

Early Learning in Science, Technology, Engineering and Mathematics, Australia (ELSA) F–2

Information Package – Families

Dear Parent / Legal guardian,

The Early Learning STEM Australia F–2 Program (ELSA F–2 Program) is being run by the [STEM Education Research Centre \(SERC\)](#) at the University of Canberra (UC) with funding provided by the Australian Government Department of Education (DE).

The ELSA F–2 Program seeks to increase the participation of Australian children in STEM education and improve their digital literacy. It will provide an opportunity for young children to explore an online, play-based learning environment, delivered through a series of digital tools that are rich in STEM concepts. It will also include classroom activities to support the children’s learning. The program will be delivered to children in the F–2 years of schooling and will run during 2024.

The mission of the ELSA F–2 Program is science, technology, engineering and mathematics (STEM) for all children across the first three years of formal schooling. Our philosophy is that learning programs should be authentically accessible for all children, including those in vulnerable, geographically isolated, and non-traditional-learning communities—who have often been excluded from STEM education opportunities.

The intended outcomes of the Program include:

- developing and disseminating innovative, high-quality online Australian-Curriculum-aligned STEM resources and support materials for school educators
- providing a high-quality experience for users, incorporating contemporary pedagogies
- strengthening the STEM capabilities of Foundation to Year 2 teachers and supporting school leaders, students, and families
- ensuring widespread awareness and uptake of the resources and associated pedagogical approaches in schools across Australia
- ensuring the resources meet school communities’ needs by continuous monitoring
- strengthening students’ STEM skills
- supporting all young people to become more STEM-capable.

The ELSA F–2 Program builds on the successful ELSA preschool program and aims to enhance children’s STEM-literacy in ways that connect their play experiences to their ways of knowing, their teachers’, and their families’ out-of-school engagement. The work in developing and implementing resource materials, learning tools for children, educators and families, and professional learning for educators, will be informed by the principles, practices and outcomes of the Australian Curriculum (in its state and territory interpretations) as well as the

Early Years Learning Framework for Australia (EYLF).

Expression of Interest

Your child's school has expressed interest in being involved in ELSA F–2 and has been selected as one of 240 schools across Australia to be involved the program. The school's level of involvement will depend on which cohort they have been placed into. Please see below for more information.

Engagement

Your child's engagement with the ELSA F–2 Program will provide them with:

- exposure to STEM-based concepts and thinking processes through appropriate play-based experiences stimulated by an online platform and associated offline materials
- provision of opportunities for cognitive development, enhancing digital literacy and technology skills
- enhanced levels of positive learning dispositions including persistence, attention, confidence, self-regulation and autonomy.

Purpose of this note and form

The SERC team now seeks your personal consent for your child to be involved in the digital aspects of the research project. Such involvement may entail your child's engagement in pre- and post-tests to evaluate the effectiveness of the ELSA F–2 Program.

Your child's school will be implementing the ELSA F–2 Program's classroom activities as part of their normal learning, but it is up to you and your child what level of involvement they will have in the digital aspects of the program.

There is no obligation to be involved in the digital aspects of the program, and what you and your child choose to do will have no impact on the ongoing program for your child at school. Even if you or your child choose to participate it is still possible to withdraw from the digital aspects of the project at any time. There are no negative consequences for you should you choose not to participate in the digital aspects of the program or if you can only participate in some digital aspects of the project.

Please note that in addition to your consent for your child to be involved in the ELSA F–2 Program, your child will also be asked for their assent to take part. This means that even if you have consented, it will also be up to your child as to whether they are involved.

Data collection and ethics

As part of the ELSA F-2 program, de-identified data will be collected for evaluation purposes (e.g., how we can improve aspects of the ELSA F-2 program) from all four groups in the program. See below for more information on groups. Any information you share with SERC will be de-identified so that it will be impossible for anyone to identify you, your child or their school.

The SERC research team (who have developed the ELSA F-2 program) are also interested in analysing this de-identified data for research purposes (e.g. publishing an article in an academic journal or conference

presentations). To conduct research, ethical approval is required from our institution, the University of Canberra, as well as respective jurisdictions. Ethical approval has been obtained from the University of Canberra to conduct research (see note below) and this research project has met the policy requirements of the Department of Education.

Please note, any evaluations or future academic publications that draw on ELSA F–2 data will not use any information that could identify a person, school, or state/territory.

Student data

The ELSA: STEM in Schools program will only collect de-identified student data. No names or identifying information will be collected. De-identified data that will be collected includes:

- pre- and post-test data – how each student performs before and after using our program
- time spent on our digital games – how long student has spent overall, as well as how long it takes a student to complete an individual task
- usage data – this includes their progress in our games and achievements they have reached

This de-identified data is then sent to a dashboard inside our digital Teacher tool for the student’s teacher to be able to view. Only the student’s teacher will be able to view this information, and only after logging in with secure credentials.

