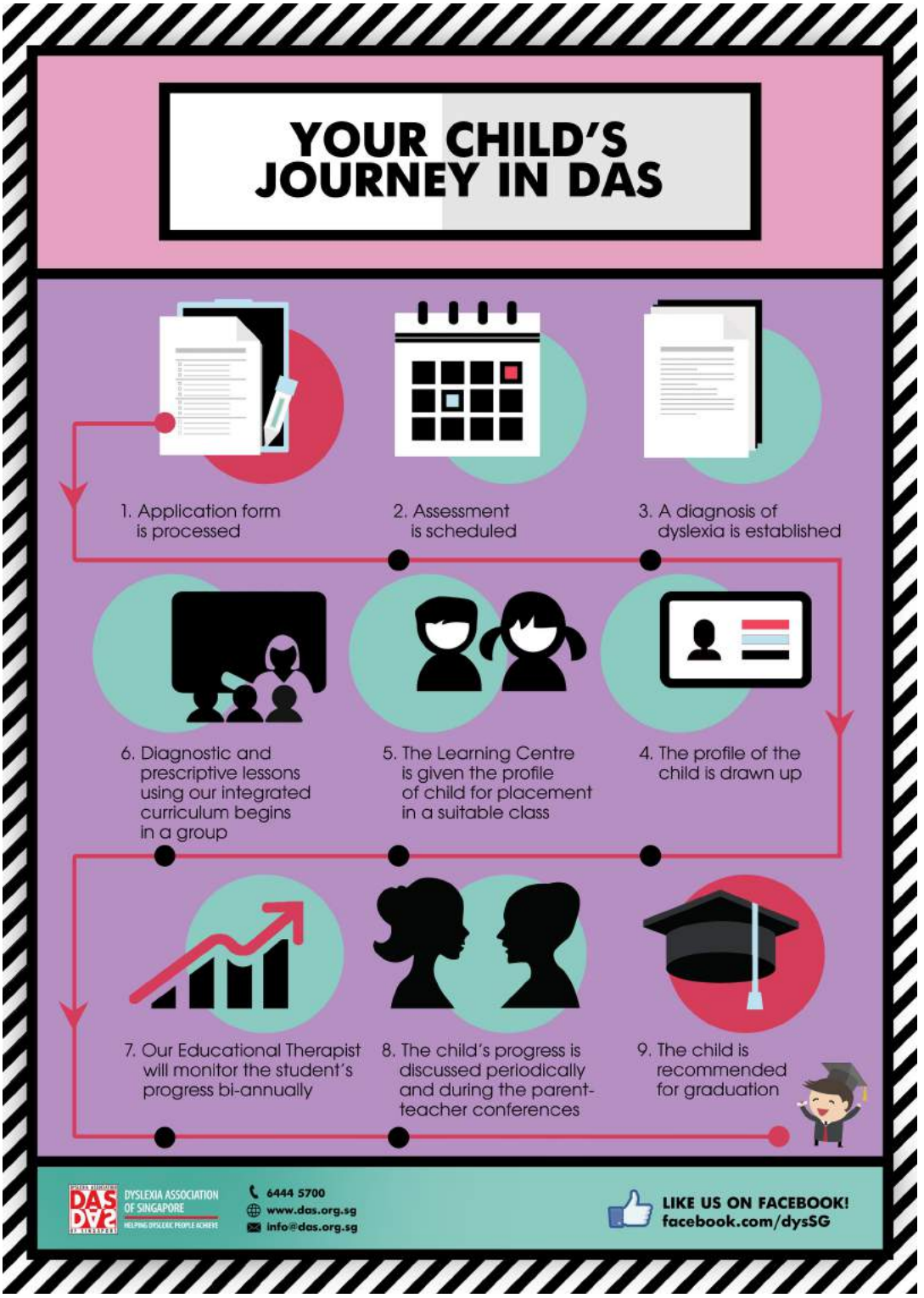
EDUCATION EXCHANGE


YOUR CHILD'S JOURNEY IN DAS
1. Application form is processed
2. Assessment is scheduled
3. A diagnosis of dyslexia is established
4. The profile of the child is drawn up
5. The Learning Centre is given the profile of child for placement in a suitable class
6. Diagnostic and prescriptive lessons using our integrated curriculum begins in a group
7. Our Educational Therapist will monitor the student's progress bi-annually
8. The child's progress is discussed periodically and during the parent-teacher conferences
9. The child is recommended for graduation
DYSLEXIA ASSOCIATION OF SINGAPORE
HELPING DYSLEXIC PEOPLE ACHIEVE
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Can Memory Games be Effective in Improving Reading Fluency and Reading Comprehension of Children with Dyslexia?

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INTRODUCTION

Dyslexia is a specific learning difficulty with a deficit in the phonological processing of language that prevents an individual from acquiring language at a typical pace (International Dyslexia Association, 2008). Since reading is the foundation to acquire other cognitive skills required for learning (De Jong, 2006) it is essential to find out how to help people with dyslexia cope with their difficulty. With the right remediation, it will allow students with dyslexia to get the help and support that they need earlier on in their life. Phonological based intervention is one of the most sought after options to tackle reading difficulty (Cohen, et al., 2006) , because reading acquisition involves the ability to detect and manipulate phonemes in spoken words (phonemes sensitivity or phonological awareness. One example, the Orton Gillingham (OG) approach used at the DAS has been proven to be effective in various research studies.

However, according to Gathercole et al. (2004), there is a close relationship between working memory and reading ability. Children with dyslexia perform poorly on working memory tests such as digit span, series recall of unrelated string of words and non-word recall tests (Jefferies & Everatt, 2004; Swanson, et al., 2009). In other words, an individual with reading difficulty is likely to have poor working memory as well. Therefore, working memory is one of the other areas of interest that should be taken into account

"reading is the foundation to acquire other cognitive skills required for learning, it is essential to find out how to help people with dyslexia cope with their difficulty.

when it comes to tackling reading difficulties. Investigating how poor working memory affects reading, gives us opportunities to explore other ways to help children with dyslexia tackle their reading difficulty. Working memory training could also be included as a part of the intervention for students with dyslexia. Therefore, this research was designed to provide more insight on whether working memory training will help improve reading for students with dyslexia in terms of fluency and comprehension.

WORKING MEMORY, READING PROCESSES AND WORKING MEMORY TRAINING

One of the learning outcomes that have been found to be related to working memory is reading, not only in the early stages in accurately decoding but also for comprehension, the overall goal of reading. Reading comprehension is one of the more complex tasks that students have to tackle after learning how to read. It involves not only the decoding of the texts but also understanding the words and the overall text. For students with reading difficulties, their ability to understand the passage that they are reading will be compromised. Therefore, it is crucial to find out ways to help support these students to better cope with their difficulties in reading comprehension.

