The Use of Prompting as an Evidence-based Strategy to Support Children with ASD in School Settings in New Zealand

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ABSTRACT

This article examines the use of prompting as an evidence-based strategy to support children with autism to develop their language, communication and social interactions skills. The literature is reviewed using a three-ringed, evidence-based practice model to support evaluation of the use of prompting. The article outlines considerations about the effective use of prompting, and some practical tools to support implementation of the effective prompting practice.

Research paper

INTRODUCTION

The purpose of this article is to consider if the use of prompting as a teaching strategy for children with Autism Spectrum Disorder (ASD) in learning language, communication and social interaction skills is an effective support strategy and teaching methodology in New Zealand. Prompting is where an adult or peer assists a learner to acquire a new skill. Prompts can be gestural, verbal, visual, or physical. Evidence-based practice is defined in *Enhancing Effective Practice: Springboards to Practice* (Ministry of Education, 2005) as a procedure that is supported by research from the literature (tika); aligned with the personal skills and knowledge of the person implementing the practice (pono); and considered appropriate by family and whānau (aroha).

This article addresses each of these components in an effort to establish whether prompting can be suggested as an appropriate procedure to be used for children with autism in New Zealand schools. It also addresses some important considerations in ensuring that children do not become over-reliant on adult prompting.

The writers' work as a speech language therapist (SLT) with the Ministry of Education is to support children with autism and other special educational needs in attending mainstream schools. This is done by working collaboratively with families, whānau and educational teams to identify opportunities for developing specific and appropriate language, communication and social interaction goals for children. This collaboration most often takes place as part of the individual education planning (IEP) process. As a support, teams draw on the *New Zealand Autism Spectrum Disorder Guideline* (Ministries of Health and Education, 2008). These are a set of evidence-based practice guidelines based on research evidence. The guidelines came about following a 1988 government review of autism services which identified gaps and which formulated several recommendations to improve the quality of ASD services.

We know that about three percent of the mainstream student population have significant physical, sensory, neurological, psychiatric, behavioural or intellectual impairment (Education Review Office, 2010). We also know that, as stipulated in the Education Act (1989), all children from age five can attend their local school full time and families and whānau have the right to choose which school their child attends. The *New Zealand Autism Spectrum Disorder Guideline* supports this by stating that "each child should be accommodated in the least restrictive setting required (i.e. as close to a regular school setting as possible)" (Ministries of Health and Education, 2008, p. 129). Whilst the approach, attitude and skills of the adults supporting the learner with autism is more important than the setting, some research suggests that children educated in regular schools make better connections (Ministries of Health and Education, 2008).

In selecting appropriate communication goals for children with autism we can refer again to the *New Zealand Autism Spectrum Disorder Guideline* (Ministries of Health and Education, 2008) which outlines that communication, socialisation and play should be given a high priority in establishing focus learning areas (3.1.6), and that interventions focusing on the development of communication skills "should take place in natural settings, using natural routines and natural consequences" (3.2.1.4) (p. 95). Other recommendations support

the use of the child's usual carers, peers and teachers as instructors (3.1.4) and the focus on spontaneity, initiation, motivation and self-management as pivotal skills (3.1.7).

This article explores the use of *prompting* as a support mechanism within naturally-occurring settings.

RESEARCH CONTEXT FOR PROMPTING (TIKA)

In examining the research context for prompting the writer selected studies which met the evidence-based criteria set out by the *American National Professional Development Center (NPDC) on Autism Spectrum Disorders.* This is a multi-university centre established to promote the use of evidence-based practice for children and adolescents with autism spectrum disorders. Prompting (Neitzel & Wolery, 2010) is one of twenty four evidence-based practices endorsed by the NPDC. The NPDC describe prompting as an adult or peer assisting a learner to acquire a new skill.

Prompts can be gestural (e.g., gesturing cutting when wanting the child to cut something out, or pointing to the mat when wanting the child to come to the mat), verbal (e.g. providing an instruction 'Get your coat', or a lower intensity verbal prompt may be 'This says … [pause]), visual (e.g., checklists, photos, schedules), provision of a model (e.g., when the verbal or visual prompt is not sufficient the adult may show the child exactly what to do - if it's a motor skill) or tell the child the answer to allow for imitation (e.g., 'It says duck'), or physical (when a child needs full or partial physical assistance to complete the skill (e.g., an adult puts the child's coat on for them).

