disorder earlier in a child's life, or it may be due to the broader definition of autism. In addition, it may be because of increased public awareness. Consequently, more children with ASD are being enrolled in schools having SEN programs every year. Similarly, the National Policy on Special Educational Needs 2012 promotes the right of children with disabilities to education on an equal basis with others, from early childhood to vocational/ technical and tertiary education without any kind of discrimination (**UNICEF, 2021**). This increase in students with ASD attending mainstream schools (**Able et al. 2015; Dynia et al. 2020**) has led to a focus on the need to implement evidence-based practices for students on the autism spectrum in inclusive contexts across the world (**Dynia et al. 2020**).

Inclusive Education in Bhutan

Researchers have different notions of inclusive schools. According to Dorji and Schuelka (2016), there is no clear uniform definition of inclusive education because it differs significantly among contexts and policies. Inclusive education means accommodating all children regardless of their physical, intellectual, social, emotional, and linguistic or other conditions. We need to celebrate the differences by acknowledging their difficulties and needs, by appreciating and embracing their unique attributes. That could be done by admiring their strengths and abilities, and by providing necessary assistance. This is evident from the Standards for Inclusive Education in Bhutan, 2017. The standards recognize inclusive education as encompassing all learners and define it as a "process valuing, accepting and supporting diversity in schools and ensuring that every child has an equal opportunity to learn" (p.4) since Bhutan has embraced the notion of inclusive education according to Ministry of Education (**MoE, 2012**). In addition, Dukpa and Kamenopoulou (2018) reported that Bhutan is on a long-term goal to provide access to mainstream education for all children with disabilities.

Therefore, students with mild to moderate learning disabilities are integrated into mainstream schools, whereas learning for students with severe needs and other categories of disabilities such as those with visual and hearing challenges are offered facilities in segregated special schools (**DawaDukpa 2014, p.187**). Moreover, Bhutan has adopted policies that support an inclusive system of education, including the Bhutan Education Blueprint 2014–2024 (**MoE 2014**) and the draft National Policy for Persons with Disabilities (Gross National Happiness Commission Secretariat (GNHCS 2019). As a result, it is essential that every teacher must prepare for a diverse range of needs among the students.

The Definition of Autism Spectrum Disorder

ASD is one of the most extensively studied pediatric psychiatric conditions and it is an extremely complex condition with distinctive symptoms ranging from high functioning to severe impairment. According to DSM-V (**American Psychiatric Association, 2013**), ASD is a pervasive neurodevelopment disorder characterized by difficulties in social communication and limited, repetitive patterns of behavior, and activities. It is a neurodevelopment disorder that affects people in the way they communicate and interact with others and the world around them. Similarly, Kirk et al. (2012) define ASD as a spectrum of related disorders that primarily affect a child's development in the area of social, communication, and language. Further, ASD, as defined in section 300.8 of IDEA, refers to "a developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age three that adversely affects a child's educational performance" (**IDEA, 2014, p. 71**). In general, a child with ASD is typically characterized by a deficit in language and communication, unusual interests and behavior, and difficulties engaging in socially acceptable interactions with peers and adults (**Boutot & Myles, 2011**).

Characteristics of children with autism

While the characteristics of ASD vary for each child, common traits are generally identifiable (**Frederickson and Cline 2015; Bond et al., 2016**). As one of the primary characteristics of ASD is communication impairments, communication issues are typically present in children with ASD. Children with ASD can be slow to begin talking or may not learn to talk at all; others may learn to produce words and sentences but have difficulty using them effectively to accomplish social interactive goals. So, they have difficulties with the back-and-forth conversation. Owing to this, they demonstrate limited skills in verbal and nonverbal communication (**Frederickson, & Cline, 2015**). The communication ability of children with ASD varies

in different cases as it depends on the children's intellectual ability and social skills. However, they usually show a certain degree of limitations in their communication skills. Its severity can range from not being able to express their needs or goals verbally to knowing a wide variety of words but do not communicate in accordance with social expectations or can only talk about certain topics in great detail (Kasari, Brady, Lord, & Tager-Flusberg, 2013). For instance, they often engage in a lengthy talk about a favourite subject without noticing that others are not interested or without giving others a chance to respond. Moreover, they have a lasting intense interest in certain topics such as numbers, details, or facts and they also show an overly focused interest in moving objects or certain parts of objects.

Additionally, even though some children with ASD know the vocabulary, they usually struggle to comprehend the meaning of the sentences, the rhythm, the tone of the speech, the body language, etc. (Kasari et al., 2013). They have trouble understanding another person's point of view or are unable to foresee or comprehend other people's actions. Therefore, they may find communication that incorporates a lot of information from gestures, eye contact, facial expressions, spoken language, and body language to be far too difficult to understand (Ng, 2020). Nevertheless, they may also have different ways of learning, moving, or paying attention. They are often found to be visual learners due to their strong visual skills and tend to focus on details, rather than the whole. If we present the information visually, they learn better, as they have unique needs in terms of learning, social skills, and communication.

Teachers need strategies to address each one of these areas. Usually, they rely on their sense of sight. In schools, teachers use books, videos, charts, pictures, and color-coding to assist them in learning. One of the core features of children with ASD is sensory sensitivity and not being able to integrate fully and communicate with others (Drukpa, 2015). Usually, they are being more or less sensitive than other people to sensory input, such as light, noise, clothing, food, or temperature. Sidhu, (2014) also states that other characteristics often associated with autism are: engaging in repetitive activities and stereotyped movements such as flapping, jumping, or spinning, resistance to change or routines, refusal to make eye contact, and unusual responses to sensory experiences.

According to Little (2017) researchers and medical professionals agree that the main features displayed by a person diagnosed with an ASD include difficulties in relating to or understanding other people and social situations, difficulties in communication, and a lack of imagination, which is frequently replaced by obsessive, repetitive behaviour and strong resistance to change. In addition, people with ASD tend to be very literal and concrete in their language and mental processes, and they frequently struggle to understand metaphors, irony, sarcasm, and facetiousness. As a result, comments and discussions are sometimes misconstrued. Generally, they have a deficit in communication and social interaction. Thus, limiting maintaining interpersonal relationships.