One approach to improving working memory is working memory training. A study conducted by Dahlin (2011) found that working memory ability of children with special needs improved considerably, and led to improvements in reading comprehension skills of participants. However, there was no significant improvement in word decoding. Overall, the results from studies of this type are mixed, it is particularly difficult to make an impact on standard scores, and there has been some controversy over the usefulness or otherwise of memory and brain training games. Nevertheless, there are a range of free materials available that could have an impact on reading and its skills.

METHODOLOGY

To address these issues, 22 students with dyslexia from Dyslexia Association of Singapore (DAS) were randomly assigned to a memory games intervention group and control group. The assessments consisted of a pre-test and post- test of reading fluency and reading comprehension using DIBELS. A quantitative research design was chosen to address the question of whether memory games intervention helps to improve reading fluency and reading comprehension of children with Dyslexia as compared to their fellow classmates in the control group who did not receive any additional intervention.

Students in DAS are banded according to their ability, Band A the lowest band and Band C the highest band. Students in Band A have significant problems in the basic language skills and require more support in developing oracy skills, Band B students have fairly developed language skills but still show significant reading and spelling difficulties and Band C students have fairly developed language skills and some functional literacy skills but continue to struggle with higher order literacy skills such as reading fluency, reading comprehension and composition writing (Shanta Ram & Lim, 2014). 81% of the participants were made up of Band A students, and therefore struggling with both oral and reading skills.

DIBELS Oral Reading Fluency (ORF)

DIBELS ORF is an individually administered standardized test that test for the reading accuracy and fluency of students with connected text. Students are required to read a passage out loud for one minute. Mistakes made while reading will be indicated. The total number of words read correctly at the end of the one minute mark will be the oral reading fluency score.

Retell Fluency (RTF)

RTF is a measurement to check for comprehension based on the ORF and students were prompted prior to reading the passage that they might be asked to recall what they have just read. The RTF will help to identify students whose comprehension skill is not on par with their reading fluency.

INTERVENTION

Students went through the intervention in groups of 3 to 4 students per session. All students played 3 memory games in the 30 minutes intervention, 10 minutes of game time was allotted for each memory game, with 1 intervention (memory king) delivered by iPad individually. 8 sessions of the memory games intervention were carried out in the span of 11 to 12 weeks, with post tests on DIBELS

Training Task

Three memory tasks were used

Memory King ,

an iPad based intervention, based on a pairs memory cards matching game, designed to improve performance by adding motivation, played individually or in competition.

Memory Matching game

A card memory game, based on cartoons and super heroes theme that are popular among students. Each memory card was printed with words that students are required to read before flipping over the card. Therefore, students will not only have to remember the location of the memory cards, but they will also be practicing reading at the same time. This game has a dual purpose of practising working memory and also reading accuracy. This is a game that the researcher has developed with to help the students practise reading accuracy after they have learnt a new phonics concept taught in class. The words were taken from the Fry 100 Instant Word List of high frequency words that should be recognised by readers instantly, at their level of achievement. This multisensory game, with the mixture of audio and visual skill, enables students to train their brain to multitask and switch their attention every now and then. The number of cards gradually increases with every round. This is to further challenge their working memory capacity by putting more stress on their ability to retain more information at a time. Furthermore, this is an attempt to implement the concept of adaptive training that is used in other working memory training. Students played an average of 3 rounds per weekly session.

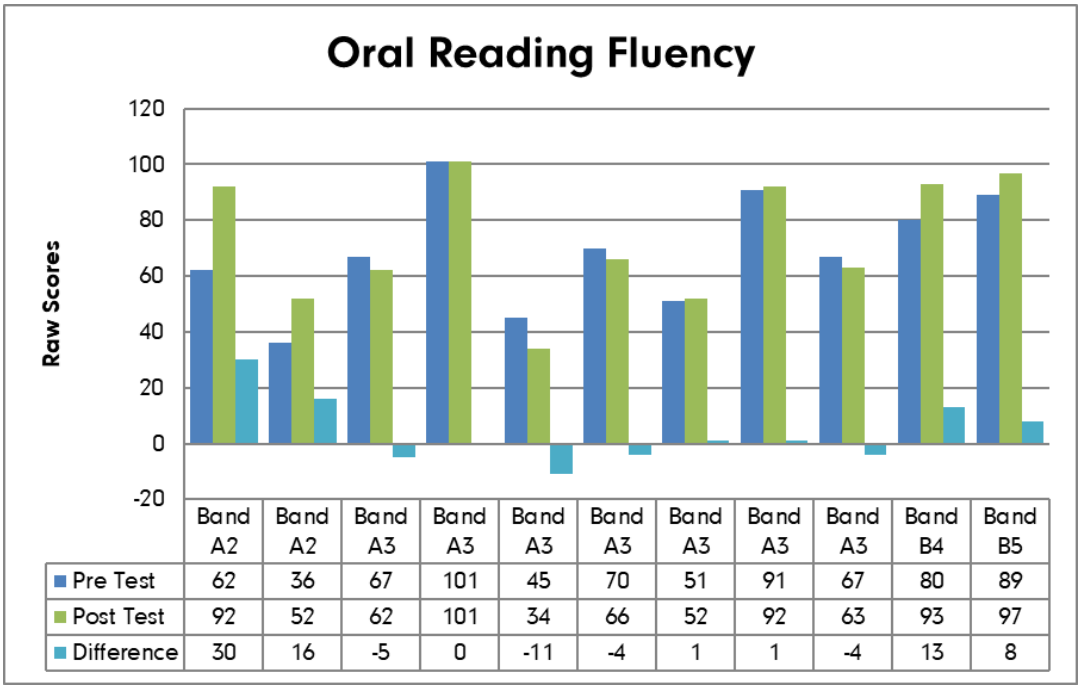
When I went to the market

An auditory game which requires participants to memorise an ever expanding list of items, repeated in the correct order. This game requires not only concentration to retain the list of items but also the ability to think of more words to add. An average of 4 to 5 rounds of this game was played in each session, depending on the student's ability to concentrate and remember the list of items.

Ethics guidelines provided by USW were followed to ensure no bias in choosing the participants. The memory games that were chosen were a mix of fun and educational, selected to be beneficial in the DAS setting.