Prompts should be selected based on the individual needs of the learner (Bryan & Gast, 2000). They should be minimal and faded as quickly as possible (Neitzel & Wolery, 2010) so that the child learns the target behaviour independent of the adult prompt (Godby, Gast & Wolery, 1987).

Four particular studies, all endorsed by the NPDC, demonstrate various prompting methods and their effectiveness in different settings. The first of these (Taylor & Harris, 1995) evaluated the effectiveness of teaching three children with autism how to ask the question 'What's that?' using a time-delayed prompting procedure. The adults/instructors initially modelled the question when looking at an unknown picture or item alongside the child. They gave praise if the child imitated the question (e.g., saying 'Good asking. It's a _____.'). A time-delay was then introduced in subsequent sessions prior to modelling the question. Once the child correctly

used the 'What's that?' question prior to the model from the adult this was scored as a correct response. Success criteria was reached when the child asked the question within 10 seconds of being presented with an unknown picture during eight of ten trials over three teaching sessions. The three children in this study successfully learned to ask 'What's that?' when seeing novel items both in structured sessions and they also generalised this to other settings (generalisation was part of the teaching strategy).

Bryan and Gast (2000) evaluated the use of a graduated-guidance prompting procedure to teach three children with high functioning autism to use picture schedules to remain on-task independently. Following a verbal request (e.g., 'It's time to start literacy') and a 10 second wait time, the teacher would then use a physical prompt (hand on child's shoulder) to guide the child to their picture schedule. No verbal or gestural prompts were given at any time (only physical prompts from behind the child). The number and frequency of prompts were gradually reduced until the student was successful in completing the task. The authors found the use of the graduated-guidance procedure supported all students in the study to effectively use the picture activity schedules to independently remain on task.

Godby, Gast and Wolery (1987) evaluated the use of either a time-delay prompting procedure or a system of least prompts in teaching object identification to three students with severe special educational needs. In the system of least prompts (sometimes referred to least-to-most prompts) a hierarchy of prompts is established, with the first level allowing the learner to respond with no prompts, and the final level ensuring success - called the controlling prompt (Neitzel & Wolery, 2010). Godby et al., (1987) showed that while both procedures were effective, the time-delay procedure required fewer sessions, and resulted in fewer errors.

Kurt and Tekin-Iftar (2008) compared simultaneous prompting with a time-delay prompt procedure to teach young children with autism leisure skills (to use a digital camera and to turn on a CD player). They found both prompting procedures were successful, with some suggestion that simultaneous prompting procedure resulted in fewer errors in teaching trials, and therefore fewer lessons were needed. Simultaneous prompting includes cueing the learner through a verbal direction and simultaneously using a controlling prompt (that is, one which ensures success) (Neitzel & Wolery, 2010). A further session is then designed where the verbal direction is given without the prompt to determine if the skill has been successfully taught.

PRACTITIONER KNOWLEDGE AND SKILLS (PONO)

Evidence-based practice does not rely wholly on research findings to validate the effectiveness of prompting. It is necessary to see how it works in teaching practice.

Based on personal experience, the use of prompting can be an effective support for children with autism. It is a strategy which supports children to make the correct choices and have successful learning experiences. Mueller, Palkovic and Maynard (2007) describe it as an errorless learning technique: one which reduces a learner's response to incorrect choices and therefore results in fewer detrimental effects such as negative emotional responses (Weeks & Gaylord-Ross, 1982, cited in Mueller et al., 2007) and problem behaviour (Ducharme, 2003, cited in Mueller et al., 2007) which have been seen to occur with traditional choice-making (trial-and-error) learning situations.

When children with autism do not start a task it is often because they don't know what is expected of them. A well-timed, clear prompt to show the child what is expected, or a prompt to give the child the words to use in a given situation, can keep the child engaged in learning and support the successful development of language, communication and social interaction skills.

Learning can not, however, be entirely errorless. It is important that as learning develops, children are challenged and reliance on prompts is proportionately reduced. Tasks should increase in difficulty and inevitably, in these circumstances, there will be greater opportunity for errors. Prompts should be faded quickly and it is important that all adults working with a learner are aware of the level of prompt needed for set tasks.

A further advantage of prompting is that it fits well within naturalistic teaching environments which are optimal environments for developing language and communication skills in children with autism (Ministries of Health and Education, 2008). Parents of children who have autism identify that "having accommodations made to enable inclusion in everyday … activities" (Bevan-Brown 2010, p. 17) is important.