Prevalence

The prevalence of ASD for children and youth increase annually and this upward trend has been shown continuously (Baio, 2014). For this reason, ASD is one of the fastest-increasing developmental disorders; the global prevalence estimate of ASD is 0.62% according to a meta-analysis (Elsabbagh et al., 2012). This growth may be due to the better assessment methods which allow professionals to be more adept at identifying the disorder earlier in the life of a child or it may be because of a broader definition of autism which is now inclusive of a spectrum of the disorder. It may be also due to the greater public awareness that has, in turn, made families, educators, and physicians (such as paediatricians) more attuned to the symptoms of ASD, making it more likely that a young child who may be exhibiting atypical patterns of development consistent with autism will be identified. Inclusive education in Bhutan was initiated in 2001–2002, but is still in a nascent state (Jigyel et al., 2018). However, there is a growing interest in the autism spectrum in Bhutan (Dukpa et al., 2021). This may be due to the inception of special educational needs programs in some schools in Bhutan, where children of various difficulties, including children with ASD, are included in the school.

Challenging behaviours

Challenging behaviors are typically defined as behaviors that are not socially acceptable, physically dangerous, and have a detrimental influence on schooling (Matson et al., 2010). Challenging behaviours in children with ASD can cause a lot of stress in families and schools. One of the many challenges for pupils with ASD can be simply not being able to relax in their own environment (McAllister & Hadjri, 2013). In addition, they have difficulty in social interaction and verbal and nonverbal communication. Further, they often have difficulty in understanding or communicating their needs to teachers and classmates. Hudry et al. (2010) found relatively greater impairment in receptive compared with expressive language abilities in pre-scholars with ASD. ASD have self-aggressive/disruptive behaviors and repetitive stereotyped behaviors that may affect their learning and development of peer relationships (Park et al., 2012). Usually, they repeat certain behaviors or they have unusual behaviors such as repeating words or phrases, a behavior called echolalia. Aside from these, they get upset by

the slight changes in routine and they face difficulty transitioning from one activity to another. However, the challenging behaviors are likely to impede progress in evidence-based treatment programs, such as early intensive behavioral intervention.

Difficulties in Transition activities

Classroom transitions are the time between activities in the classroom. Many teachers may not think much about transitions because they tend to happen without conscious thought during class work. But when you start thinking more critically about your own practice as well as those around you, it becomes apparent just how important these little moments are to having an effective classroom. One of the challenges faced by children diagnosed with ASD is transition. They have difficulty switching from one activity to another and they may resist transitions by exhibiting noncompliance, aggressing toward staff or other students, or engaging in stereotypy and tantrums to avoid changing activities or environments.

Likewise, Djordjevic and Glumbic (2017) emphasized that resistance to routine school transition activities is frequent among students with an autism spectrum disorder. Further, Matson (2019) highlighted that resistance to routine school transition activities is frequent among students with an autism spectrum disorder. They may have greater difficulty in shifting focus from one task to another or changes in routine. They also struggle with making the cognitive changes required to proceed. As a result, transitions in autism are often accompanied by tension, worry, and frustration. This is supported by the study carried out by Jackson et al. (2018) that these transition failures cause learners with ASD to feel lonely, isolated dejected, and pathologically defensive. Thus, individuals on the spectrum have been documented to exhibit problematic behaviour when transitioning between activities.

Visual support

Use of visual support for transition: Visual supports, which provide information presented in a visual format to enhance achievement toward specific goals, can be very helpful for individuals who have ASD (**Chapman &Yinger, 2018**). Further, they emphasized that visual supports are evidence-based interventions often used for individuals who have ASD to help address issues with social communication, social interaction, and behavior. Furthermore, research has shown that providing visual supports during a transition can significantly decrease the latency between the time children are given instructions and the time they begin the next activity (**Root et al.,2020**). It is evident that visual supports assist children with ASD in transition, as these provide children with a platform to predict the next/following activities.

Visual supports are objects that can be seen and/or held, which are used to provide information visually to enhance an individual's understanding (**Rutherford et al., 2019**). For instance, children with ASD are usually visual learners and tend to understand information explained in visual forms much better than in verbal forms. This is because visual information is usually more straightforward to process than verbal information. Visual information can be very direct, as one does not need to consider tones, stress, pitch, and rhythm. It is also stable and can be relatively permanent as learners can re-read the information anytime. Thus, seeing that verbal information cannot fulfill the communication needs of children with ASD, visual aids can serve as good alternative communicative resources for children with ASD. Kidder and Mcdonnell (2017) stated that an activity schedule focuses on transitioning from one activity to another. In addition, they were relatively popular because they were considerably systematic methods and many schools in developed countries have used this intervention for transition. Activity schedules are effective at addressing transitional behaviors, communication skills, daily living skills, academics, and inappropriate behaviors**.** However, in Bhutan it has just started to evolve where few schools and institutes with Special Educational Needs (SEN) programs use these schedules to assist children with autism in transition since these offer routine and structure, and also allow them to better focus, to better express their thoughts, and to better transition from one task to the next.

Types of visual support: Visual supports are the use of anything visually appealing, such as drawings, written words, photographs, or tangible objects, to assist individuals who have difficulty comprehending or using language to communicate or interact socially. Children with ASD benefit from these. Visual supports are one of the common, psychosocial interventions recommended across the lifespan, for people with ASD (**Denne, Hastings, & Hughes, 2018**), and they are either 'low-tech' – objects, photos, pictures, symbols, or written words – or 'high tech' – on electronic devices (**Rutherford et al., 2019**). There are different types of visual support, such as visual script, visual structure, visual rules, visual task analysis, and visual schedule.

Visual scripts: Visual scripts refer to written scenarios, skits, or examples that children can use to spark conversation and social interactions. Specific types of visual script are the social story, social script, etc.

Visual structure: Visuals can be used to organize the space. So, children with ASD may function more independently in the natural environment if the environment is visually organized.

Visual rules: Another sort of visual aid that can be used to graphically express expectations for behaviour in several circumstances is rule reminder cards. These can be used in our classroom teaching.

Visual task analysis: A visual task analysis can be used as a step-by-step guide to encourage a child's independence in carrying out tasks. These tasks can be simple, everyday activities, for example, putting the books inside the bag, brushing teeth, or wearing a dress…etc.

Visual schedules

A visual schedule is an image-based tool that helps support children with ASD. These provide visual information (real objects, line drawings, photographs, video-based schedules, pictures or words) about planned events. Visual schedules comprise a series of objects, pictures or words which act as a prompt to predict a sequence of events (**Knight Etal.2014, Macdonald et al. 2018**). These present a sequence of events for what is going to happen during a specific task, during an activity, or throughout the day. They are described as a visual intervention that enhances the autonomy of children with ASD by constructing predictability and structure in their routines (**Wong et al., 2015**). Similarly, Macdonald et al. (2018) asserted that visual schedules are used to orientate students and provide predictability within the classroom by informing students of an anticipated sequence of events using pictures, symbols and/or written language. Further, these communicate future events and activities that the children are going to do. Thus, the children with ASD get oriented from this. As noted by Lequia et al. (2011), visual schedules also organize time, space, and instruction. The use of visual schedules helps children with ASD in planning ahead within their environment.

