SUMMER RESEARCH 2021/22
PROJECT ABSTRACT

PROJECT # 15

SUPERVISOR/S: Wendy Fox and Shaoqun Wu
PROJECT TITLE: Embedding Computational Thinking into Authentic Technology Practice
FIELD: Technology education
DIVISION/SCHOOL: DEDU - School of Education
PROJECT LOCATION: Hamilton

PROJECT ABSTRACT:
The summer scholar will become part of a long term project investigating technology in the digital technologies space, by looking at how the computational thinking aspect of digital technologies can be embedded authentically into students' technological practice. The project will explore computational thinking in context, such as developing sequencing and orientation skills and understanding, when designing and creating a simple programme to meet the needs of a specific community and/or programming simple games to undertake specific tasks. The project team is particularly focused in indigenous technological needs and practice. This is an area of key strategic interest for the university and the Ministry of Education and the project will inform an application for external research funding (TLRI).

The summer scholar will be supported to conduct a systematic search to develop an annotated bibliography in the fields of indigenous technology practice, computational thinking for children in Years 1-4 at school and the role of talk in computational thinking. This annotated bibliography will supplement a conceptual paper on the application of computational thinking for young people -they will be named as a co-author. This will provide the experience of crafting an argument as a part of a team.

In addition to the annotated bibliography the summer scholar will be involved in team discussion to scope a pilot study resulting in an ethics application for the project. The team will consist of members from both the School of Education (SoE) and School of Computing and Mathematical Sciences (SCMS). Dr Shaoqun Wu from SCMS is also applying for a summer scholar to contribute to the software programming aspect of this project. It is envisaged that the team will consist of her, me and the two summer scholars.

This opportunity will offer the student a solid foundation of which they could develop a proposal of their own. They will gain greater insight into working in a multidisciplinary team across schools within the university and deeper understanding of the ethical considerations when working with young children in the primary school setting including gaining access to participants though their gatekeepers.

STUDENT SKILLS:
- Using educational data bases - support will be offered here as needed
- Writing an annotated bibliography
- Collaboration skills
- Time and task management - Gantt chart
- Succinct professional communication-oral and written
- Poster design skills

PROJECT TASKS:
- developing an annotated bibliography using agreed search terms
- be involved in co-authoring a paper computational thinking for young people
- be involved in team discussion to scope a pilot study
- assist in the preparation of an ethics application
- prepare a final research poster

EXPECTED OUTCOMES:
- Student’s Research Poster (as per clause 6 of the Scholarship regulations)
- An annotated bibliography
- Draft of a co-authored paper
- Pilot project design and outline
- Ethics application