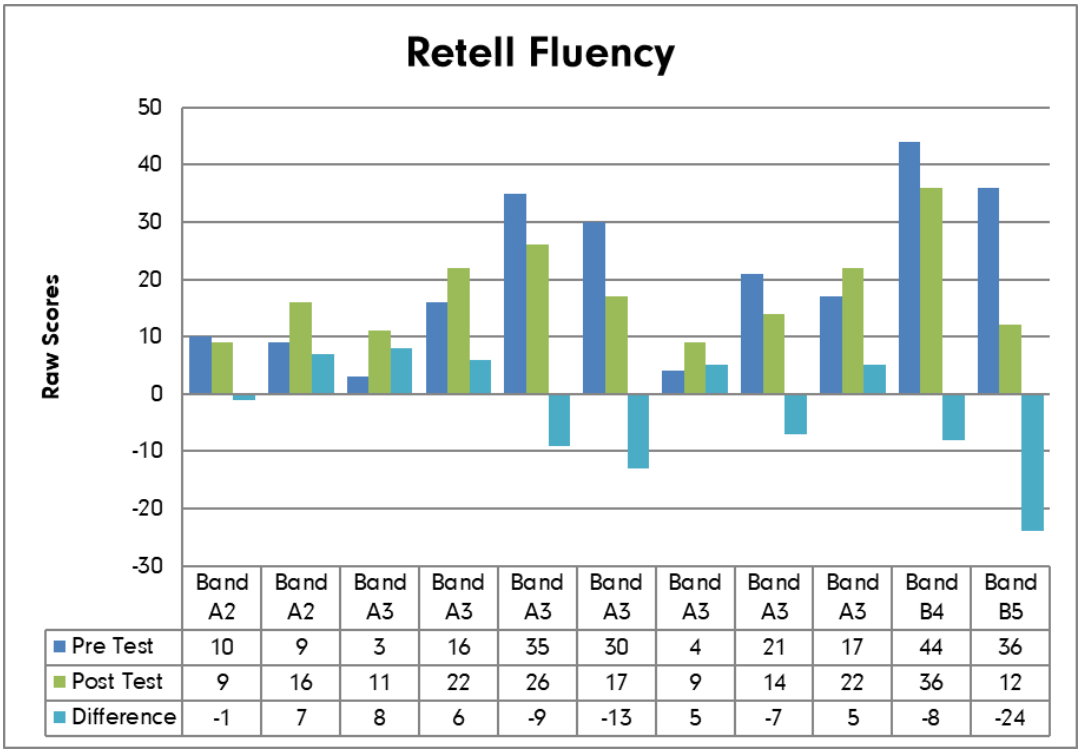
RESULTS

The results showed no significant improvement on any of the DIBELS reading measures, but effect size analyses showed a small effect for post-test retell fluency, and moderate effects for both measures of reading. Moreover, both the weakest Band A and the strongest students showed improvement.



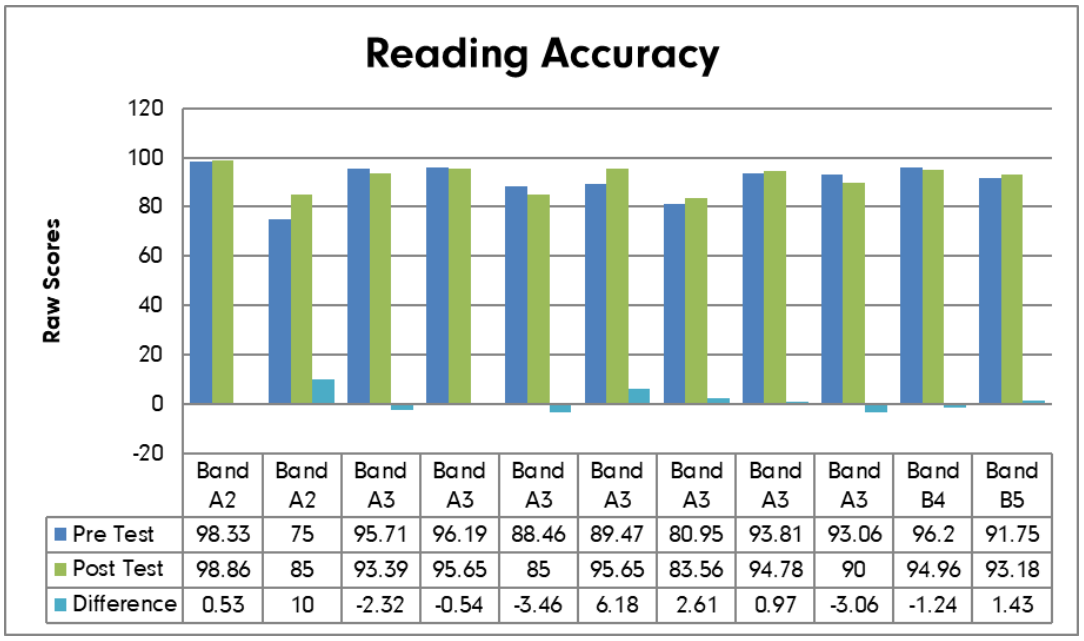
	Band A2	Band A2	Band A3	Band A3	Band A3	Band A3	Band A3	Band A3	Band A3	Band B4	Band B5
Pre Test	62	36	67	101	45	70	51	91	67	80	89
Post Test	92	52	62	101	34	66	52	92	63	93	97
Difference	30	16	-5	0	-11	-4	1	1	-4	13	8

Figure 1: Raw scores by Band for Oral reading fluency



	Band A2	Band A2	Band A3	Band A3	Band A3	Band A3	Band A3	Band A3	Band A3	Band B4	Band B5
Pre Test	10	9	3	16	35	30	4	21	17	44	36
Post Test	9	16	11	22	26	17	9	14	22	36	12
Difference	-1	7	8	6	-9	-13	5	-7	5	-8	-24

Figure 2: Raw scores by Band for Retell fluency



	Band A2	Band A2	Band A3	Band A3	Band A3	Band A3	Band A3	Band A3	Band A3	Band B4	Band B5
Pre Test	98.33	75	95.71	96.19	88.46	89.47	80.95	93.81	93.06	96.2	91.75
Post Test	98.86	85	93.39	95.65	85	95.65	83.56	94.78	90	94.96	93.18
Difference	0.53	10	-2.32	-0.54	-3.46	6.18	2.61	0.97	-3.06	-1.24	1.43

Figure 3: Raw scores by Band for reading accuracy.

Again, improvements were made for both low Band A and high Band B students.

DISCUSSION

The research suggests that overall there was very little effect of the memory intervention on standardised measures of reading. The question arises, why does this arise and what can be done to improve future research?

The standardised assessment tool used in this study, DIBELS, might not the most effective measure of improvement, and a curriculum based measure might be more appropriate. The current research study assessed students' performance on reading fluency and reading comprehension directly after the completion of the intervention, whereas a delay may be most useful to examine longer term effects. The memory games might not be the most effective, and the method of delivery may vary between researchers.

Interestingly, however, these is some suggestion that the adaptive memory cards game designed by the researcher had some impact on reading accuracy for the intervention group. The addition of the reading task, in addition to the visual memory task has potential for further exploration.

