

Specialised Educational Services

Speech and Language Therapy

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INTRODUCTION

The Dyslexia Association of Singapore (DAS) recognises the importance of Speech and Language therapy for the diagnosis and intervention of specific learning differences in the Singapore mainstream school population. Currently, DAS has five Speech and Language Therapists (SLTs) of which two are senior therapists. They work across seven learning centres to serve a percentage of the student population who are diagnosed with dyslexia and attending DAS classes across Singapore.

At the DAS, SLTs work on improving listening, understanding and speaking skills which are critical components in the development of language in children whereas the Educational Therapists work on improving the children's reading and writing (literacy) skills which are critical in the development of written language.

Several studies (Bishop & Adams, 1990; Lombardino, Riccio, Hynd, & Pinheiro, 1997; Scarborough & Dobrich, 1990; Stothard, Snowling, Bishop, Chipchase, & Kaplan, 1998; Tallal, Curtiss, & Kaplan, 1989) have found evidence to explain the association between language impairment and reading disability. Catts and Kamhi, 1999 pointed out that language problems are a major component of almost all cases of reading disabilities, while Catts, Fey, Zhang & Tomblin, 1999 found that language problems are sometimes the cause of reading disabilities. Snow, Burns & Griffin, 1998 reported that language problems are a consequence of reading disabilities.

In 2010, the American Speech-Language-Hearing Association (ASHA) issued an official policy statement addressing the roles and responsibilities of speech-language therapists. The statement has highlighted the interrelationship between language and literacy. It states that "Current research supports the

interrelationships across the language processes of listening, speaking, reading, and writing. SLPs contribute significantly to the literacy achievement of students with communication disorders, as well as other learners who are at risk for school failure, or those who struggle in school settings.”

Hence, without remediating their speech, language and communication needs (SLCN), these students may not be reaching their full potential in accessing the MOE Aided Literacy programme (MAP) at DAS as well as the mainstream curriculum at school.

DAS SLTs also work with children who are diagnosed with other learning difficulties such as dyspraxia, speech and language impairment and/or autism spectrum disorder.

OBJECTIVES

Children with language and literacy needs require speech and language therapy to enable them to:

1. access the MAP and other SES programmes at the DAS
2. access the MOE mainstream curriculum
3. achieve functional communication

HOW TO DETERMINE THAT A CHILD NEEDS SUPPORT FROM THE SLT?

Studies have shown that speech, language and communication disorder can co-exist with dyslexia, in particular Specific Language Impairment (SLI). Many students with SLI meet the diagnostic criteria for dyslexia (Bishop & Snowling 2004).

Specific Language Impairment is diagnosed where a student has an average intelligence but the verbal scores fall below average. This profile is consistent with that of a student with dyslexia. Therefore a referral from the MOE/DAS Psychologists to a SLT may be required for further investigation. Formal and/or informal assessments are administered by the SLT to diagnose speech, language and communication disorder as well as to determine whether speech and language intervention is required. The latest categories of speech, language and communication disorders in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) which a fully qualified Speech and Language Therapist can diagnose and treat include Phonological disorder, Stuttering,

Specific Language Impairment, Speech-sound disorder, Childhood onset fluency disorder and Social (pragmatic) communication disorder. At DAS, we take a multidisciplinary approach to assessment as it is widely accepted as proper practice.

SPEECH AND LANGUAGE THERAPY

Speech and language therapy is conducted individually or in small groups of two to three students. It is tailored to meet the SLCN of a child so that the child will be motivated to learn. SMART therapy targets are set to enable the child to succeed.

Specific	Tailor made to your child's needs
Meaningful	Useful and functional targets
Agreed upon	By parents and child
Realistic	Achievable within the block of therapy
Time	Therapy can be evaluated and progress is measured

EVALUATION OF STUDENTS' PROGRESS

To determine if students had benefited from attending speech and language therapy, a pre-intervention test and a post-intervention test were done to measure each student's progress. Two subtests were selected from the widely used standardised assessment tool known as Clinical Evaluation of Language Fundamentals 4th Edition UK (CELF-4UK) to get an overview of each student's ability to understand and use spoken language.

Concepts and Following Directions subtest was used to measure the student's ability to understand spoken language (receptive language skills). This subtest requires the child to comprehend and follow increasingly complex instructions that include language-based concepts, such as coordinating conjunctions (and, or, but), time (when, after, before), quantity (one, none) and sequence (first, middle, last). An example would be "Point to all but one of the shoes." These abilities are needed for following classroom instructions, activities and interaction.