Visual communication tools such as photographs, symbols, objects, daily schedules, and choice boards can "provide the support necessary to greatly improve a child's understanding and ability to communicate, helping children be more active, independent and successful participants in their lives" (**Pierce et al., 2013, p. 254**). Visual schedules can help in the reduction of anxiety associated with scheduling. Many autistic youngsters want to follow a set of rules. Unexpected schedule changes are sometimes stressful and unpleasant. Even transitioning between regular activities can be difficult if a child does not know what to expect. So, children with ASD are benefitted greatly from the usage of visual aids, such as visual schedules in the classroom or at home. Therefore, a few schools in Bhutan that cater Special Educational Needs Program initiated the use of visual schedules created with pictures to support children with ASD in transition.

Visual schedule practice: As stated by Pierce et al. (2013) the teacher typically gives transitions in a verbal manner in a classroom. Similarly, children in Bhutan are also provided verbal instructions by their teachers. Therefore, children with ASD have a difficult time interpreting verbal directions. If a teacher does not understand this deficit in children while communicating, the teacher may perceive the student's inability to successfully transition after a verbal demand to be a behavioral issue or lack of compliance. It may be that the student didn't get the verbal instructions due to the diagnostic and developmental deficits of the child's inability. Children with ASD have challenges in processing verbal information but they seem to excel when presented with written or pictorial information. An effective intervention or strategy must be addressed. Visual cues offer non-intrusive prompts for smooth transitions, often helping to keep engaged in an activity. Keeping all these above points in mind, teachers should not focus on verbal instructions for those children with ASD. Schedules begin with one picture shown at a time and can be slowly increased to have all pictures for the day posted at once. In this way, they will be able to use the visual schedule accurately for a smooth transition. Moreover, it helps reduce challenging behaviors. Zimmerman, K. M., et al. (2017) state that when the visual schedule was removed, all subjects returned almost to baseline data, but students quickly improved their skills once the visual schedule was implemented. Conversely, when the visual schedule is presented with many pictures, children cannot follow. Therefore, we need to keep the above points in mind when creating a visual schedule for children with ASD. In general, the effectiveness of using a visual schedule is obvious.

Efficacy of Visual Schedule: The efficacy of using visual schedules for transitions of children diagnosed with ASD was explored and found effective. According to Pierce et al. (2013), all participants increased independence during transitions in the presence of visual activity schedules. Many studies have proven that the use of a visual schedule helps ASD in increasing the incidence of functional and positive behavior during transitions. According to Coll (2020), student participants showed an increase in ability and desire for an appropriate educational setting when directed to do so by their general education or special education teacher. Kirk et al. (2012) stated that children with ASD could be quite rigid in their routines; any change and disturbance in their routines could lead to high anxiety and challenging behaviors. Even the

parents of the children reported children's tantrums exhibited while changing locations. So, these children need the right interventions. The use of visual communication may improve the understanding of behavioural expectations in the classroom for children with ASD (**Spriggs et al., 2014**). Thus, visual support in their environment can assist in resolving this issue, especially when transitioning from one activity to the next. For instance, when a child with ASD has advanced visual cues/notice an upcoming transition, there is a higher possibility that the student will make the transition independently without a behavioral outburst (**Park, 2011**).

Amongst many interventions for students with ASD, the use of visual schedules has proven to be effective in assisting them to help deal with challenging behaviors during transitions. Predictability is provided through visual schedules, which allow students to anticipate changes in their daily routines. It helps in communicating future events and activities that will take place within the child's daily schedule, and organizing time, space, and instruction. Moreover, it has the possibility of supporting students with ASD to stay on-task and navigate transitions. Macdonald et al. (2018) highlight those difficulties with staying on-task and transitioning between tasks or task elements can interfere with students' participation in educational activities and lead to stress and anxiety. According to Cihak (2011), a variety of studies have been conducted to demonstrate the effectiveness of a visual schedule and results showed that the use of the visual schedule helped in transitioning children more independently and inappropriate behaviors were significantly reduced. Similarly, Wong et al. (2015) categorize "visual supports", including schedules, as an evidence-based practice, and a review by Knight et al. (2014) concluded that visual schedules were effective in promoting on-task behavior and facilitating independent transitions. From the research studies that have been reviewed, it is evident that the use of a visual schedule helps students with ASD in transition as it helps them to plan ahead within their environment. These studies indicate that visual schedules are an effective strategy to support children on the spectrum.

Picture schedule

A Picture Schedule is a set of images that are arranged in a precise order, either horizontally or vertically, for a particular purpose. They are necessary for all types of schools and all students, including those with and without impairments. The use of picture schedules helps embed structure within a classroom which increases student independence and reduces disruptive behaviours. Furthermore, Watson et al. (2016) found the use of picture activity schedules and their effect on classroom routines increases independent transitions for students from one activity to the next. Thus, helping in the predictability of a day, centre activities, and transitions.

Applied Behaviour Analysis (ABA)

Applied Behaviour Analysis (ABA) is a form of therapy based on the science of learning and behaviour. The goal is to increase behaviours that are helpful and minimize adverse behaviours that affect learning. ABA therapy programs can help to increase language and communication skills, and improve attention, focus, social skills, memory, and academics. Further help in decreasing problem behaviour. The common goal of autism interventions is to address quality of life issues by improving skills that can remove barriers to learning and promote independence and best practices that employ methods based on ABA (**Anagnostou et al. 2014; Maurice et al. 2001**). It is a scientific approach where socially significant behaviours get improved. Moreover, the association between ABA-based therapies and the best results is statistically quite strong (**Fein et al. 2013; Orinstein et al. 2014**). Therefore, this study employed picture schedules which are an evidence-based intervention for a child with ASD who has challenges in transitioning between classroom activities.

Methodology

Research Paradigm

The objective of the research determines the paradigm (**Denzin, 2010**). A paradigm is a way of thinking about how to carry out research. For this study, the constructivist paradigm's epistemological assumptions were deemed to be the best fit for addressing the study's research goals and questions since the interpretive/constructivist researcher's objective is to rely on the "participants' perspectives of the situation being researched" (**Creswell, 2014, p.8**). For instance, the study in particular attempted to get as close as possible to the participants to collect enough data on the impacts of using picture schedules for a child with ASD during the transition in classroom activities. Therefore, the paradigm that guides this study is constructivism with a qualitative case study approach (**Creswell & Creswell, 2018; Yin, 2018**). The researcher constructs meanings based on his/her own experiences and those of the study's participants and then evaluates what is said to ascertain the real facts.

