

Sound Start: Innovative technology to promote speech and pre-literacy skills in at-risk preschoolers

One in five Australian children of preschool age have a speech impairment. Around 60% of these children are not getting the specialist help they need. We also know that around one in two children who start school with speech impairment, will have literacy difficulties throughout the school years. Your centre is invited to participate in an Australian Research Council (ARC) funded project investigating a preschool-based intervention for speech impairment in 4-5 year old children. This project aims to:

- Evaluate the effectiveness of a computer-based intervention on the development of speech and pre-literacy skills in children with speech impairment;
- Explore the relationship between speech impairment, pre-literacy skills, and the cognitive processing of sounds; and
- Explore the child- and family- variables that are associated with changes in children's pre-literacy skills and speech sound development.

The findings of this project will provide useful information to educators, speech pathologists, and policy makers about speech impairment and integrated therapy options for young children and their families.

This project will be conducted by the following research team, who are all speech pathologists:

Prof. Sharynne McLeod

Research Institute of Professional Practice, Learning and Education, Charles Sturt University

Dr Elise Baker

Faculty of Health Sciences, The University of Sydney

Dr Jane McCormack

School of Community Health, Charles Sturt University

Dr Yvonne Wren and Prof. Sue Roulstone

Bristol Speech and Language Therapy Research Unit, The University of the West of England, UK

Dr Kate Crowe

Project Officer, Charles Sturt University

Ms Sarah Masso

Research Officer and PhD student, Charles Sturt University

Information about the study

This study will investigate the effectiveness of a computer-based intervention for the speech and pre-literacy skills of 4- to 5-year-old children with speech impairment. Findings from this study will inform families, educators, speech pathologists, policy makers, and the general public about ways to improve services for children with speech impairments and their families. Information gathered from this study will be published and may be used in future research. This letter outlines what participation will mean for your centre.

Procedure

This research will be conducted in six stages. If you consent to participate in this study, the children, families, and staff at your centre will be asked to participate in the following ways. Researchers will support children, staff, and caregivers where possible in tasks such as completing and collecting questionnaires.

Stage 1: Screening (Term 1)

The preschool will be asked to:

- Display information posters regarding the study in places accessible to caregivers.
- Provide a time and space for researchers to visit your centre and discuss the study with caregivers.
- Distribute information and screening questionnaires to caregivers of all your 4- to 5-year-old children.

- Provide a space where caregivers can return their completed screening questionnaires (we will supply a file/box for this purpose).
- Distribute screening questionnaires to the teachers of children whose caregivers have consented for teachers to provide information on their children. This will take teachers approximately 2 minutes per child to complete.
- Complete a short questionnaire describing key characteristics of the centre.
- Provide de-identified information on the 4- to 5- year-old children attending your centre (date of birth, postcode, and sex)

Teachers will be asked to:

- Complete screening questionnaires for the children whose caregivers have consented to this. This will take teachers approximately 2 minutes per child to complete.

Caregivers will be asked to:

- Complete a 2-5 minute screening questionnaire about their child.

Stages 2/3: Assessment (Term 2)

The centre will be asked to:

- Provide a quiet space for the researcher to conduct individual assessments with children whose caregivers and/or teachers identified concerns about their speech impairment.
- Assist with distributing and collecting consent forms and questionnaires from caregivers of children who are eligible for assessment.

Children will be asked to:

- Participate in a screening assessment with a speech pathologist that will take approximately 20-30 minutes per child.
- Following the screening assessment, children who are identified as having speech impairment that makes them eligible to participate in this study will participate in a comprehensive assessment with a speech pathologist that will take approximately 1 – 1½ hours per child.

Caregivers will be asked to:

- Complete a consent form and a 20-30 minute detailed questionnaire describing their child's skills and development.
- Caregivers may attend their child's assessments if they wish.
- The caregivers of children who are not eligible for the next phase of the study will receive a brief report describing their child's communication skills.

Stage 4: Intervention (Term 3)

Children identified as having a speech impairment of the type relevant to this study will be invited to participate in the intervention stage of this study. The intervention stage will involve two groups of children. Half of the children will access a computer-based intervention (treatment group) while the remaining children will not access this intervention (control group). Children from your centre will be randomly allocated to these groups. If children from your centre are in the control group you (and they) will not be required to do anything during the intervention stage. If children from your centre are in the treatment they will need to complete a minimum of 4 sessions per week with the computer program (for 10-15 minutes per session) under the supervision of a familiar teaching assistant. The following actions are required from preschools with children in the treatment group.

The preschool will be asked to:

- Identify a teaching assistant familiar with the children participating in the study to oversee their use of the intervention (four times a week for 9 consecutive weeks). Researchers will provide solutions for maintaining the correct teacher to student ratio while the teaching assistant is engaged in this activity.
- Provide a quiet space for the intervention to occur in.
- Video record children participating in the intervention during two sessions over the 9 weeks.

- Describe your experiences with implementing the intervention.

Teaching assistants will be asked to:

- Attend a short on-site training session with researchers to learn about the computer-based intervention.
- Sit with each of the children during their intervention session. For each child participating, this will mean approximately, four times a week for 9 consecutive weeks.
- Complete a questionnaire describing their demographic information and education history.
- Describe their experiences with implementing the intervention.

Children will be asked to:

- Participate in the computer-based intervention for approximately four times a week for 9 consecutive weeks.

Stage 5-6: Follow up assessments (Term 3 and 4)

Children in the treatment and control groups will be assessed at the end of term 3 (immediately after children in the treatment group complete their intervention) and at the end of term 4 (6-8 weeks later).

The preschool will be asked to:

- Provide a quiet space for researcher to conduct individual assessments with the children.
- Assist with distributing and collecting questionnaires from caregivers of children who are participating in these assessments.

Please note that all researchers have current NSW Working with Children Checks. If any other documentation is required at your centre, please notify the Project Officer before consenting to participate.

Dissemination of Research Findings

The findings of this research will inform the practice of educators, speech pathologists, and policy makers, and be of interest to the general public. Research findings will always be disseminated in ways that do not identify participants (child/family/teachers) or centres. The outcomes of this project will be accessible to participating families and centres who have participated in this research. Research findings will be published in practitioner-focused journals and presented at practitioner-focused conferences and events. Researcher-oriented journals, conferences, and professional development events will also be key ways of disseminating the findings of this research. Findings may also be broadcast through media outlets when possible.

Ethical Considerations

The children's names will not be used in this research. Instead, number codes will be used so information about them is anonymous. No data that could identify you, other individuals, your centre, or your specific location will be released (except the photographs, audio, and video recordings that have been approved by the children's parents). Strict confidentiality is assured. Your preschool's participation in this study is entirely voluntary. The staff and children at your preschool are not obliged to participate and - if your preschool does participate - you may withdraw at any time. Whatever your decision, it will not affect you or your preschool's existing or future relations with Charles Sturt University, The University of Sydney, or The University of the West of England. If you decide to permit your preschool to participate, you are free to withdraw your consent and discontinue your centre's participation at any time. Information gathered from this study will be published and may be used in future research.

NOTE: Charles Sturt University's Human Research Ethics Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Human Research Ethics Committee
Office of Academic Governance
Charles Sturt University
Panorama Avenue
Bathurst NSW 2795

Tel: (02) 6338 4628
Email: ethics@csu.edu.au

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

Further Information

If you have any further questions about this research please contact Project Officer Kate Crowe (phone: (02) 9752 9031, email: kcrowe@csu.edu.au) or Research Officer Sarah Masso (phone: (02) 9752 9031, email: smasso@csu.edu.au) before signing this form.



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