

Action Research – Communication (AAC Users)

Focus

Communication (AAC Users)

Strategic Aims

Students who use Augmentative and Alternative Communication (AAC) will have a clear and understandable YES and NO response

Annual Aim

Students will communicate YES and NO verbally / with gesture / via AAC to accept and reject. Annual Baseline data collected, subsequent progress recorded and analysed. Future direction set.

Reported to the Board of Trustees.

Targets

100% achievement across Terms 1 to 3 with graded levels of participation.

Context

Self-determination is a priority in the UN Convention on the Rights of Persons with Disabilities and the Disability Action Plan¹. All people, including people with disabilities have the right to make choices regarding aspects of their life. Despite this right and entitlement, individuals with disabilities have historically been limited in their ability to make choices². Individuals with significant communication challenges including those who use an AAC system are at even higher risk of having this right removed as a result of being limited in their ability to communicate choice and consent.

Ruru Specialist School promotes supported decision making across all aspects of a student's learning and is committed to helping students develop skills that enable them to make informed choices. Staff at Ruru ensure that students are offered choices across the school day. However, choice making is not just an *opportunity* that needs to be enhanced. For students to develop effective self-determination skills they need to be taught choice making skills³. Increasing choice making opportunities has limited utility if students are not taught how to make effective and socially appropriate choices. For example, students may be able to clearly make a choice but not in a socially acceptable manner i.e. will snatch, grab, hit, throw, or scream.

For our AAC population the use of body language appears to be the primary modality for responding to questions regarding choice or consent. While majority of students who use AAC are able to make a choice from an array of items offered, they will still typically rely on staff to interpret a behavioural response when asked simple questions regarding consent or choice. It appears that while many of our verbal students at Ruru are able to communicate YES and NO, the majority of our students who use AAC do not have a clear and socially acceptable YES/NO response.

Gathering of Information/Action

In February 2021 the speech language therapist assessed the YES/NO response of 30 students who used an AAC device to support communication. Assessment targeted the first stage of YES/NO understanding: the ability to accept and reject. Students were offered choices of items and encouraged to answer YES/NO in their

¹ World Health Organisation, (2011). *World Report on Disability, 2011*. (Endorses supported decision making over substitute decision making).

² Cannella, H. I., O'Reilly, M. F., & Lancioni, G. E. (2005). Choice and preference assessment research with people with severe to profound developmental disabilities: A review of the literature. *Research in Developmental Disabilities, 26*, 1-15.

³ Shevin, M., & Klein, N. (1984). The importance of choice making skills for students with severe disabilities. *Journal of the Association of Persons with Severe Handicaps, 9*, 159-166.

typical means to accept or reject the item. Students were then reassessed in August and results compared to initial ratings.