Research Approach and Design

The study employed qualitative research methods to explore and understand the impact of using picture schedules for a child with ASD during transitions. Qualitative research is an approach to exploring and understanding the meaning individuals or groups attribute to a social or human problem (Creswell, 2014) and is an approach suitable for social science inquiry, particularly that dealing with human behaviour (Creswell, 2012). Therefore, qualitative research was found to be the most appropriate method for the current study. This study relies on participants' views, open-ended questions, and a focus on how a child with ASD enhances their transition skills. According to Bryman (2012), a detailed and intensive analysis of a single case is the basic requirement of a case study. The case study approach, according to Bryman, is viewed as helpful in generating an intensive and detailed examination of a single case, helping in theoretical reasoning and analysis at the end of the research. Therefore, the exploratory case study approach was suitable for the study as it aims to determine if the use of picture schedules helps a child with ASD in transitioning from one activity to another. It also allowed the use of interviews and observations with an opportunity to involve multiple sources of information. To support data collected through interviews and observations, qualitative reversal design (ABAB), a single subject was found to be the most appropriate method for the current study since it allowed the researcher to collect supplementary information that was needed. The effects of picture schedules were measured through latency recording, which measured how long it took for a behavior to begin. In addition, anecdotal recordings were done.

Research setting

The study was carried out in a preschool, where observations were made over a morning period of one hour. The study was conducted during regular school hours for six weeks at one of the preschools in Thimphu. The participant was in her classroom for the majority of the school day. The preschool had a total of seventy-six children at the time of the study. Of these children, thirty-three were boys and forty-three were girls.

Selection of the Participants

This is a single-subject design, a study involving only one participant (case child), to test the impact of using picture schedules for a child with ASD during transitions. The participant of this study was a girl child aged five and a half months who met the following eligibility requirements: (a) Consultant Child and Adolescent Psychiatrist confirmed the child's diagnosis of ASD early features and had social and communication challenges, (b) the child attended preschool, and (c) the child's teachers reported that the child had difficulty transitioning between activities. As reported by her parents, she was diagnosed with early signs of autism and also a global developmental disorder when she was two years and four months old. She attended preschool along with her younger sister who was three years old. As a child with ASD, she has social communication difficulties and minimal interaction. She doesn't engage with other children during play and has difficulties walking as well. She found transitions difficult and the preschool she attended required a lot of movement from one activity to the other. Each child had to transition nine times in the morning because of the nine different activities.

Three participants who were teaching the case child participated in the study. They had three years of teaching experience with the case child. The child's mother and father were involved in this study too. Her father is a public servant and her mother is an educated housewife. She has one younger sister who goes and attends the same preschool.

Data Collection Techniques

Interview: Data were collected from an array of sources. One cannot get accurate data for the study from one source. The need for in-depth responses from each participant is considered important to gain access to and understand activities and events. Face-to-face interviews with individual participants were conducted using semi-structured and open-ended questions for deeper understanding. The interviews lasted for not more than twenty minutes and a phone was used to record the interview. Open-ended interviews are viewed as the most appropriate type of approach as they enable the participants to fully narrate their views and experiences (Turner, 2010). Therefore, the questions for respondents were open-ended and conversational to get an authentic response. The interviewees, one male, and four females, were provided with the set of interview questions attached along with the consent letters. The interview language was used as per their preference. Before the interview, a pilot interview was conducted to build confidence and to understand how well the questions works as intended and to refine the questions and interview procedures. Cooksey and McDonald (2019) have supported that the "learning value of a pilot test or trial run is incalculable and can save you from disastrous mistakes" (p.343). The interview's piloting indeed helped me as a researcher to determine how long it would take to conduct the interviews and what kinds of clarification parents would ask. Both facilitators and the parents of the child with ASD were interviewed to obtain

information on the effect of picture schedules in transition. Case study interviews must inform the research questions in an approachable and nonthreatening manner (**Yin, 2014**)**.**

Observation: Daily observation, both direct and participant observation was carried out in the class. It is a single case study so a particular child was observed on the effect of picture schedules on transition in her natural setting. During observation, the child's behaviors were recorded using anecdotal and latency recording sheets. Direct and participant observations took place over forty two days in the classroom setting. The researcher engaged in "participant observation" when other facilitators delivered the instruction.

Data Analysis and Findings

Data representing the results of a six-week immersion program designed to see the impact of using picture schedules for a child with ASD during transitions were analyzed. Most quotes and examples are drawn from the interviews and the observations. During the program, the child was observed in a preschool where many transitions happened during the day. The results obtained from research related to picture schedules to assist in transition for the child are explained under appropriate themes. Additionally, the results of ABAB Reversal Design (baseline I, intervention I, baseline II, intervention II) have been reported using graphs. Details on the organization of themes and subthemes from the semi-structured interviews are shown in Figure 1. The main themes include (a) Challenges of implementing picture schedules by facilitators, (b) Challenges of implementing picture schedules by parents and, (c) The effectiveness of using picture schedules.

Figure 1
Themes and subthemes from the semi-structured interviews
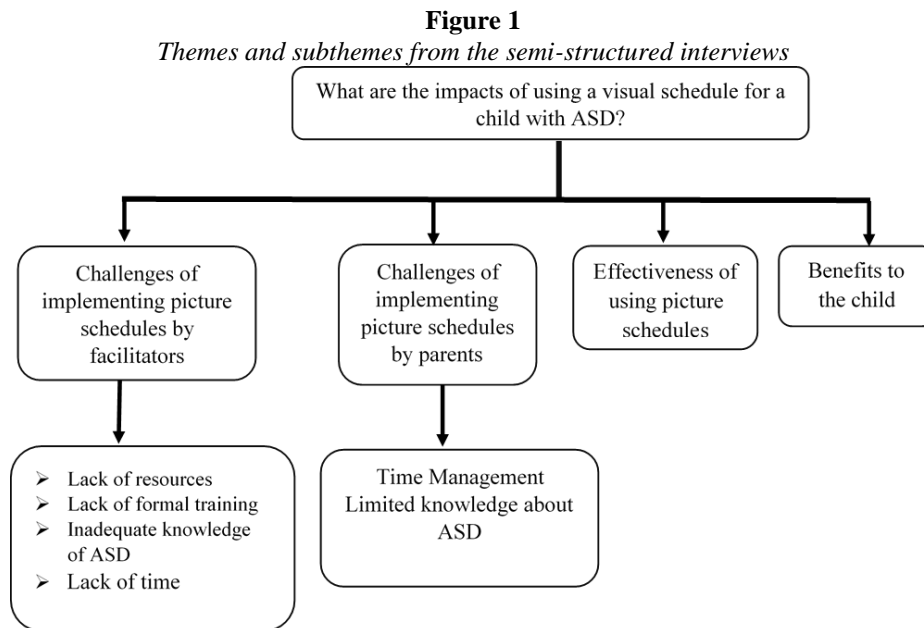
Theme 1: Challenges of implementing picture schedules by teachers
This theme report's findings from the interview and observations of the challenges faced by the facilitators and parents in developing and implementing picture schedules as an intervention. Four subthemes are reported as: (1) Lack of resources, (2) Lack of formal training, (3) Inadequate knowledge of ASD, and (4) Lack of time.
The following subthemes report findings of how teachers face challenges when developing picture schedules as well as in implementing them.