Student time investment

Our program and randomised control trial is divided into four separate groups:

- **Full ELSA Program** – this group will receive the full ELSA: STEM in Schools program. This includes classroom activities, digital challenges, activity plans, and professional learning for teachers.
- **Schools BAU** – this group is the control group and will not receive any of the ELSA: STEM in School program resources. Instead, they will go about their regular classroom activities. As a thank you, they will, however, receive access to the ELSA program in Term 4 as well as 2025 to engage with as they wish.
- **ELSA Digital** – this group will receive access to the ELSA: STEM in Schools digital challenges only.
- **Non-RCT** – this group is a subset of the Full ELSA Program. They will receive the same resources and run the program in the same way; however, their data will not be included in our RCT study.

Students in our Full ELSA and Non-RCT groups may undertake up to 2 hours per week engaging in our 20-week program, implemented by their class teacher. The total time investment from students in these groups over the 20-week program will be approximately 30 hours, including their time spent engaging with the learning program and completing pre- and post-test (30 minutes each).

Students in our ELSA Digital group may undertake to take up to 30 minutes per week engaging in our 20-week program, implemented by their class teacher.

The total time investment from students in this group over the 20-week program will be approximately 11 hours. This includes time spent engaging with our digital apps, as well as completing the pre- and post-test (30 minutes each).

Students in our School BAU group will not undertake our program. Instead, they will undertake their normal classroom learning activities. The total time investment from these students over the 20 weeks will be approximately 1 hour. This time will be spent completing the pre- and post-tests.

Sign attached form

If you are happy to be involved in the ELSA F–2 Program in the ways outlined, could you **please sign the attached form and *return it to your child's teacher at school.***

I do hope that you will join in the ELSA F–2 Program. Please do not hesitate to contact me if there are any questions about the ELSA F–2 Program or research project.

Professor Tom Lowrie

NOTE: This project has ethical clearance from University of Canberra (12127). Any queries about the project should be directed to Emma Simpson at emma.simpson@canberra.edu.au or telephone 1800 512 225.

If you have any concerns about the ethical conduct of the project you may also contact the Secretary, University of Canberra Human Research Ethics Committee, telephone 02 6201 5220 or email humanethicscommittee@canberra.edu.au.

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

Consent form: Parents / Legal guardians

Please read this form carefully and fill out the sections below.

Privacy: How the ELSA F–2 Program will collect, store and use data

- Your personal information is protected by law, including the *Privacy Act 1988*. The University of Canberra will not directly collect any of your or your child’s personal information. Personal information you provide on this consent form will be collected and stored by your child’s school for the purposes of running the ELSA F–2 Program.
- Your child’s school will collect and use the personal information of children and parents/legal guardians for the specific use of running the ELSA F–2 Program only. The personal information collected will include your child’s name, as well as your name and signature.
- All children’s usage data collected as part of the program will be:
 - stored on secure servers in Australia, except for data collected by the Gorilla platform (pre- and post-test). All data will be de-identified prior to being sent to Gorilla, with a unique but meaningless number assigned to each child; and
 - de-identified (removing names of children) before being used in reports (or any future academic papers).
- De-identified data may be used and disclosed by the University of Canberra to the Department of Education (DE), an external evaluator of the ELSA F–2 Program, and the ELSA F–2 digital developers – including Mode Games and Anomaly Software – for the purpose of delivering and evaluating the ELSA F–2 Program only.
- The University of Canberra may also examine/use this de-identified data in the future for research purposes/aims as described in these letters.
- No names or other identifying material will be collected by UC without further consent from a child’s parent or legal guardian.
- You can get more information about the way in which the University of Canberra will manage data, including requesting a copy of our privacy policy, by emailing elsa.schools@canberra.edu.au

Consent – Participation

Choose ONE of the participation options below by ticking the appropriate box:

- I give consent for my child to fully participate in the ELSA F–2 Program. This includes my child using the ELSA digital tools, their de-identified usage data being recorded and used to evaluate the program, and their participation in pre and post assessment. I also consent for my child’s de-identified usage data to be used in the future for research purposes (e.g. publishing an article in an academic journal).
- I give consent for my child to use the ELSA digital tools; however, I request that no usage data be recorded and that my child not participate in the pre and post assessment.
- I do not wish for my child to use the ELSA F–2 digital tools or participate in the pre and post assessment.

Sign and date

I have read and understand the information about the ELSA F–2 Program which is contained in the accompanying Information Statement.

I have been able to clarify any questions I had about the program and my participation in it.

I understand that I am free to withdraw from the research at any time, and that if I do, I will not be subject to any penalty or discriminatory treatment.

I understand that any information or personal details gathered in the course of this program about me or my child are confidential and that neither names or any other identifying information will be used or published without my further consent.

Parent/Family Member's Consent for Involvement

I, _____ (Parent/Legal guardian's name) agree for my child
_____ (Child's name) to be involved in the activities outlined in the
Information Statement provided.

Signature: _____

Date: _____

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