LIMITATIONS

There are some limitations to this research study. First and foremost, there were no measures of working memory obtained at pre-test and so it was not possible to ascertain whether or not the memory intervention did in fact impact on memory itself. The sample size selected was small, and the range of student's ability and profile were also limited. A more thorough look at the background of the students would be beneficial. For instance, students with different levels of working memory ability could be selected. This would explore whether the memory games training had an effect on only students with poor working memory or those with average level of working memory capacity. However, due to time constraints and scheduling conflict, these areas were not fully explored.

Secondly, parents of the participants might feel obliged to allow their children to participate in the intervention due to the researcher's relationship with their children as their educational therapist. Parents may feel that there might be negative consequences that their child might encounter if they did not allow their children to participate in the research study. This may have an ethical implication that go against the research guidelines that indicated that participants have the right to refuse participation in the research study and withdraw at any point of the research study.

Thirdly, the period of intervention was too short and not intensive enough. Past research studies have used a period of 8 to 10 weeks of intervention with each intervention lasting more than 30 minutes each time (Alloway, et al., 2013; Karbach, et al., 2015). In addition, the intervention took place on a daily basis. This memory games intervention however, took place only once a week for approximately 30 minutes per session, and this meant that students had only 10 minutes to play each game. Students did not have enough time to challenge themselves more with each game. In addition, the once a week intervention is also not frequent enough as training should take place frequently in order to allow changes to take place. Therefore, a more comprehensive and intensive intervention would possibly yield more significant results.

FUTURE RESEARCH

Based on the limitations found in this research study, it will be encouraging to explore a few factors that were lacking. The area of working memory training has shown promising potential therefore, more research on it will be helpful in exploring further in the field.

One of the areas to explore is the motivational aspect of working memory training. A research study by Hooft et al. (2003) delved into the motivational gains and behavioural changes of students. They included a teacher and parent questionnaire on the Amsterdam memory and attention used in the study. Teachers and parent provided feedback on any behaviour changes that were seen in the children and reported positive change to their behaviour after going through training (Hooft, et al., 2003). Therefore, working memory training could possibly boost the motivation of students towards learning which in turn could have an impact on their academic performance as well. It could result in positive attitude towards learning and motivate them to enjoy the learning process.

This would be especially beneficial to students with poor working memory as they are often misunderstood as being lazy and not attentive in class (Alloway, 2006). This misrepresentation of them could result in low self-esteem and low motivation towards learning as they could not keep up with the rest of their classmates in class. Hence, if working memory training has a positive impact on the motivation level of students, it could be one of the methods used to facilitate learning.

It will also be helpful to explore the longer term effects of intervention as it was found that there were more improvements in academic performance after 6 months or more after the completion of the intervention (Dahlin, 2011; Egeland, et al., 2013; Holmes & Gathercole, 2013). According to Holmes, et al. (2009, p. F13), "..any improved cognitive support for learning caused by training would be expected to take some time to work its way through to significant advances in performance on standardized ability tests". Therefore, a follow up post-test could be done to determine whether memory games intervention has a long term effect on academic performance of students with dyslexia. This will be able to determine whether the memory games intervention is effective in improving reading fluency and reading comprehension of students with dyslexia.

In this research study, the focus was only on the transfer effect of memory games training to reading fluency and reading comprehension. However, in future studies, it will be beneficial to look into whether memory games have an effect on improving working memory capacity. According to Redick, et al. (2015), if one wants to find out whether working memory training has a far transfer effect to academic outcome, it is important to also demonstrate that working memory training produced near transfer to working memory tasks as well. This is so that there will be substantial evidence of whether the memory games intervention has an effect of working memory capacity as well. However, to find out if working memory training improve working memory tasks, it is important to ensure that the working memory tasks are not similar to the working memory intervention (Redick, et al., 2015).

Intervention for students with dyslexia is focused mainly on supporting students in terms of their literacy, hence, this research study focused on improving reading fluency and reading comprehension of students. However, for future research, in order to add value into the field of working memory, it will be best to look into improvement in working memory capacity. It will be beneficial to have a variety of working memory training tools to aid or improve intervention for students with dyslexia.

Furthermore, it will be promising to explore the mechanisms involved in memory games. With this information, it could further substantiate the benefit of using memory games as there will be more concrete indication of the memory processes involved in the game. There might still be questions as to whether memory games involves training the working memory therefore further research on that would help to increase the validity of memory games.

Finally, previous research studies involved individual based intervention, rather than group interventions in working memory training. Therefore, future research on the comparison between individual based and group based intervention of working memory training could also be explored. It will be adding value to the field of working memory training to explore whether group intervention has any different effect from individualised intervention in working memory training.

In future research studies, it will be beneficial to find a more suitable tool of assessment to measure the reading fluency and reading comprehension of students with dyslexia. Instead of using DIBELS, other standardized assessment tools such as York Assessment of Reading for Comprehension: Early Reading and Passage Reading Primary (YARC Primary) could be used. This assessment provides an in depth individual assessment of child's decoding and comprehension skills. Furthermore, YARC Primary is suitable to assessing reading (decoding and comprehension skills in pupils with English as an additional language. Since Singapore is a multilingual society, this would be a more suitable tool to measure the reading fluency and reading comprehension of students in Singapore.

Another alternative tool of assessment that could be used is the Curriculum Based Assessment (CBA) by the DAS, a measurement of the learning components of the MAP class. There may more effect if students are assessed according to the academic skills that they are currently learning. Therefore, CBA could possibility be a better tool to measure any improvements made by the memory games intervention on the students' reading fluency and reading comprehension.

Finally, a greater variety of memory games could be included in the memory games intervention. In this research study, only three memory games were used. There are

many other memory games that could be included in the intervention as well. This would provide a variety of games to the students so that they would not be bored of the games. In this research study, multiple platforms of memory games were explored, Memory King which is an Ipad based memory game, the Memory Cards Game which is a physical card memory game and When I Went to the Market which is a verbal memory game. Since technology is abundantly used in today's context, more Ipad based or computer based memory games intervention would be a more fun approach to introduce memory games to the students. In addition, a survey of the student's most preferred games could be conducted to enhance future memory games intervention. It would also be helpful to hear from the students' point of view which of memory games they found the most helpful or challenging, to improve their working memory. The information provided would add value to the field of working memory training in terms of the students' awareness of the intervention that they went through.

In summary, memory games intervention did not improve reading fluency and reading comprehension of students with Dyslexia, although there was some evidence of improvement in accuracy. The possible explanations for the lack of results could be due to the use of an unsuitable assessment tool which is not sensitive enough to detect any improvements made as a result of the memory games intervention. The short time lag between the completion of intervention and the post test could be a possible reason for the lack of results as previous research suggested that it may take a while for the effect of the memory games intervention to work. The memory games intervention might not be intensive enough as it was carried out in a group setting therefore, this is a possible explanation for the lack of result shown in the reading accuracy and reading comprehension of the students who went through the intervention. Despite these limitations, memory games intervention might help students with Dyslexia in terms of their academic performance, if more research was conducted. Based on previous research, there is still a possibility that it might work if the right conditions are met.

CONCLUSION

The purpose of this research study was to investigate the effectiveness of memory games intervention on reading fluency and reading comprehension of students with dyslexia. Although there were no significant results in the memory games intervention on the reading fluency, comprehension and reading accuracy of students with dyslexia, it is still promising to see improvements made in some of the students. The students enjoyed themselves during the memory games during the intervention. Although the majority of the students saw this intervention as just games that they play for fun, confidence in themselves grew week after week and they were more motivated to achieve in playing the games. Some students even gave tips to the

others on how to remember the items and how to play the memory card game better. Therefore, further research on memory games intervention should be done so that it can be used as form of additional intervention in the DAS classes.

The results from this research study would be beneficial for the development of the curriculum in DAS. This is because DAS is continually looking for continual development of their curriculum that would benefit students with Dyslexia. If memory games are found to help improve reading fluency and reading comprehension in children with dyslexia then it can be implemented as a part of the intervention offered in DAS. It could also be used as a form of filler activity to be used during break time or during classroom activities. Since DAS advocate multi-sensory teaching, the memory games that were used in the intervention could be one of the teaching resources as well. Therefore, more research should be done to support the effectiveness of using memory games to improve working memory capacity and also academic achievements.

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Teaching Today's Learners on Their Terms: A DAS Perspective.

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"Teaching Today's Learners on Their Terms" - an apt title for the learning and education of children today. Born in the millennium, these children take to technology like fish to water thus, the term "digital natives" is conferred on them to portray their symbiotic relationship with technology. As children become more savvy with technology usage at a very young age, so too must adults and educators be.

Born before the millennium, we might not be digital natives like these children, but are we ready to be "digital immigrants", embracing technology and utilising it in our teaching? On the other hand, is technology not the invention and creation of people from the past? Why are we not the digital native then? Do digital immigrants have to play catch-up with digital natives to be equipped with necessary skills or can we hold hands with them to guide them towards something new?

"As children become more savvy with technology usage at a very young age, so too must adults and educators be."

The EduTech Team of the Dyslexia Association of Singapore (DAS) continuously thinks of ways to support the educators of the Main Literacy Programme (MLP) in order to elevate lesson designs and objectives with the integration of technology. The objective of this sharing was to bring to light the underlying pedagogical approaches in the efficacy of educational technology integration in the classrooms.

TECHNOLOGY IN TEACHING AND STUDENT ENGAGEMENT

Today, teachers can be expected to be able to bring together pedagogical, content and technological knowledge (TPACK) for good learning. The DAS MLP educators and their classrooms are equipped with iPads, ceiling mounted short throw projectors, Mimio Teach Interactive Systems as well as Smart Boards to explore their extensive use of these tools to deliver instructional materials to their learners. The TPACK framework suggests that the 21st Century Learner will benefit most from this combination of teaching. This will then garner student engagement. Student engagement can be seen from 2 perspectives:

1. Engagement level - authentic engagement, passive compliance, ritual engagement, retreatism and rebellion.

2. Engagement types - behavioural engagement, emotional engagement and cognitive engagement.

Ideally, students should be behaviourally, emotionally and cognitively engaged in learning. Additionally, in order to achieve authentic engagement where there is high attention and high commitment in learning, proponents of technology have argued that it can be an effective tool to meet this requirement. The benefits of technology as a teaching tool can be displayed in the forms of presentation of content, freedom of expression, authentic task and feedback. It is suggested that students are seen to be less overwhelmed and more participative with the use of technology.

Educators often strive to achieve a balance between teaching and learning. There must be a good amount of imparting knowledge (teaching) and an equal amount of reciprocation from the learners - which is learning. Gagné published The Conditions of Learning back in 1965, suggesting that certain mental conditions must be present in order for knowledge absorption and retention to occur. He also introduced the 9 Events of Instruction, based on the internal and external cognitive factors that contribute to learning. The internal factors are the learner's prior knowledge, while the external factors are outside stimuli, such as the form of instruction. Educators can use these 9 events of instruction to develop learning experiences that stick and offer 21st century learners the opportunity to engage in every step of the instructional process.

1. GAIN ATTENTION

Engage students immediately so that their focus is applied to the class and not split between worries or tasks outside of class.

- Pose a question and have students write a response or talk to another student
- Pass an item around the classroom (i.e. an equipment, tool, example)
- Show a short video (YouTube, animated, self-created)
- State statistics or world facts regarding the topic, or share current news/ events to pique student curiosity and interest

2. INFORM LEARNERS OF OBJECTIVES

Communicate expectations to the students about the skills, knowledge, or attitudes they are to master as outcomes of the course or session. This may appear in the syllabus, handouts, instructions for activities, projects, papers, etc.

- Explain criteria for performances and assessments
- State expectations about how this impacts their success in the field, such as having an attitude of professionalism

3. STIMULATE RECALL / PRIOR KNOWLEDGE

Require students to apply and recall current knowledge and understanding to new concepts.

- Ask students about their prior experience and learning regarding the concepts
- Connect prior material with how it relates to the new material
- Recall previous activities and events in the curriculum or the students' lives that relate to the new material

4. PRESENT THE CONTENT USE A VARIETY OF METHODS TO DELIVER CONTENT.

Concepts portrayed in different mediums will assist learners with comprehension.

- Visuals (photos, graphics, videos, charts, graphs, models, maps)
- Audio (mini podcast, narrated PowerPoint, video, sounds)
- Read and write (textbook, articles, handouts, news, request students to write reflections/key information about concepts)
- Activities (group work, projects, problem-solving, games, presentations, role-playing, ask questions

5. PROVIDE LEARNING GUIDANCE

Give advice and guidance to students about what studying methods or resources students may use to help be successful in learning this material.

- Explain what helped you master this material or what former students have done to be successful
- Share resources
- Provide instructions, expectations, and timelines regarding material, content, and projects

6. ELICIT PERFORMANCE (PRACTICE)

Provide opportunities for students to apply and practice their knowledge and skills in a safe setting.

- Lab practical's, written assignments, role-playing, practice interviews, practice case studies, projects

7. PROVIDE FEEDBACK

Timely feedback is most effective. A student needs feedback to correct misinterpretation and application of information.

- Immediate feedback with online quizzes
- Provide rubrics for students to assess in detail what components were incomplete, missing, or need improvement
- Provide an opportunity for students to give feedback to each other in regards to performance or application

8. ASSESS PERFORMANCE

It is important for students to keep track of their performance throughout the course and not just in the middle and/or end.