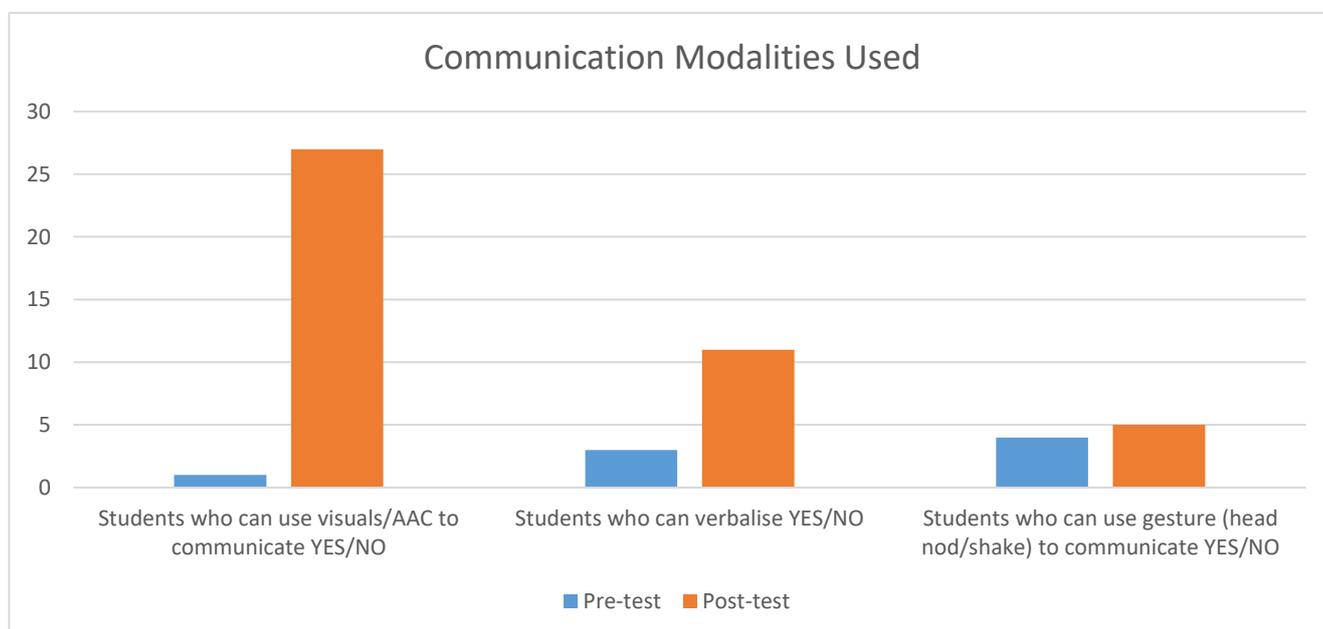
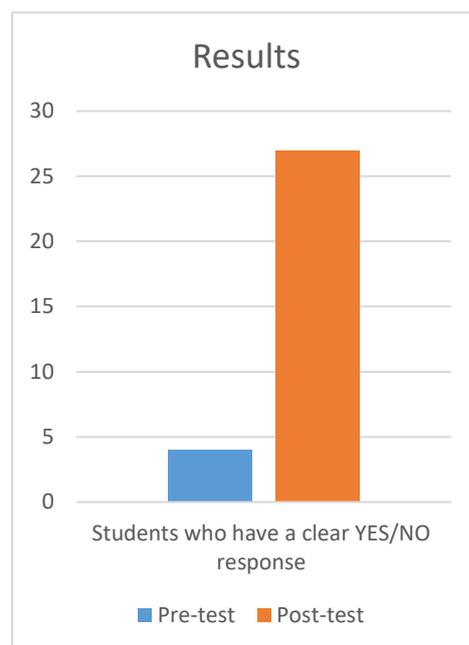
A formal staff training session was provided by the SLT, and resource packs allocated to each class. All staff were provided with YES/NO low-tech visuals on lanyards and voice output buttons were purchased for use with students who required increased auditory feedback. Teachers were encouraged to use the visual supports with any student who had difficulty communicating YES and NO, not just those included in the study. YES/NO books were purchased for the school library and ideas for use shared. The SLT ran weekly YES/NO class therapy programmes and provided 1:1 therapy support with students identified as higher need. Ongoing informal staff training was provided by the SLT as required.

Parents and whanau were encouraged to participate in the study also. A survey was sent out in February outlining the action research focus and querying if parents would be interested in attending a parent training evening. The response was limited with only 3 parents indicating interest. Parent training and home resources were supplied by the SLT at IEP/ICP meetings instead. In addition, videos and photos of students practicing YES and NO were shared with whanau via SeeSaw. This appeared to be well received by families and enabled more individualised support for each student.

Outcome

Pre-test results indicated that only 13% of target students had a clear and socially acceptable YES/NO response (4/30). Post-test results showed a significant improvement with 90% of target students now able to communicate YES and NO to accept and reject items (27/30). The second stage of YES/NO understanding was also assessed: the ability to answer questions about basic wants and needs (i.e. “are you hungry?”, “do you need help?” etc). 33% of students had progressed to this next stage of understanding (10/30).