Formulated Sentences subtest was used to measure the student’s ability to use spoken language (expressive language skills). This subtest requires the child to plan and make sentences using given words with reference to a picture. This ability to use words in a precise manner is required in story-telling, writing compositions, sentence completion tasks and other literacy activities.

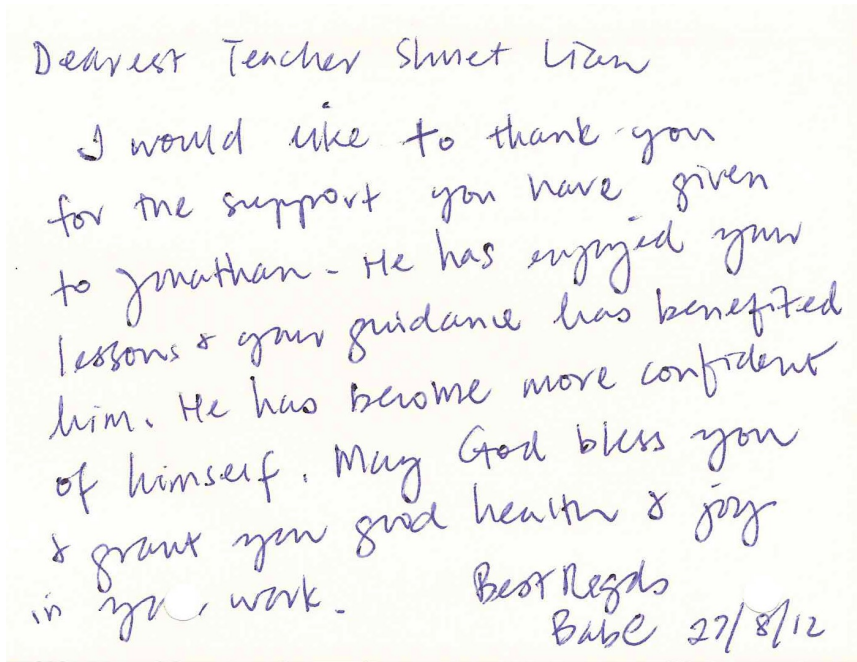
The pre-intervention test was conducted during the first therapy session and the post-intervention test was conducted after 20 hours of intervention. One student was tested at a time. The same subtests, namely Concepts and Following Directions and Formulated Sentences were used in the pre- and post-intervention tests. In addition, pre- and post-intervention Student Questionnaires, pre- and post-intervention Parent Questionnaires as well as pre- and post-intervention Educational Therapist Questionnaires were administered. A copy of the questionnaire is shown in Appendix A, B and C respectively. When parents were not able to understand the questionnaire, the SLT would explain or translate the questionnaire to a language which the parents could understand to ensure that the questionnaires were completed meaningfully.

A total of 42 students were tested. 40 students attended one hour of speech and language therapy weekly over 20 weeks and two students attended two hours of speech and language therapy weekly over 10 weeks. While these students were attending speech and language therapy, 36 of them also attended a 2-hour weekly literacy programme which was taught by the Educational Therapists at the DAS. The remaining 6 students attended only speech and language therapy during the 20 weeks of intervention.

TEST RESULTS

	Percentage of students who showed improvement (%)
Concepts and Following Directions	78
Formulated Sentences	73
Student Questionnaire	61
Parent Questionnaire	86
Educational Therapist Questionnaire	67

SUCCESS STORIES FROM PARENTS



"I would like to share a piece of good news with you. Zach has passed his PSLE with grade B for his English which is totally unexpected. Overall aggregates is 180 which is much higher than his set target. He was so surprised with his results and so do I.

Thank you once again. He enjoyed your class very much and has gained more confidence since."

Mrs Ho—Parent of Primary 6 student

"He seems more confident and now he talks more clearly. He thinks as he talks. Slowly but surely he has improved in the way he communicates in school and with his friends."

