

Teaching students with autism: Strategies for primary school teachers



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School resources

This resource provides an introduction to evidence-based strategies that can be used for teaching students with autism spectrum disorder in mainstream primary school settings.

What is autism?

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects approximately 80,000 New Zealanders. Autism impacts a person's social interaction, behaviour and ability to communicate. Some common characteristics associated with autism include repetitive and compulsive behaviours, limited interests and social engagement, and difficulty adjusting to unexpected change or unfamiliar routines. As autism is a spectrum disorder, the severity and range of characteristics that an individual with autism will display varies widely. Although there are common traits associated with autism, it is important to remember that no two children with autism are the same. For a more detailed overview of autism, see our research guide *Autism: an overview*.

Structured teaching approaches

As autism is a complex disorder there is no single approach to meeting the needs of all students with autism. Teaching strategies need to be adapted based on a student's individual needs, the resources available (such as teacher aide assistance) and the educational setting.

The most effective and research-proven interventions for teaching students with autism are those that are highly structured. Structured teaching approaches cater to individual student needs and address common sources of anxiety by providing predictability and routine to support students with autism¹. Two key elements of structured teaching approaches are the organisation of the physical environment and the use of visual supports.

The physical environment

Clear and consistent organisation of the physical environment is a strong theme in structured teaching and is a key part of supporting students to understand and make meaning of the classroom environment. For example, clear organisation provides the student with information about where specific activities occur in the classroom and what resources may be used in those areas. This can be achieved by arranging the furniture clearly, adding visual labels for each area in the classroom, and organising resources logically to align with the purpose of the designated space: for example, placing books in a library corner where group reading may occur.

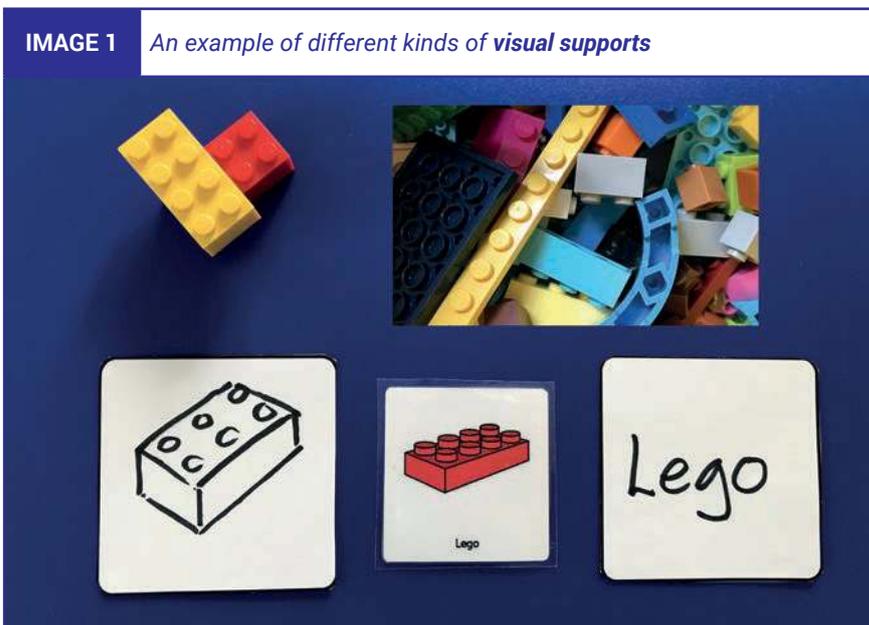
The flow of movement within the classroom space is also important. Creating logical visual pathways for transitioning between learning areas and activities within the space is beneficial. Transitions work best when there are fewer physical obstacles. This might involve ensuring that students head in the same direction rather than against one another, that they don't have to travel around furniture or objects, and that the next activity to move to is nearby.

For teachers in modern or innovative learning environments, it is important to consider how the open layout and flexibility of the physical space may affect student engagement, behaviour and anxiety.

Some students with autism can cope in these types of learning environments, while others may require a designated safe space to give them a sense of predictability and control. For example, a quiet area or individual work area may be set up within the space for the student to use when they are overwhelmed. Alternatively, this area could be used as a focused work space for the student to use in between group or whole class activities.

Visual supports

The use of visual supports in the classroom assists individuals with autism to process their day and understand the environment around them. Research suggests that visual supports are particularly effective in developing student communication and understanding as visual receptivity is often a key strength for students with autism². Some of the types of visual supports that can be used include objects, photographs, drawings, symbols and written cues for students who respond well to text (See Image 1).



These kinds of supports can be used to introduce daily schedules and routines, reinforce the meaning of verbal instructions, and to give structure to learning activities. The use of visual supports can increase student engagement, reinforce positive behaviour, and provide a foundation for developing student independence and communication skills. Visual symbols are most commonly used and are easy to prepare. Laminating the visuals and using velcro or magnets on the back ensures that they will last and can be reused.

Visual scheduling

Visual schedules are cues that let students know what activities are occurring and in what sequence. The ultimate aim of using visual scheduling is to develop student independence in transitioning from activity to activity throughout their day. These are important skills for students with autism to develop as transitions are often particularly difficult due to the amount of information that the student needs to process. Without the right support in place, transitions can often become times when challenging behaviours occur.

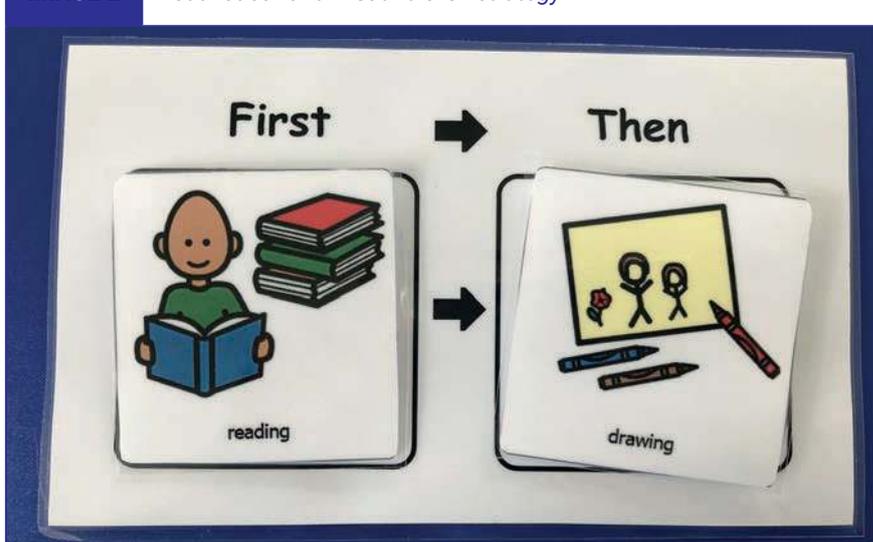
In order to develop student independence during transitions, the student needs to be taught the steps and sequence involved in following a schedule. Adult modelling and prompting can be used to teach these skills and then be phased out over time as the student's independence increases.

There are a number of ways to integrate visual scheduling into classroom practice. Visual scheduling can be as simple as showing students the **first** activity, **and then** the next activity, or could be schedules by learning block or full day schedules³. The most appropriate place to start and the type of visual schedule to use needs to be based on the specific learning needs of the individual.

First and then

The **first and then** strategy is a positive behaviour reinforcement strategy that lets the student know what **first** needs to be done in order for them to **then** be able to participate in an activity or have an item of their choice. When introducing the **first and then** structure, verbal instructions should be given in a clear voice while pointing to each activity, for example, '**first reading and then drawing**'.

IMAGE 2 Visual cues for a **first and then** strategy

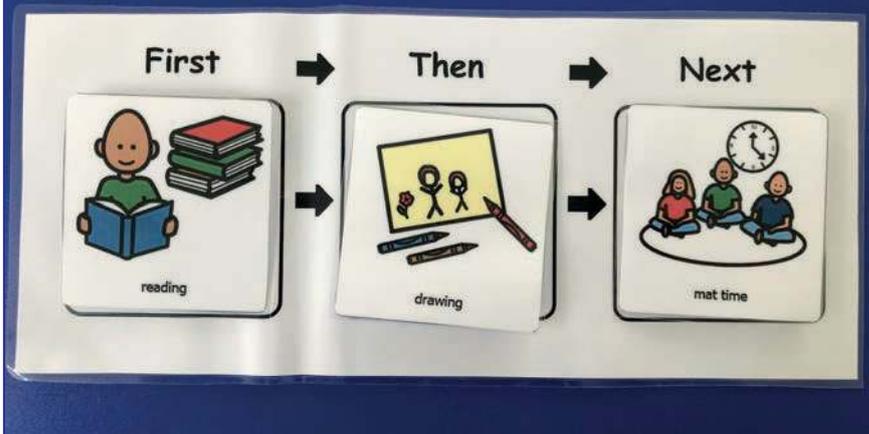


The **then** activity or object needs to be something that is preferred and therefore highly motivating for the student. No additional verbal language other than the **first and then** instruction should be used. This instruction may be repeated alongside the visual **first and then** cues if needed (see Image 2). It is important to give the student time to process this instruction and not to engage with any refusal behaviour, but instead to guide them back to the visual cue. The number of times an instruction needs to be repeated will usually decrease over time as long as the language and delivery of the instruction is consistent.

First, then and next

Once the **first and then** strategy has been mastered, **next** can be added to the visual cue. Introducing the concept of **next** teaches the student to anticipate change in events and helps them to transition from their preferred activity to another required activity. Using **first, then and next** also signals that their time with a preferred activity or object is not permanent, therefore lessening the possibility of the student becoming fixated on their preferred activity or object. When introducing the **first, then and next** structure, apply the same principles as for **first and then**. Clear verbal instructions should be used with the visual cue in the student's sight (see Image 3). The teacher should point to each activity as it is said, for example, '**first reading, then drawing, and next mat time**'.

IMAGE 3 Visual cues for a **first, then and next** strategy



When the student has transitioned to the **then**, their preferred activity, visual timers can be used to set a time limit and aid the student's transition off their preferred activity onto the **next** required one.

Learning block and full day schedules

Visual learning block and full day schedules can be used for students who are fairly independent and able to follow instructions that include multiple steps. Visual schedules typically include the key learning activities in order of their sequence. For students who are capable, tick box visual schedules can be used, with each activity being ticked off as it is completed. For other students, 'finished' boxes can be used as a place to put the visual symbol once the activity has finished or is completed (see Image 4).

IMAGE 4 A visual schedule including a 'finished' box



There are a number of steps required in being able to follow a visual schedule, such as going to the schedule when needed, taking visual symbols from top to bottom, moving to the area of the classroom that the activity is occurring in, referring back to the schedule when an activity has finished, and placing the visual symbol for the completed activity in the 'finished' box before re-checking the schedule.

When introducing a visual schedule for the first time, it is important not to overload the student with too much information. Visual schedules organised for the current learning block (for example, morning block, middle block, after lunch) may be easier for the student to interpret. Once the student has mastered following schedules structured by learning block, an extra block may be added, gradually adding more visuals with the aim of the student eventually being able to follow a full day schedule. Visual timers and verbal time warnings (such as 5 minutes, 3 minutes, 1 minute) may also be used to signal to the student when an activity is ending, and when it is time to refer back to their visual schedule.

Structured learning activities

Once a student has transitioned to an activity, the next step is for them to complete the activity. Clearly structured tasks and instructions can support students to understand what they are expected to do. Learning tasks that are clear and structured are especially beneficial in assisting students with autism to organise, sequence and process the information they need to be able to begin and successfully complete required learning tasks. Visual support can again be used in this situation to break down the steps required to successfully complete the learning activity. For students who are capable, written instructions can be used with clearly numbered steps. Colour coding, highlighting key information, individual work trays, easy access to materials or resources, and separating steps of an activity into envelopes or small boxes are other ways that activities can be organised to support student success.

Visual contracts

Visual contracts are a reward system that can be used to motivate students to engage in learning activities or to complete required tasks. Visual contracts rely on the use of a powerful student motivator, for example, an object or preferred activity that the student is prepared to work for. This motivator or reward is typically something that the student and teacher negotiate together. In order to receive the reward, the student must collect tokens (see Image 5). These tokens can be buttons, stickers or other small items.

IMAGE 5 A visual contract



Each token represents a portion of the overall task that has been completed. The final token is not awarded until the task is fully complete and the requirements of the visual contract have been fulfilled.

