

INFORMATION SHEET FOR PARENTS / GUARDIANS OF PARTICIPANTS

NOTE: This page remains with you for your records.

Research Project:

A novel approach to mapping the impact of STEM programs

Dear parent or guardian,

Your child's teachers are engaging with the University of South Australia as part of a study to investigate the impact of different learning strategies on students' attitudes towards mathematics. The lead researchers on this project are Dr John Kennedy, Dr Florence Gabriel, Dr Rebecca Marrone, and Associate Professor Simon Leonard. The study is supported by the school and we would like to invite your child to be part of this research. The details of the study are below, and we hope you will consent to your child being involved.

Aim of the Study:

This study aims to investigate the impact of novel STEM activities on the attitudes of school students towards different STEM subjects, including Mathematics.

Time and other Requirements:

This project will make use of a number of web-based survey instruments which have been negotiated with your child's school. These instruments could include:

- The Student Attitude Survey
- The Motivated Strategies to Learning Questionnaire
- The Creativity in Adolescents Survey
- The Critical and Creative Thinking tool
- The 5 Words About Maths tool
- The modified Abbreviated Mathematics Anxiety Scale

Your child will be requested to log on to a website at various points before, during and after the program. Each time they will be requested to complete a simple electronic survey. This should take no more than 20 minutes for the first time and less than 10 minutes for the next rounds of the survey. The survey will be completed during lesson time.

Outline of the study

For several decades universities, industry and government have invested heavily in the delivery of 'outreach' programs seeking to improve student's STEM participation and engagement, including professional development activities for teachers. For example, in 2016 over 600 different initiatives were in place across Australia to attempt to engage students in various aspects of STEM education with dedicated programs for Science, Mathematics, Technology and Engineering as well as many cross-discipline programs. Even with this investment, the participation trends seen in STEM subjects over the last 20 years have been described by some commentators as a "leaky pipeline". While these outreach programs are often very popular with students, the lasting impact of these outreach programs is poorly understood in the global literature.

This project takes a novel approach to addressing this gap by mapping changes to different aspects of

students' attitudes and will investigate the impact of a number of differently designed STEM outreach programs on student attitudes, establishing a database for further research.

Confidentiality:

You or your child will not be identified in any reports. Please note that your child's participation in this study is completely voluntary and they, or you, are free at any time to withdraw consent for the project without having to give a reason and without consequence.

The online survey is intended to be confidential and the researchers will take every care to keep data confidential. Survey results will be stored on the survey platform and the manager may have access to that data. As soon as practical after data collection is complete, the researcher will delete any personal data from the online platform. However, confidentiality of anonymous data stored on the internet survey platform cannot be guaranteed. You or your child will not be identified by name in any publication of the results. All names will be replaced with pseudonyms ensuring that you will not be identifiable. Data will be kept on a secure computer server and will only be accessible by the researchers. Any printouts will be kept in a locked filing cabinet in the principal researcher's office. Identifying data will be kept for five (5) years following completion of the study and then deleted securely or, in the case of printouts, destroyed. Any non-identifiable data will be stored for a minimum of five (5) years after the conclusion of the project (and will be kept up until the point that the research records are considered to have no further research value).

It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact your local Community Health Centre.

Research Process:

The results of this research will be presented in university reports, conferences and in journals without any identifying information.

This project has been approved by the University of South Australia's Human Research Ethics Committee as protocol **202684**. If you have any ethical concerns about the project or questions about your rights as a participant please contact the Executive Officer of this Committee, Tel: +61 8 8302 6330; Email: humanethics@unisa.edu.au

Contacting the Research Team

You can contact the research team at any time by e-mailing Dr John Kennedy, john.kennedy@unisa.edu.au

Participating:

To accept this invitation and participate in this project, please visit **follow the link provided by your school** and give your consent online. Alternatively, please complete the attached consent form and return it directly to the research team

We thank you for your time and effort in assisting us in this important research,

Yours sincerely,

A/Prof Simon Leonard
Dr John Kennedy
Dr Florence Gabriel
Dr Rebecca Marrone



Consent Form for Parents of Participants

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CONFIDENTIAL

Table with 5 rows of consent questions and Yes/No columns.

Participant's name:

Participant's e-mail:

Participant's school:

Parent / Guardian's name:

Signature:Date:

Please return this completed form, together with your participant assent form to your coordinator at school or direct to Dr John Kennedy at john.kennedy@unisa.edu.au