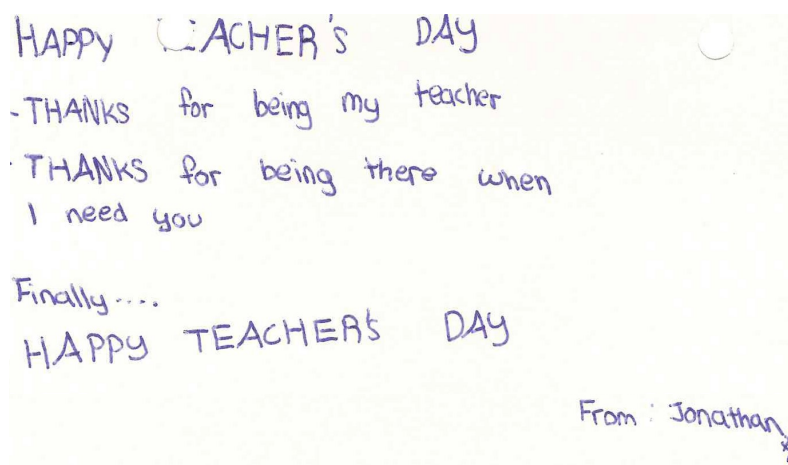
Mdm Aminah—Parent of Primary 6 student

THANK YOU MESSAGES FROM STUDENTS

"I have learnt that my pronunciation of some words is unclear because I can't hear some sounds accurately. In therapy, I learnt to identify and join the different sounds that form words. I also learnt that one way to improve my listening comprehension is to have an image or picture in my head as I listen to what people are saying since I tend to forget the words easily.

I find it easier to communicate with my friends now as I am better able to understand what they are saying. It was really difficult for me to have friends in school as I don't know how to talk to them. I don't have the confidence to approach them too. Since last year, I made two close friends whom I can share my thoughts with. My classmates told me that they can better understand what I am saying now. I no longer fear so much when I have to talk to others."

Secondary 3 Student



CONCLUSION

The SLT team will continue to develop, execute and evaluate speech and language therapy approaches as well as teaching resources to optimally support children with different learning needs. The team will adopt the best practices that have shown apparent improvement in children's speech, language and communication skills post intervention. The team will continuously improve their knowledge and skills by attending workshops, focus group discussions and talks within the given training budget.

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ABOUT THE AUTHOR



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Ho Shuet Lian works at the Dyslexia Association of Singapore (DAS) as a Senior Specialist Speech and Language Therapist. She received her training, an MSc (Speech and Language Pathology) from the National University of Singapore, and has a Master Degree of Business Administration (with Distinction) awarded from the University of Leeds. She is a member of Speech-Language Hearing Association Singapore (SHAS) and is Allied Health Professions Council Registered (AHPC).

She provides speech/language/communication assessment and intervention services to children with specific learning differences. Her clinical experience includes working with children between the ages of 5 and 16 years. In addition, she provides advice and clinical support to Educational Therapists and junior Speech and Language Therapists at the DAS. She also gives advice to parents on speech/language/communication issues. She conducts Social Skills workshops as well as give public talks on speech/language/communication difficulties faced by children with specific learning differences.

APPENDIX A

DYSLEXIA ASSOCIATION OF SINGAPORE – Speech-Language Therapy

STUDENT QUESTIONNAIRE

Student's name: _____

Educational Level: _____

Learning Centre: _____

Speech-Language Therapist: _____

Date: _____

	Never	Sometimes	Often	Always
I can remember the things that people say.				
I can say what I am thinking of.				
People understand what I say all the time.				
I know when to ask a question.				
I enjoy my class with Teacher xxxxxx.				

APPENDIX B

DYSLEXIA ASSOCIATION OF SINGAPORE – Speech-Language Therapy

PARENT QUESTIONNAIRE

Parent's name: _____

Student's name: _____

Educational Level: _____

Learning Centre: _____

Speech-Language Therapist: _____

Date: _____

	Never	Some-times	Often	Always
My child uses words that are unclear in their descriptions (e.g. this thing, that one, go there)				
My child struggles to find (think of) the right words to say.				
My child struggles to tell me what has happened in an event.				
My child can remember the things that I say.				
My child is able to talk about the same topic in a conversation.				
My child's answers are related to what I asked.				
When my child does not know something, he/she asks what it is.				
My child looks forward to attend Teacher xxxxxx's class.				

Other comments before/after speech-language intervention:

APPENDIX C**DYSLEXIA ASSOCIATION OF SINGAPORE – Speech-Language Therapy****EDUCATIONAL THERAPIST QUESTIONNAIRE**

Educational Therapist: _____

Student's Name: _____

Educational Level: _____

Learning Centre: _____

Speech-Language Therapist: _____

Date: _____

	Never	Some- times	Often	Always
1. This child uses words that are unclear in their descriptions (e.g., this thing, that one, go there)				
2. This child struggles to find (think of) the right words to say.				
3. This child struggles to say what has happened in an event.				
4. This child can remember the things that I say.				
5. This child is able to talk about the same topic in a conversation.				
6. This child's answers are related to what I asked.				
7. When this child does not know something, he/she asks what it is.				
8. This child asks for help when he/she can't do something.				

Other comments before/after speech-language intervention:
