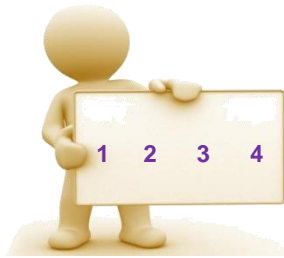


## Post-study Report: Memory training study for individuals with Down syndrome



**Background:** Verbal short-term memory tends to be an area of weakness in individuals with Down syndrome. This study involved the use of a visual/spatial board to help participants remember the order of items in a list, and aimed to teach participants to use associations to remember items. Associations either involved rhyme, or word meaning. We compared individuals' ability to remember lists of items in order before and after the training sessions

### Results

- We observed significant improvements in participants' ability to remember lists of items in order as a result of providing participants with the visuospatial board to represent the spatial positions of items
- We found that participants did attempt to make use of associations that we included in the training, however they often chose the wrong item too. This means that they were using rhyme and meaning to help them to recall words, but were often not able to retrieve the *correct* associated word from short-term memory
- In a follow up study we found further evidence to indicate that individuals with Down syndrome benefit from having verbal material presented in a spatial format

### Conclusions

Spatial support may be useful for individuals with Down syndrome, to help individuals remember lists of verbal information in order, such as instructions or directions. This is also relevant for language learning, whereby children need to remember the order of sounds

These findings are important for consideration in education settings, regarding the ways materials are presented, as well as tools used for learning.



Future research should also focus on supporting individuals in active strategy use such as using item associations. Our findings indicate that individuals with Down syndrome have the potential to use such active strategies but may require a lot of support and practice to do so.