Social and emotional needs

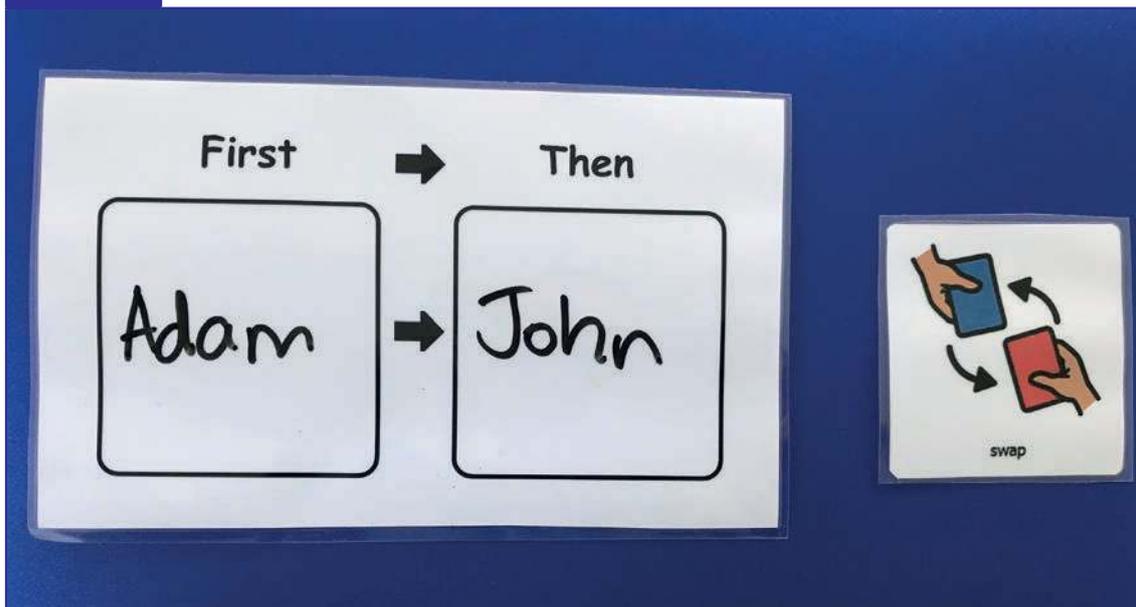
Students with autism do not always develop social and emotional skills in the same way as their typically developing peers. It is fairly common for students with autism to struggle with peer interaction and communication. They may also struggle with appropriate social behaviour and expressing their needs and emotions rationally. Extra support may need to be provided to students who have difficulty managing specific social situations, and/or processing and regulating their emotions.

Peer interaction

It is important to educate other students in the class about autism and to promote positive peer interactions so that the student with autism is not socially excluded. The **first and then** visual cue discussed earlier in this guide can be used to support turn-taking during games and activities. For example, '**first Adam's turn, then John's turn**' (see Image 6). Alternatively, a **swap** visual (see Image 6) may be used to promote sharing and parallel play.

IMAGE 6

Visual cues for using the **first and then** strategy and a **swap** visual to support peer interaction



In this instance, each student would have an activity or object. When the teacher signalled **swap** both verbally and by using the visual cue, students would **swap** activities or objects with a peer.

Social stories

Social stories are individualised stories that can be used to support students to develop social skills and to prepare them for social situations. These stories are both concise and specific in detail. They generally include key information about the who, what, when, where, and why in social situations and use a combination of both visual cues and written text⁴ (see Image 7).

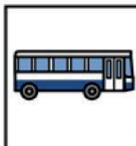
IMAGE 7 An example of a **social story**

Class Trip



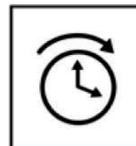


We are going on a trip to the swimming pool.



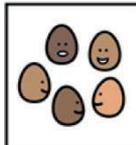

I will travel on the bus with my class.






I will stay in my seat for the whole ride. My teacher will tell the class when it is time to get off the bus.





I will have fun swimming in the pool with my friends.

Social stories should be designed to suit individual student needs so that students are able to access and interpret the intended message effectively. The main purpose of using social stories should be to support students in understanding specific social situations and to develop social interaction skills.

Sensory Needs

Students with autism often have issues regulating and processing sensory information. It is common for these students to have over-sensitivity or under-sensitivity to sounds, sights, smells, touch, taste, balance and awareness of their bodies. Students with under-sensitivity to sensory information may require extra sensory input. For example, students with an under-sensitivity in balance (vestibular) may

benefit from rocking, swinging, bouncing, or similar kinds of vestibular input. Ministry of Education occupational therapists and speech therapists can assist with creating programmes for students with special sensory needs.

Classroom teachers should consider environmental factors that may disturb students with specific sensory needs, such as loud noises, bright lights, crowded spaces, or classrooms that are overly decorated. If possible, additional quiet areas or break out rooms can be utilised when the classroom becomes over-stimulating, triggers the student's anxiety, or is just too overwhelming for the student.

Summary

This resource provides practical strategies for working with students with autism in primary school settings. The strategies discussed are intended to provide teachers with generalised information. It is important to remember that each student with autism will have his/her own individual needs and strategies will need to be tailored to that student on a case by case basis.

Endnotes

1 Mesibov, G. B., & Shea, V. (2010). The TEACCH Program in the era of evidence-based practice. *Journal of Autism and Developmental Disorders*, 40(5), 570-579.

2 Frost, L., & Bondy, A. (2002). *The picture exchange communication system training manual* (2nd ed.). New Castle, DE: Pyramid Educational Consultants Incorporated.

3 Blome, L., & Zelle, M. (2018). *Practical strategies for supporting emotional regulation in students with autism: Enhancing engagement and learning in the classroom*. London, England: Jessica Kingsley Publishers.

4 Timmins, S. (2017). *Successful social stories for school and college students with Autism: growing up with social stories*. London, England: Jessica Kingsley Publishers.

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