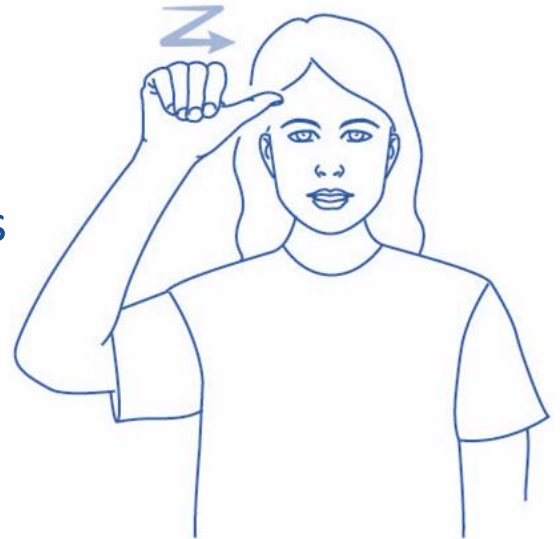




## RESEARCH SUMMARY: Simultaneous presentation of speech and sign prompts to increase MLU in children with intellectual disability



*Pattison, A.E., & Robertson, R.E. (2016).*

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### Summary of Key Messages

- Being able to express a message is a critical component of successful communication
- Children with Intellectual Disability (ID) often have limited or delayed expressive communication skills
- Being unable to share a message successfully can: (a) lead to frustration, (b) result in overreliance on others to interpret the meaning of a message, and (c) decrease opportunities to participate with others
- Intervention strategies to support young children with delayed or limited expressive communication skills can include vocal imitation approaches, and visual forms of communication like manual signs and Picture Exchange Communication Systems (PECS)
- Research shows that some children do not respond very well to approaches that use vocal imitation alone. This can be because they have difficulties with listening to and imitating speech. Using more than one method together, might help
- Key Word Sign is a multimodal strategy that involves using signs for the key words in a sentence at the same time as speaking the full sentence. This is also known as 'Simultaneous Communication'
- The researchers in this study noticed that using speech and sign together during activity prompts improved how many words a child with ID was able to use in a sentence
- The researchers felt this was a positive result that showed the potential of simultaneous speech and sign to improve expressive communication skill

## **More about this research**

The researchers who conducted this study wanted to know whether simultaneous communication (speech and signs together) would improve mean length of utterance (MLU) (i.e. how many words were used in a sentence) MORE than when sign was used alone, or when speech was used alone. They hypothesised that speech and sign together would be most effective.

## **What did the researchers do?**

The researchers worked with a single participant called Molly who was 9 years 8 months old with ID and expressive language delay. They used an alternating treatments research design to look at Molly's responses to three different treatment conditions:

1. Prompts given by the teacher using speech alone
2. Prompts given by the teacher using sign alone
3. Prompts given by the teacher using speech and sign together

The research was conducted in Molly's classroom at school in the context of a 30-minute group circle time. All the children in the group were required to take turns to ask 'Who', 'What' and 'Where' questions of their peers. When it was her turn to ask questions, Molly was encouraged to verbally imitate her teacher. When it was her turn to answer questions, Molly was encouraged to construct her own sentences. The researchers recorded both 'prompted MLU' (when Molly imitated her teacher) and 'unprompted MLU' (when Molly constructed her own sentence). They compared all three interventions to see which one had the most effect on the length of Molly's sentences.

## **What did the researchers find?**

The researchers found that when speech and sign were used together by the teacher (simultaneous communication), Molly's unprompted and prompted MLUs were the highest. When sign was used alone, Molly's unprompted and prompted MLUs were higher than when speech was used alone. The researchers concluded that simultaneous communication prompts were effective at increasing expressive communication in a child with ID and expressive language delay.

Whilst this is a positive finding, there were some limitations in the way the study was carried out. Firstly, there was only one participant in the study. Having more participants would give a stronger indication of the actual effect of the intervention. Secondly, though the researchers attempted to minimise treatment effect bias by randomly selecting the order of the interventions across sessions, there was no baseline data. As there were also some issues related to the setting (structured group time) and the stimuli materials chosen ('Wh' questions). These may have limited natural communication attempts and/or not been motivating topics of conversation for Molly.

## **What does this information mean for practice?**

Simultaneous presentation of speech and sign may have a positive effect on improving expressive communication in children with ID and expressive language delay, as measured by MLU. More research with larger numbers of participants is needed to clearly demonstrate this. In the meantime, adhering to the core principle of Key Word Sign – “Speak and sign at the same time” – can be encouraged.

Dark, L.J. (2019). Accessible research summary: Simultaneous presentation of speech and sign prompts to increase MLU in children with intellectual disability. [Research summary].

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