Sub-theme 1: Lack of resources.
Lack of resources is a barrier to developing the picture schedules. All facilitators reported the lack of resources as a major concern in supporting children with ASD in transition. A facilitator reported needing a printer, paper, etc.:

> To make ve….schedule resources should be available. Then only we can… make one. We don't have enough resources like printer, paper, and other things required for this but we uh….develop with the minimal resources we have and uh..in that schedule…(Facilitator 2)

Similarly, another facilitator too described the lack of resources needed to make picture schedules to assist the child: *"We face difficulties making picture schedule for the child. Firstly, we need to have resources..."* (Facilitator 3)

To meet the unique requirements of children with ASD, sufficient resources are essential. Moreover, facilitators should also receive training on how to improvise the available resources to develop a schedule. Having enough resources encourages them to work with children with ASD because doing so will help them overcome some obstacles.

Sub-theme 2: Lack of formal training

Lack of formal training was another challenge facilitator's face while implementing intervention for children with ASD. With the little training they availed from a few workshops, they support children with disabilities in the Centre with some form of intervention though it is not enough. Further, they are not confident in implementing the interventions and are doubtful if it is the correct intervention: *"We don't know whether it is right or wrong but this schedule benefitted our children while moving from one class to another."* (Facilitator 3)

This lack of formal training has significant implications in dealing with children with disabilities. Therefore, there is a need for professional development training from time to time for teachers with appropriate intervention strategies in supporting the needs of children with disabilities.

Sub-theme 3: Inadequate knowledge of ASD

Almost all the participants have less understanding of ASD. For instance, though they know that children with ASD have speech difficulty and difficulty comprehending whatever is said to them, they are not able to discuss in length about characteristics of ASD:

> …some speech issues, some not able to walk…unique thing that autistic children do is that they have difficulty in understanding whatever is told to them. When something is instructed, there is delay in response so this is what I understood about autism. I do not have much to say about autism other than what I have shared before la. (Facilitator 2).

Even though one of the facilitators had participated in some training on ASD, she mentioned that she knew less about autism and was neither competent nor confident when working with children with ASD:

> las a very little but uh…we seek out a help from Bhutan foundation or ABS or any training that's around…sought help from a specialist…our country 2016.17 I was working with her. She is speech therapist from…from Singapore…first person who introduce us to how to deal with children with special needs…little capacity we had some training. We don't know much on how to support children with ASD. (Facilitator 1)

Children with ASD should be instructed by teachers who are qualified to teach them. In contrast, it is known that facilitators face challenges in supporting children with little understanding of ASD which often leaves them ill-equipped to effectively support these groups of children. So it is a daunting task for them without addressing the needs of the children and not doing justice owing to the lack of understanding. Therefore, it is essential to have the proper training to get in-depth knowledge and the required skills, so that they are adequately prepared to teach children with ASD.

Sub-theme 4: Lack of time

In developing the picture schedule, besides limited resources, facilitators do not have time to prepare schedules to help children having transitioning difficulties: *"Moreover uh…..we need ta…..time to discuss and then…uh…develop but we don't get time to work…..no…make."* (Facilitator 2). Time management is one of the challenges they face as the Centre is fully engaged with various activities. Furthermore, the facilitators are engaged in supporting a large number of children besides children with disabilities. Thus, they hardly get spare time during the day. When they have more children and tight schedules in the Centre, it becomes challenging for them to offer enough time. Therefore, it is not possible to prepare quality teaching-learning materials including picture schedules. Owing to this reason, children's learning is hampered to a greater degree.

Theme 2: Challenges of implementing picture schedules by parents

Sub-theme 1: Time management

According to the participants, the preparation of the picture schedule required time to create and implement. The mother of the child expressed that she did try to intervene but could not give the necessary support due to the lack of time. "I tried at home but could not do much as I don't get time and don't have much idea on this." She further highlighted the challenges she encounters in managing time:

> Ah….. okay. to be honest I don't have such learning based at home. For now, she is just learning from school. The reason is that we don't have many ideas to cater the child because of lack of training and resources. Moreover, we are facing difficult to manage time since my husband is office goer and I have to manage all the household chores. (Mother)

Moreover, the child's father responded to the need for time to develop picture schedules for his child: "With this little knowledge we help her do the work but it's difficult for us as we are not trained and also I don't get time to teach these skills. Her mom does more in helping and supporting." (Father)

The lack of time in supporting the children is likely to make tremendous implications. Hence, parents need to have enough time to provide early intervention for their children. Either one of the parents has to take responsibility for making the child follow the schedule so that timely intervention is taking place. However, it is known that the mother is more engaged than the father in providing necessary support to their child with ASD.

Sub-theme 2: Limited knowledge of ASD

Owing to parents being the primary caregivers in most settings, their ability to recognize the signs and symptoms of autism and respond appropriately is of the most important in aiming to deliver the best healthcare to autistic individuals. However, it is evident that the parents of the case child have minimal knowledge about autism even if it is not new to them: "We were uh…worried a lot…but… could do nothing as we don't know much about autism. Then, we… thought of admitting her to ECCD for the improvement and then we…ad.. Admitted her in." (Mother)

Parents having limited knowledge of ASD and its symptoms can have negative implications both for the parents and as well for the child. Therefore, it is a prerequisite that supports services in terms of training and awareness on ASD and basic intervention strategies for parents be made available.