- Provide prompt feedback with assignments and activities
- Require students to reflect and assess on how they think they are doing in the course
- Provide opportunities for students to self-assess their knowledge and understanding by using quizzes or optional self-check assignments throughout the assessment

9. ENHANCE RETENTION AND TRANSFER TO THE JOB

Students must apply the information with present-day application and/or relevance.

- Ask students to share how the information relates or will relate to their personal experiences and future
- Provide job-aids and outlines of information that students may use in the field

CAN DIGITAL IMMIGRANTS (EDUCATORS) TEACH DIGITAL NATIVES (STUDENTS)?

Geoff Morris, in his presentation 'Teaching with Technology - Digital Immigrants teaching Digital Natives' suggests that students today will spend over 10 000 hours playing video games, over 200 000 emails and instant messages, over 10 000 hours talking on cell phones, over 20 000 hours watching the television (including over 500 000 commercials) and maybe 5000 hours book reading. With the rise of modern and new technology, digital immigrants may find it hard to adapt to this technology and use it in their teaching as they often assume that students today are the same as the students in the past and whichever method works for those students will work on today's learner as well. So how can educators as digital immigrants bridge this gap so that learners as digital natives benefit much from their teaching?

Claire (2013) mentioned that the learning preferences of digital natives include teamwork, flexibility in the learning environment, student-based projects that incorporate challenging assignments, and most importantly respect for student voices. Therefore, the only way for digital immigrants to be equipped with the necessary skills to teach digital natives with the use of technology is by learning these skills from the digital natives themselves. When students get the opportunity to teach their peers and teachers what they know, it will eventually give meaning to their learning. As digital immigrants, it is important for educators to understand and accept the fact that there is a vast divide between digital natives and digital immigrants. Only when such acceptance is present, can we minimize the gap between digital natives and digital immigrants.

Some basic guidelines in how to approach teaching digital native (Claire, 2013):

- explaining objectives clearly
- student-centered learning
- problem-based learning
- project-based learning
- inquiry-based learning
- active learning
- asking open-ended questions
- constructivism or co-constructing
- learning by doing
- allowing students to find and following their passion
- allowing time for questions and sharing their thoughts and opinions
- creating presentations in text and multimedia
- giving students guidance
- delivering material in the context
- creating rigor
- practice through games
- teach that failure is a learning process

EDTECH RECOMMENDATION

This session also included tools that are useful for teaching such as:

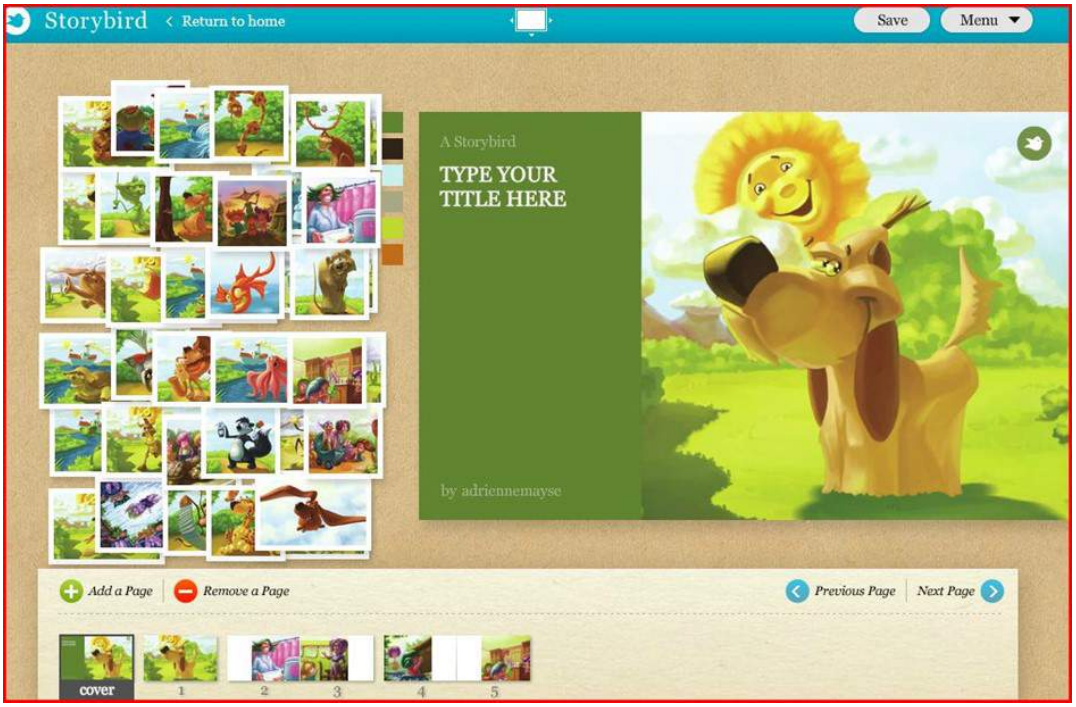
- Padlet
- StoryBird
- Google Slides
- Videos

PADLET

Numerous MLP educators have demonstrated the creative use of Padlet during the biannual M-Learning Week. Padlet is a dynamic and collaborative space where many users can come together in a safe environment to either contribute ideas, comment or answer questions which can be moderated by the teacher (if need be). Padlet's interface is kept simple thus making it user-friendly for young learners too. For example, reproduction of new vocabulary can be interesting and motivating via this tool as can be seen below.

STORY BIRD

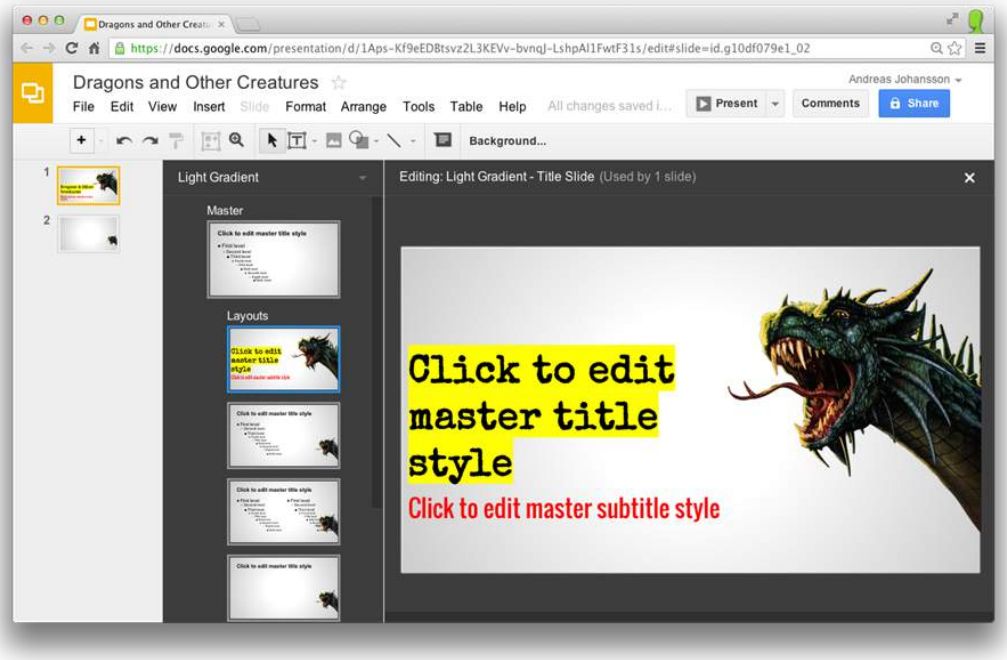
Especially for educators who are aspiring writers, Storybird is the app to use for creating picture books with students as young as in kindergarten to Grade 9 (equivalent to Secondary 2 in Singapore's context). Students start by selecting a theme for their writing, compose their story and then select the pictures they want. The stories will then be published as a book online. This app comes both as a free version and paid version. By paying for the app, teachers and students would be able to print out their stories.
Here's the link to find out more on Storybird: https://storybird.com/educators/