Three modalities were encouraged within the study: a verbal YES/NO, use of gesture (head nod/shake), and use of visuals/AAC. The most significant outcome was student’s ability to use the YES/NO AAC cards on staff lanyards however there were also improvements in verbal speech. Pre-test results indicated only 3 students were able to verbalise YES/NO however following intervention this rose to 7 students with a further 4 demonstrating emerging verbal YES and NO’s. There was minimal change to the number of students able to use gesture (head nod/shake) which only rose by 1.



Reflection/Reason for Variance

The results of this inquiry indicate a successful outcome for students at Ruru Specialist School. The promoted use of multiple modalities, adequate resourcing, ongoing and intensive staff training, and regular hands on SLT support appeared to have significant effects on student achievement.

While it was pleasing to see such significant improvements in student abilities, 3 students did not achieve the aim. These students demonstrated emergent skills at the post-test assessment but were not yet consistent in their ability to communicate YES and NO. It is anticipated that with further support these students will also achieve the inquiry aims.

It was interesting to note that there was minimal change to student use of gestures (only one additional student developed a head nod/shake). This isn't however unexpected. A significant proportion of students included in the study had a diagnosis of autism spectrum disorder (ASD). Deficits in nonverbal communication is a diagnostic criterion for ASD, and this includes a child's understanding and use of gestures. Research indicates that children on the autism spectrum produce a lower number of gestures and use fewer "conventional-interactive gestures" such as the gesture of nodding or shaking one's head for YES/NO⁴.

While research has shown that some children with ASD can learn to produce gestures and that this can have collateral gains in social communication skills⁵, this research also points out that not all children with ASD benefit from gesture training, and that the reason for this variability remains unknown.

As such, the gestures of a head nod and shake for YES/NO will be modelled and encouraged but will not form the main focus of a students learning unless there is indication of a positive response (i.e. the student has some conventional gestures already or is responsive to motor imitation). Ruru School advocates a Total Communication Approach⁶ and as such a range of modalities including AAC will be available for students when communicating YES and NO.

Evaluation/Next Steps

- All staff will receive training and a lanyard with YES/NO visuals as part of their induction.
- Students who can answer YES and NO to accept and reject will now work on using YES and NO to answer questions about basic wants and needs (e.g. "Do you want your shoes off?", "Do you need a break?")
- Parent training and support will be provided at IEP/ICP meetings and via SeeSaw.
- Verbal speech and gestural communication will be modelled and encouraged.

Amy Jacobson
Speech Language Therapist

⁴ Mastrogiuseppe, M., Capirci, O., Cuva, S. & Venuti, P. (2015). Gestural communication in children with autism spectrum disorders during mother-child interaction. *Autism* 19(4), 469-481.

⁵ Whalen, C., Schreibman, L. & Ingersoll, B. (2006). The collateral effects of joint attention training on social initiations, positive affect, imitation, and spontaneous speech for young children with autism. *Journal of Autism and Developmental Disorders*, 36, 655-664.

⁶ Mueller V.T. (2013) Total Communication (TC) Approach. In: Volkmar F.R. (eds) Encyclopedia of Autism Spectrum Disorders. Springer, New York, NY. https://doi.org/10.1007/978-1-4419-1698-3_1708