Theme 3: The effectiveness of using picture schedules

Despite the aforementioned barriers, all the facilitators reported favorable impressions of the effect of the picture schedule when interviewed. For instance, a facilitator reported that the children were directed as per the schedules in conducting an expected activity:

> Initially, we were skeptical about the use of picture schedules…worried about how children would be able to carry their schedule…However; we came to know that it was easy for them to carry and rather benefitted us to a great extent. (Facilitator 3)

A similar benefit was reported by another facilitator:

> ….. to help children understand where they are, wha….what is expected of them the next. So, we just used pictures schedule here la, drawings that represent where they are supposed to be. Uh…this helped them move to the next activities la. (Facilitator 1)

Further, to supplement how effective the use of picture schedules is in supporting the transition to an expected activity, an ABAB reversal design was conducted. A graphic analysis was conducted in reporting the results of this reversal design as follows:

Figure 2

Summary of the overall ABAB design (During Baseline I, Intervention I, Baseline II and, Intervention II)
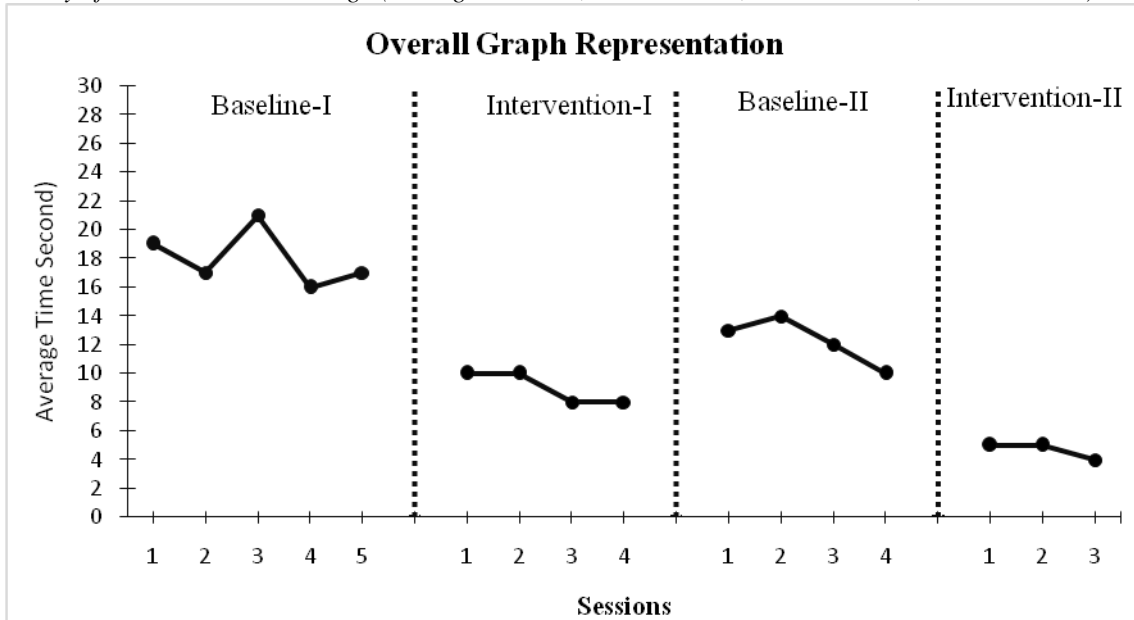

Figure 2 displays the summary of the overall ABAB design. Without the intervention of using picture schedules in the initial period of the baseline phase I, it is observed that the child took longer time from 16 seconds to 21 seconds during the transition to participate in the required activity. However, it is observed that the time gap during the transition from one activity to the other activity significantly decreased between 10 seconds to 8 seconds when the picture schedules were used for four days during intervention phase I. This positive trend of the child taking less time as compared to the initial period of baseline phase I without intervention points to the fact that using picture schedules as an intervention during transition is effective (see Figure 2).

Similarly, the time she for transitioning between activities again increased between 10 seconds to 14 seconds with the withdrawal of the picture schedule during the second baseline phase, and drastically decreased between 5 seconds to 4 seconds during the second intervention phase where the picture schedule was reintroduced to assist the transition of a child. It is observed that the child's transitioning behavior enhanced when intervention was in place (see Figure 2). This indicates that the picture schedules assisted her in moving to the next class/activity. If the child's transitions skills between the activities improve much better with the usage of a picture schedule and deteriorate when the intervention is removed, this suggests that the intervention had an effect.

Theme 4: Benefits to the case child

Overall, the child demonstrated an improvement in her behavior of transitioning between the activities as a result of the intervention (see Figure 2). For instance, one facilitator reported that she noticed an improvement in her transition behavior. The girl was able to locate the class by going through the pictures that represented the class:

> Gradually, we noticed an improvement in her transitioning. Example: for art class, she could locate the class by going through the pictures like water color, panting brush and crayon. Similarly, for play class, she could directly identify the boy sitting on the swing. (Facilitator 2)

A similar outcome was shared by another facilitator:

> …while moving from one class to another, we use mostly picture images..and then this helped her to go to the next activity…We don't know whether it is right or wrong but this schedule benefitted the child while moving from one class to the another. (Facilitator 3)

Further, anecdotal evidence also suggests that the child performed her behavior better after the implementation of the intervention. For example, she moved to the next class accordingly without taking much time after looking at the pictures.

Therefore, the child appeared to have improved her transitioning skills with the use of the intervention. It is evident from the above excerpts and the graphs that the child had benefitted from the use of a picture schedule. Upon introduction of the picture schedule, an immediate and drastic change was observed in latency recording.

Discussion

The purpose of the study was to investigate the impact of using picture schedules for a child with autism during the transition in classroom activities. The study was carried out in one of the Early Childhood Care and Development (ECCD) centres in Bhutan. Firstly, the result of the study confirmed that a child with ASD has limited social and communication skills and also has difficulty understanding everything that is said to her. These findings are consistent with the existing literature that ASD is a spectrum of related disorders that primarily affect a child's social, communicative, and language development (**Kirk, Gallagher, Coleman & Anastasiow, 2012**). Additionally, as previous studies have noted, children with ASD's communication and social deficits (American Psychiatric Association 2013) can often make the adaptation to school particularly challenging (**Marsh et al. 2017**). These deficiencies can limit their relationships with classmates and facilitators and make their transition into new social settings difficult.

The result also reveals that the child has difficulty transitioning from one activity to another but with the use of picture schedules; an increase in transition was noticed. Children come to preschool with diverse backgrounds, interests, experiences, and abilities. By acknowledging these differences, teachers can better respond to the different needs of each child and help them learn. However, the Centre is unable to meet the current demand for early intervention for children with ASD. Therefore, implementation barriers are experienced by both facilitators and parents. Based on the interview and observations conducted, both parents and teachers agree that the use of picture schedules is effective when used for children with ASD, but they also reported facing challenges in implementing picture schedules as they have minimal knowledge of using the picture schedules to the fullest.