GOOGLE SLIDES

Another app that's very useful and quite exploited by DAS educators in the classroom is the Google Slides. Fans of Powerpoint would like to check this out! The slide designs are picturesque that would elevate your presentation layout to sophisticated level. Partnering with a projector or a smartboard in your classroom, imagine a technology-based lesson created for your digital natives in the classroom. To find out more, log into your google account and access the link here: https://www.google.com/slides/about/

Google Slides is a great tool for learners who are either reluctant in developing content or are still developing their sequencing skills. It can be a individual task or a cooperative and collaborative task where students work on various areas of the task and then review each other's parts as a whole. Top the activity up with a presentation and watch them presenting their works proudly.



VIDEOS

The power of videos in MLP classrooms are underrated especially when working with students who require multi-sensorial material delivery. Videos are becoming more and more necessary not just for showing content but for students to review their own recording (think of video blogging - a.k.a vlogs) which are not only trending but an essential skill in 21st century learning - to be able to fluently and coherently get their ideas across through a video. In the session, videos of the presenter's student was shown and in one of those, the student was comparatively reviewing some snacks at the comfort of his home.

MIMIO-TEACH INTERACTIVE SYSTEM

DAS EdTech Team has been exploring the use of Mimio Teach Interactive Systems for some time now through a research study conducted in phases. This interactive system is very helpful for the kinaesthetic learners in our classroom. The set up for this device is extremely easy and the use is effective. It is a portable device that can turn any whiteboard into an interactive board. This device allows teachers to move away from traditional pen and paper activities and move into a more engaging platform of interactive learning. Once the device has been set-up, students can come to the whiteboard and use the stylus to manoeuvre on the white board. Lessons will move from passive learning to active learning.

CONCLUSION

At the end of this RETA session, attendees reported that they felt motivated to improve their technology savviness and exploratively use more of tech-tools in their teaching. Indeed, it is in line with the Orton Gillingham (OG) Principles of simultaneously multisensory and diagnostic and prescriptive which is the mantra of the DAS MLP educators. As the educational approaches in the world is getting more advanced with ever evolving technology, the importance and urgency of incorporating educational technologies knocks on every classroom door. As educators, we have to embrace this fact and educate ourselves on how to approach teaching digital natives by creating engaging instructional materials to meet the learning needs of the 21st century learner. Only through this way, can we minimize the gap between digital immigrants and digital natives so that our students could benefit more from our teaching.

RESOURCES & REFERENCES

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Sujatha is the Assistant Director (QA) of the Main Literacy Programme. She joined the DAS in 2006 as an Educational Therapist and has over the years held the positions of Centre Manager and Resources Manager. Sujatha attained a Master of Education from The University of Adelaide in 2015 and a Bachelor of Business in Accountancy from Royal Melbourne Institute of Technology (RMIT) in 2001. Her other qualifications include a Cambridge International Diploma for Teachers and Trainers (Dyslexia) and a Diploma in Management Studies (SUSS). Sujatha is also a member of the Register of Educational Therapist Asia (RETA).

HANI ZOHRA MUHAMAD

Educational Advisor & Lead Educational Therapist

Hani Zohra Muhamad is a Lead Educational Therapist and an Educational Advisor (EA). Hani joined the Dyslexia Association of Singapore in 2006 and has over the years been teaching and working with students with dyslexia and other co-morbidities such as ADHD and SLI. As an EA, Hani contributes to the mentoring and training of new educational therapists, as well as support colleagues with challenging students. Hani holds a Masters Degree in Education (Special Education) from Nanyang Technological University (NIE-NTU), a Bachelor of Science (Hons) in Management from University of London (UOL) and a Cambridge International Diploma for Teachers and Trainers (Dyslexia). Hani is also a member of the Register of Educational Therapist Asia (RETA).

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Nur Alia Bte Salim is a Senior Educational Therapist with the Dyslexia Association of Singapore (DAS). She has a Diploma in Dyslexia Studies and a Certificate in Dyscalculia and Numeracy Teaching by DAS as well as the Cambridge International Diploma for Teachers and Trainers. She has a Master of Education (Special Education) from the Nanyang Technological University/National Institute of Education (NTU-NIE). Nur Alia is a Curriculum Developer for English Language Literacy (ELL) division. As a dual-specialist, she teaches learners with Dyslexia both in the Main Literacy Programme (MLP) and the Essential Math Programme.

NUR ASHABIENA MOHD ASHRAFF

Educational Advisor

Nur Ashabiena Mohd Ashraff works in the DAS as an Educational Therapist since 2016. Nur Ashabiena graduated from the University of Wollongong (Australia) with a Bachelor of Science in Psychology. Upon graduation, she has rendered her service to various organisations; she volunteered as a Mind Stimulation Activity (MSA) facilitator with National Kidney Foundation (NKF) where she created activities that encourage dialysis patients to keep their minds engaged and active during dialysis, she has also worked as a temporary research assistant with National Institute of Education (NIE) where she conducted 1-1 cognitive testing with students age 5 to 6 years old. To ensure that she practices what she preaches, Nur Ashabiena has decided to volunteer as a stroke befriender with Singapore National Stroke Association (SNSA) where she conducted counselling sessions for stroke patients at Khoo Teck Phuat Hospital (KTPH) and Tan Tock Seng Hospital (TTSH).