2021 Analysis of Variance Summary – Ministry of Education Report

Focus: Communication (AAC Users)			
Strategic Aim: Students who use Augmentative and Alternative Communication (AAC) will have a clear and understandable YES and NO response			
Annual Aim: Students will communicate YES and NO verbally / with gesture / via AAC to accept and reject. Annual Baseline data collected, subsequent progress recorded and analysed. Future direction set. Reported to the Board of Trustees.			
Baseline data: Only 13% of target students had a clear and recognizable YES/NO response			
Target: 100% achievement across Terms 1 to 3 with graded levels of participation.			
Actions (what did we do?)	Outcomes (what happened?)	Reasons for the variance (why did it happen?)	Evaluation/Next Steps
<p>In February 2021 the speech language therapist assessed the YES/NO response of 30 students who used an AAC device to support communication. Assessment targeted the first stage of YES/NO understanding – the ability to accept and reject. Students were offered choices of items and encouraged to answer YES/NO using their typical means to accept or reject the item. Students were then reassessed in September and results compared to initial ratings.</p> <p>A formal staff training session was provided by the SLT, and resource packs allocated to each class. All staff were provided with YES/NO low-tech visuals on lanyards and voice output buttons were purchased for use with students who required increased auditory feedback. Teachers were encouraged to use the visual supports with any student who had difficulty communicating YES and NO, not just those included in the study. YES/NO books were purchased for the school library and ideas for use shared. The SLT ran weekly YES/NO class therapy programmes and provided 1:1 therapy support with students identified as higher need. Ongoing informal staff training was provided by the SLT as required.</p> <p>Parents and whanau were encouraged to participate in the study also. A survey was sent out in February outlining the action research focus and querying if parents would be interested in attending a parent training evening. The response was limited with only 3 parents indicating interest. Parent training and home resources were supplied by the SLT at IEP/ICP meetings instead. In addition, videos and photos of students practicing YES and NO were shared with whanau via SeeSaw. This appeared to be well received by families and enabled more individualised support for each student.</p>	<p>Pre-test results indicated that only 13% of target students had a clear and socially acceptable YES/NO response (4/30). Post-test results showed a significant improvement with 90% of target students now able to communicate YES and NO to accept and reject items (27/30). The second stage of YES/NO understanding was also assessed – the ability to answer questions about basic wants and needs (i.e. “are you hungry?”, “do you need help?” etc). 33% of students had progressed to this next stage of understanding (10/30).</p> <p>Three modalities were encouraged within the study: a verbal YES/NO, use of gesture (head nod/shake), and use of visuals/AAC. The most significant outcome was student’s ability to use the YES/NO AAC cards on staff lanyards however there were also improvements in verbal speech. Pre-test results indicated only 3 students were able to verbalise YES/NO however following intervention this rose to 7 students with a further 4 demonstrating emerging verbal YES and NO’s. There was minimal change to the number of students able to use gesture (head nod/shake) which only rose by 1.</p>	<p>The results of this inquiry indicate a successful outcome for students at Ruru Specialist School. The promoted use of multiple modalities, adequate resourcing, ongoing and intensive staff training, and regular hands on SLT support appeared to have significant effects on student achievement.</p> <p>While it was pleasing to see such significant improvements in student abilities, 3 students did not achieve the aim. These students demonstrated emergent skills at the post-test assessment but were not yet consistent in their ability to communicate YES and NO. It is anticipated that with further support these students will also achieve the inquiry aims.</p> <p>It was interesting to note that there was minimal change to student use of gestures (only one additional student developed a head nod/shake). This isn’t however unexpected. A significant proportion of students included in the study had a diagnosis of autism spectrum disorder (ASD). Deficits in nonverbal communication is a diagnostic criterion for ASD, and this includes a child’s understanding and use of gestures. Research indicates that children on the autism spectrum produce a lower number of gestures and use fewer “conventional-interactive gestures” such as the gesture of nodding or shaking one’s head for YES/NO.</p> <p>While research has shown that some children with ASD can learn to produce gestures and that this can have collateral gains in social communication skills, this research also points out that not all children with ASD benefit from gesture training, and that the reason for this variability remains unknown.</p> <p>As such, the gestures of a head nod and shake for YES/NO will be modelled and encouraged but will not form the main focus of a students learning unless there is indication of a positive response (i.e. the student has some conventional gestures already or is responsive to motor imitation). Ruru School advocates a Total Communication Approach and as such a range of modalities including AAC will be available for students when communicating YES and NO.</p>	<ul style="list-style-type: none"> • All staff will receive training and a lanyard with YES/NO visuals as part of their induction. • Students who can answer YES and NO to accept and reject will now work on using YES and NO to answer questions about basic wants and needs (e.g. “Do you want your jumper off?”, “Do you need a break?”) • Parent training and support will be provided at IEP/ICP meetings and via SeeSaw. • Verbal speech and gestural communication will be modelled and encouraged.