Theme One: Challenges in implementing picture schedules by facilitators

Firstly, the findings show that a lack of basic resources such as printers, and papers
at the centre are the barriers to supporting children with ASD. The study shows a correlation between the study conducted by Stephenson et al. (2020), wherein they have identified many potential barriers to successful inclusion, including lack of knowledge about ASD and appropriate teaching strategies, lack of professional learning, and lack of funding for teacher aides, special educators, resources, and equipment. Likewise, large class sizes, lack of teacher expertise, and lack of adequate resources are some of the challenges that Bhutanese schools experience in the inclusion of children with disabilities (**Drukpa, 2015, p.81**). Moreover, a study conducted by Lindsay et al. (2013) emphasizes those teachers experiencing challenges with understanding and managing the behavior of children with ASD and lack of resources act as a barrier. As a result, facilitators struggle to provide appropriate interventions and reports of a dire need for resources particularly to support children with ASD, leaving children with ASD without adequate and required support. Most of the facilitators find developing interventions for the child with ASD to be challenging without proper resources. Thus, schools must provide the necessary resources to enable teachers to support all students, including those with disabilities, while meeting the standards that have been set for providing education to them (Wilson & Landa, 2019). This is supported by findings from other research that inclusion may become a challenge for a developing country like Bhutan, citing reasons such as lack of resources, lack of trained teachers and lack of wider disability awareness (**Dukpa & Kamenopoulou, 2018**). A child with ASD may not receive special support if there are not enough materials.

A previous study by Sherab et al. (2015) confirmed that despite the challenges brought on by inadequate facilities and resources, the facilitators were compelled to work with SEN students. Therefore, the availability of resources will motivate the facilitators and provide them with better and varied options to work effectively with the child with ASD. In light of the results, it could be argued that the services provided in the classroom can help alleviate some of the difficulties teachers encounter when engaging a child with ASD. Children with ASD should be offered special services but due to the lack of resources, their diverse needs are not being fully met. Despite the challenges, the facilitators have made use of the limited resources they have at the centre to support a child with ASD.

Secondly, one of the findings of this study is the lack of formal training for the facilitators. An increasing number of children worldwide are diagnosed with ASD each year. Low et al.(2017) emphasized that there is a high probability that pre-service and in-service teachers will find students with ASD in their classrooms. According to the National Policy on Special Educational Needs (2019), teachers educating children with special educational needs shall be trained in relevant pedagogy and curriculum. However, in Bhutan, the majority of teachers in mainstream schools do not have a formal training in special education (**Drukpa, 2015**). Thus, placing students on the autism spectrum in a regular classroom without an experienced teacher who has in-depth knowledge and understanding of ASD can turn out to be sheer physical inclusion.

One of the biggest challenges for a child with autism is the transition between activities and for that, early and effective intervention should be provided for them. Effective intervention should be based on a careful assessment of the individual child and focus on individual strengths, interests and preferences (**Guldberg, 2010**). In contrast, the child with ASD is supported by untrained facilitators at the Centre. It is supported by Dillenburger, Keenan, Doherty, Byrne, and Gallagher

(2010) that despite the increasing trend of including children diagnosed with ASD in a mainstream classroom, most teachers and other professionals lack training in intervention strategies such as ABT (Applied Behavior Therapy). For this reason, it is important that teachers' training includes skills in working with and teaching children with ASD. According to the results, the majority of participants received no training other than a few workshops on ASD before teaching a child with autism. On the other hand, the facilitators received no specific hands-on training in using picture schedules to provide early intervention for children with ASD. The findings reveal that they supported the child with the limited training they received in a few workshops facilitated by the Bhutan foundation and Ability Bhutan Society. They have also attended training available in Thimphu and Paro. They also sought help from a specialist in the country.

However, these were inadequate as they were either for short durations or did not cover the details needed. Such gaps in training can discourage teachers while students with ASD may miss opportunities to reach their full potential. Similarly, a study conducted by Wilmhurst and Brue (2010) reports teachers facing difficulty responding to the needs of children with ASD due to a lack of training. Similarly, Eldar et al. (2010) mention the importance of teachers requiring specific training and support, understanding and collaboration from their peers and the school board to facilitate the full inclusion of children with ASD. The teachers who participated in this study were candid about the lack of training required and emphasized that training is needed on how to support a child with ASD. This is supported by Lindsay et al. (2013) and Dilly and Hall (2018) in their studies that supporting children with ASD requires sufficient training to meet the needs of planning and support in the mainstream classroom. Similar results were also found in the study conducted by Lindsay et al. (2013) who suggest that teachers recommend that more resources, training and support are needed to improve the education and inclusion of children with ASD. Further, the education of children with ASD requires expertise in using an appropriate intervention that has been empirically proven to address the needs of children with ASD. On the other hand, facilitators are unable to provide evidence-based interventions due to the lack of formal training on ASD. Dukpa and Kamenopoulou (2018) argue that the findings from their research call for improved training programmes on inclusion and disability for teachers in Bhutan as well as programme to increase disability awareness in the wider population.

Thirdly, the findings indicate that early childhood facilitators have limited knowledge about ASD.The results thus show significant implementation challenges faced by the facilitators as they are not trained to carry out the necessary interventions. A similar by Sansosti and Sansosti (2012) identified a limited understanding of ASD as the most significant barrier to the successful inclusion of children with ASD. In addition, they acknowledged that they lack the specific training and understanding needed to address the special needs of children with ASD. Accordingly, Van Der Steen et al. (2020) state that the lack of knowledge and training regarding how to work with students with ASD has been identified as a barrier faced by general educators, including teachers who are dissatisfied with their support to children with ASD without knowing ASD. Additionally, the facilitators' lack of knowledge and awareness of ASD is a major barrier for the child with ASD to successfully transition between classroom activities. To enhance participants' knowledge about autism and of the intervention strategies that are effective in assisting young children with ASD, appropriate training and awareness programs about ASD should be provided for them, so that they can provide the necessary support. However, almost all participants felt insufficient, or not at all trained and reported a lack of knowledge and skills to help these children. Working with children with ASD in inclusive settings can be quite challenging due to a poor understanding of ASD and limited access to resources. Therefore, the successful implementation of inclusion depends to a large extent on the attitude and level of competence of the teachers, but the facilitators challenge these opportunities.

Another barrier to using picture schedules was the time required to create and implement them. Findings suggest that the facilitators at the centre found it difficult to help the child with ASD because there was not enough time for them. They need time to develop teaching and learning materials, including interventions for the child with ASD. The facilitators have problems with the time they get at the centre as they have to support many other children besides those who have had difficulties. Therefore, they have little free time during the day and it is not enough to develop high-quality teaching-learning materials. The findings of this study are supported by similar studies that confirm that the time and resources required to implement intervention programs to support children with Special Educational Needs in the classroom pose a challenge for teachers (Westwood, 2018). As a part of the visual support, namely the picture schedules, time is required to systematically instruct the child to independently manipulate the schedule and then move on to the next activities. The lack of time can place constraints on the facilitators, preventing them from using this intervention in their classroom.