Her passion in making a difference in the lives of others has led her to join the DAS as an Educational Therapist where she believes that she can make a difference in the lives of children, the future generation. Nur Ashabiena graduated with a Specialist Diploma in Educational Therapy (DAS Academy) and currently, she is also an Educational Advisor (EA). She has been giving support to other Educational Therapists, as well as, conducted training for the new batch of Educational Therapists. Nur Ashabiena is also a member of the Register of Educational Therapists- Asia (RETA)).

SOOFRINA MUBARAK

Senior Educational Therapist and EduTech Coordinator

Soofrina joined the DAS Association in 2012 and is now the EdTech Coordinator for the ELL Division and also a Senior Educational Therapist. Through working with dyslexic learners, Soofrina developed the interest to incorporate educational technologies in the lessons to make the learning and teaching both efficient and within reach for all. Guided by the mantra "As slow as we must but as fast as we can", Soofrina explored classroom differentiation using EdTech tools and now passionately shares knowledge for the professional development of teaching colleagues.

With a Bachelor's Degree in Economics and Finance, Soofrina pursued post-graduate studies in Special Educational Needs and is currently sponsored by DAS to complete her Master of Arts (Instructional Design and Technology) in National Institute of Education (NIE).

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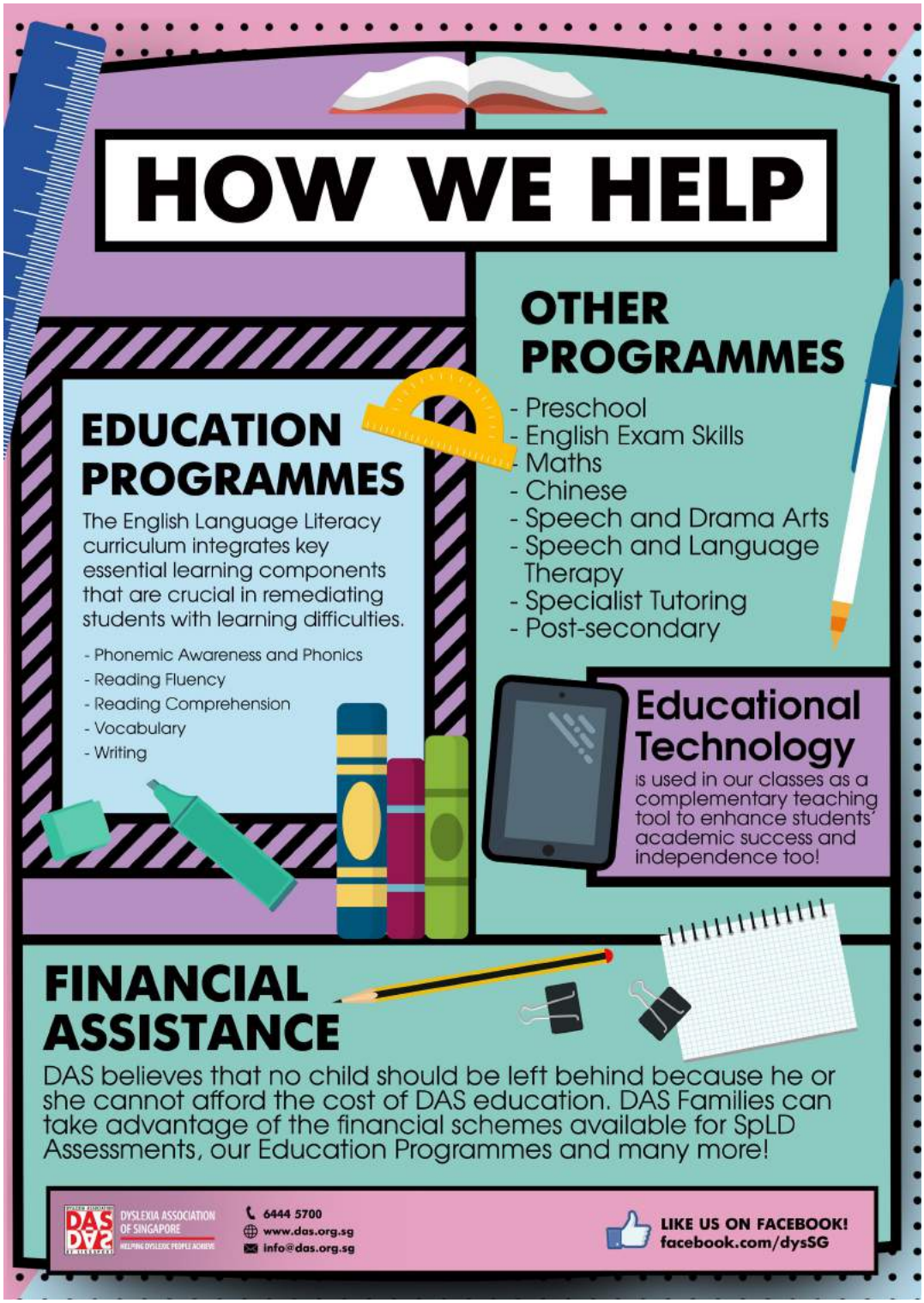
Senior Educational Therapist
English Language and Literacy Division

Janitha is a Specialist Teacher with DAS International and a Senior Educational Therapist with DAS. The love for children and the love of teaching, motivated Janitha to become an Early Childhood Teacher. With an International Diploma in Early Childhood Course (Montessori Method of Education), she embarked on her career as a Preschool Educator. During the rich and fruitful experience of enlightening little ones, she realised that there were children with differences who needed specially trained teachers to guide them. Based on her degree in Psychology (University of Kerala, India), she was offered a teaching position which enabled her to work with children with special needs (Autistic, ADHD, GDD). Janitha also obtained a Diploma in Educational Studies-Learning Disorders Management and Child Psychology (Linguistic Council) and a Diploma in TESOL (London Teacher Training College). When an opportunity presented itself to work closely with Dyslexic children, she joined DAS as a Learning Support Officer in 2011. Following this, she became a Senior Educational Therapist holding a Post Graduate Certificate (SpLD) and a Specialist Tutor. Although her forte is working with young children and lower Primary students, she has many years of experience teaching upper primary and secondary students.


HOW WE HELP
EDUCATION PROGRAMMES
The English Language Literacy curriculum integrates key essential learning components that are crucial in remediating students with learning difficulties.
- Phonemic Awareness and Phonics
- Reading Fluency
- Reading Comprehension
- Vocabulary
- Writing
OTHER PROGRAMMES
- Preschool
- English Exam Skills
- Maths
- Chinese
- Speech and Drama Arts
- Speech and Language Therapy
- Specialist Tutoring
- Post-secondary
Educational Technology
is used in our classes as a complementary teaching tool to enhance students' academic success and independence too!
FINANCIAL ASSISTANCE
DAS believes that no child should be left behind because he or she cannot afford the cost of DAS education. DAS Families can take advantage of the financial schemes available for SpLD Assessments, our Education Programmes and many more!
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