Delprato (2001) describes natural teaching settings, using the term 'normalized interventions' as including aspects of 'incidental teaching opportunities' whereby the child initiates the interaction and the instructor (either the teacher, parent, teaching assistant or peer) responds in a way that reflects the "normal conditions for one person to speak to another" (p. 316). A review of 10 studies which Delprato (2001)

examined comparing behavioural procedures with normalised (or naturalistic) interventions for teaching language to young children with autism showed in favour of the naturalistic settings.

However, it is important to understand that even in naturalistic teaching environments adults often need to provide some extension or prompt to help the child improve their language performance. This rather "intricate aspect of incidental teaching" (Delprato, 2001, p. 316) is the crucial component to successful acquisition of the target skill. While in an effective incidental teaching moment it may not appear that "anything special [is] occurring; more expert analysis reveals systematic application of behaviour principles … " (Delprato 2001, p. 315). The effective use of prompts in the teaching of language and communication skills for children with autism should be supported by sound background knowledge, instructor practice and self-reflection.

CHILD, PARENTS, FAMILY/WHĀNAU (AROHA)

Evidence-based practice considers whether the strategy is compassionate, respectful and interactive to the whānau, parents and the learner. The New Zealand ASD Guideline (Ministries of Health and Education, 2008) emphasises the importance of considering and respecting family values, preferences, and culture in decision making around service provision (2.1.1) and in the selection of interventions (2.1.5 and 2.1.6). In particular, when discussing which level of prompts to use to support a child learning a skill, it is important that parents are consulted and included in this decision. Without consistency, particularly when identifying the level of support a child needs, there may be different perceptions about the child's level of skill, e.g., a child may be able to put on his own coat at home, but is receiving full physical prompts to do this at school.

One of the challenges in using prompts correctly is to be mindful of the individual. It is important to consider that in naturalistic teaching situations there are, by the nature of the situation, no pre-determined responses and therefore a variety of prompts may be used (Delprato, 2001). Instructors, when prompting the child, need to be aware of not only the personal learning style of the child, but also as one mother points out in Bevan-Brown (2010), the personal behaviours of the child, e.g. "don't touch the child from behind" (p. 18). It is also vital that while prompts need to be introduced to support children with autism to learn language, communication and social skills, the goal is to support independent engagement and decreasing dependence on adult support as a priority life-skill (Hall, McClannahan, & Krantz, 1995; Mechling

& Gast, 1997, cited in Bryan & Gast, 2000). This means there should be a balance between the level of prompting and the need to fade prompts as quickly as possible.

To develop appropriate policies around the use of prompting to support learners with autism it may be useful to create a hierarchy of prompts, such as that outlined in the Functional Assessment of Comprehension Skills (FACS) (Uliana & Mitchell 1998, p. 26). Neitzel and Wolery (2010) suggest step-by-step guidelines for implementing different prompting procedures. In order to evaluate or reflect on the level of support provided by teaching assistants, Giangrecco and Broer (2007) have published a useful self-reflective screening tool for schools.

CONCLUSIONS

Prompting is an effective evidence-based strategy in supporting the language and communication development of children with autism. However, it is paramount to have a good understanding of each individual child's strengths and needs in order to calibrate the correct level of prompting. It is also recommended to continually evaluate and reflect on which prompts most suit the situation and the task, and also how these should be faded to support independence, and to avoid creating an ethos of over-dependence. The way in which this author most effectively supports teams to embed effective prompting is through observation and then collaborative discussion to identify whether the level of prompting used carefully matches the child's strengths and needs. For example, this SLT worked with one school team to reduce the level of prompting provided to a child to access the toilet. At the time of the initial observation an adult walked with the child to the toilet block and remained with him, as there was a fear he would not return to class. Support staff were encouraged to slowly reduce the prompts, by initially waiting outside the toilet block, then waiting six feet from the toilet block and then waiting outside the classroom door. Adults were encouraged to use praise for the child when he returned to class and after one week the child was going to the toilet block with his peers.

Hume, Loftin and Lantz (2009) suggest that for those children who are subjected to high amounts of adult-directed one-on-one teaching, there is greater concern of developing prompt dependence, less success in generalisation of skills and participation, and more passivity and learned helplessness. These authors suggest that strategies which promote independence need to be inserted as part of the learning experience for the child.

Creating good profiles of each learner, evaluating successes and then modifying prompting will support our learners with autism to develop their language, communication and social skills. From this point, with a good understanding of the child's skills and strengths and a clear focus on developing independence, adults can use a prompt hierarchy to support children to generalise these language, communication and social skills to a range of educational and community settings.

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