Theme two: Challenges in implementing picture schedules by parents

One of the outcomes of this investigation is that parents have limited knowledge about ASD. According to the findings, parents are unable to support their children since they do not know about ASD. Therefore, it is important to raise awareness of ASD among parents to help their children at home. In this way, parents can help their children early as they are the primary caregiver. Many researchers recognize the importance of parent-training programs in autism to promote optimal

child development (**Nevill et al., 2018**) and recent systematic reviews have demonstrated their efficacy (**Bearss et al., 2015; Schultz et al., 2011**). It is known as an evidence-based treatment for normally developing children with disruptive behavior. Therefore, this would benefit children with ASD. If parents are allowed to attend training courses on ASD, their parenting knowledge will increase. Children with ASD will therefore benefit indirectly. It also encourages parents to support their children. Therefore, many researchers recognize the importance of parent training programs in autism to promote optimal child development. In this way, parents of the child with disabilities are made aware of the support offered. Thus, at home, they can embed naturally occurring learning opportunities into structured daily routines such as brushing their teeth, having breakfast, wearing clothes, etc.

Aside from limited knowledge about ASD, the next most common barrier cited by the child's parents was difficulty in managing time. Parents have an important role to play in a child's development. However, parents who work most of the time do not have enough time to provide the necessary support may be due to other primary activities. A child with ASD should receive special care and early intervention to develop her skills. Thus, the primary solution would be to create a daily schedule for the parents to give the child plenty of time.

Theme three: Effectiveness of using picture schedules

The last theme that emerged from the interviews and observations was the effectiveness of the picture schedules for a child with autism during the transition into classroom activities.

Amidst these challenges, the facilitators found that the use of picture schedules is beneficial to a child with ASD in transitioning between classroom activities. It is one of the visual supports to help the child with ASD in the transition. Consistent with the findings of previous studies Hume et al. (2014) the benefits of using visual support cues, the child with ASD experienced smoother transitions, improved understanding of social cues, and enhanced self-regulation skills, which led to a decrease in deviant behaviors. In addition, the structure and visual schedule approach are the most common strategies used by teachers to teach the child with ASD in schools in many countries (**Drukpa et al., 2021**) which benefit the child with ASD in moving from one class to another. Similarly, participants reported that the child was able to look at the pictures or drawings that represent where they are supposed to be and move accordingly. Therefore, this finding reflects the need for visual support such as picture schedules for the child with ASD to enhance her transitional skills. Based on the observation made during the process of switching activities from one to another, the child with ASD showed significant improvement in her behavior (transition) when using picture schedules. The strategy of using visual scheduling has been also reported in studies (**Banda et al., 2009; Conn, 2018**) which help to develop the child's independence in transitioning from activity to activity throughout his day. It was evident from classroom observation that visual scheduling such as picture schedules direct the child's initial task, and then to the following activities. In addition, the acquaintance of children with ASD with the schedules of daily activities of their schools and teachers informing them in advance about any changes in such schedules supported the inclusion of these children in mainstream Early Childhood Development classrooms (**Majoko, 2017, p.12**). The child's transitional ability increased with the use of the picture schedule and her transitional behavior decreased with the discontinuation of the picture schedule. This indicates that the child was supported when the intervention was in place.

The majority of participants shared the positive effects of using picture schedules for the child with ASD. This is supported by the information processing theory of Atkinson and Shiffrin (1968), which explains how the human brain registers, stores, and retrieves information. A child with ASD process information from visual representation because they are visual learners. For instance, experts, practitioners, and individuals with ASD themselves (**e.g., Temple Grandin**) believe that children and adults with ASD process visual information better than auditory information (Knight et al., 2014). Visual aids are a useful source to convey nonverbal information since a child with ASD tends to process information by focusing on individual elements rather than adopting a broader, global perspective (**Curtin & Long, 2021**). The child received attention from the visual representations and was then registered as information input to follow. After that, through repeated practice using schedules, the child became familiar with the pictures and the information was transferred to short-term memory which increased the effectiveness of the picture schedule. The use of picture schedules is one of the most effective interventions to assist a child with ASD in the transition.

Further, to support the effectiveness of the schedule, ABAB design was used to see how well picture schedules facilitate the child's transition to an expected activity. The study measured the following parameters: picture schedules not present, introducing the picture schedules as an intervention, removing the picture schedules, and reintroducing the picture schedules. The child significantly increased her independent transitions when the picture schedule was introduced. When the picture schedule was removed, the child showed a decrease in her transitional behavior. When the visual schedule was removed, her behavior returned almost to baseline data. It is supported by Zimmerman, K. M., et al. (2017) that the students quickly improved their skills once the schedule was returned. Therefore, these findings indicate that the use of picture schedules in transitioning between classroom activities had a significant effect on the child with ASD.

Theme 4: Benefits to the case child

The findings of this study demonstrate many benefits to using picture schedules for a child with ASD. The child showed an improvement in her behavior when transitioning between activities as a result of the intervention. This evidence confirms previous findings Ng (2020) who claimed that one of the strengths of visual aids is that they have many advantages in conveying information. Children with ASD typically learn best with visual support rather than auditory input. In addition, visual information tends to be more direct and easier to process than verbal information. Therefore, seeing it instead of saying it helps the person retain and process information. Visual support in the form of picture schedules for children with ASD has been shown to help children anticipate events in advance and plan for changes in their routines, giving them more flexibility. The findings indicate that after the introduction of the picture schedules, an immediate and drastic change in latency was observed. This is obvious from the study conducted by Bennie (2021) that providing visual support during a transition can significantly reduce the latency between when children are given instructions and when they begin the next activity.

Conclusion and Recommendation

The aim of this research was to investigate the effects of using picture schedules for a child with ASD during the transition. Therefore, the researcher used picture schedules as an intervention to help the child with ASD transition between activities in one of the Centers in Bhutan. In addition, to confirm the effectiveness of the intervention, the ABAB design was used and the result indicated that the picture schedules had a significant effect on the case child. It was observed that the case child made smooth transitions with the support of the intervention implemented. During the implementation process, the facilitators and parents encountered significant challenges due to limited knowledge of ASD and the intervention strategies used. Despite these challenges, it was evident that the use of picture schedules has been very effective in supporting the case child's transition between activities. Therefore, it is expected that the outcome of this small case study would motivate and reinforce teachers and professionals alike in the implementation of different intervention strategies in supporting children with ASD with learning and development in terms of academic and social gains.

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Please cite this article as: Yudon et al.**, 2023/ European Journal of Natural and Social Sciences,** EJNSS-NOVUS, 02(1), 2023 01000145EJNSS

34