# DEVELOPING IN DIGITAL WORLDS

**Findings from teachers and students in later adopting English medium schools**

Phase One
2015–2017

THE UNIVERSITY OF AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

**EDUCATION AND SOCIAL WORK**
WOOLF FISHER RESEARCH CENTRE

## Project Overview

- Developing in Digital Worlds is a four-year project conducted by the University of Auckland's Faculty of Education and Social Work and funded by the Ministry of Business, Innovation and Employment

- This is the first study in the world to identify links between teaching, family participation and game-based learning in order to promote educational outcomes and equity

- The project focuses on children aged 4–17 years to test how to promote cognitive and social development in the '21st Century' digital world

## Study Aims

- How does participation in the digital world influence children's cognitive and social development?

- What skills, knowledge and capabilities do children need to manage, engage, and benefit from participating in the digital world?

- How can family, educators, and society effectively support children's involvement in the digital world?

# TEACHER QUESTIONNAIRE

**10** teachers
**4** different schools

*We asked teachers about their use of digital technology, and the impact of digital environments on students' cognitive and social skills*

## Frequency of Digital Use in Classrooms

- Most teachers reported using digital technology to teach three skills **daily**: **critical thinking**, **self-regulation**, **critical literacy**

- 20% of teachers reported using digital technology **daily** to teach **social skills** such as empathy

- Over half of the teachers said they use digital technology **weekly** to teach **collaborative reasoning**

- One teacher described a task within a digital context that built critical literacy skills:

*"Digital technology is great to use in conjunction with current events, seeing how the different sources report different information from different perspectives. My learners are still identifying these differences, but are becoming more aware."*

- Teachers indicated that they would use digital technology more frequently to support instruction **if** professional development was provided

# CLASSROOM INSTRUCTION
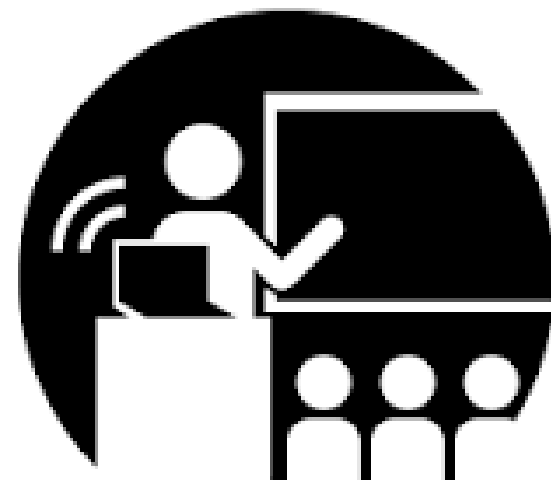
**11** teachers
**4** different schools

*Researchers observed teachers and students in the classroom for 1 hour each*

- Nearly half of the time (45%), both teachers and students focused on **self-regulation**

- Students also exhibited **empathy** nearly half of the time (45%) and teachers a quarter of the time (26%)

- Teachers and students only focused on **argumentation, critical thinking** and **collaborative reasoning** a small amount of the time

- However, students showed some critical thinking twice as often as teachers, and argumentation three times as often

- Researchers observed **critical literacy** only 1.5% of the time (teachers) and 3.1% (students)

# STUDENT QUESTIONNAIRES

Students were in **Years 3-8**
**59** completed a social & digital questionnaire
**40** completed a critical thinking questionnaire

*Students were asked about social behaviours in online contexts, and asked to think critically about problems posed in science, maths, and English texts online*

- All students found the online critical thinking questionnaire very difficult

- The maths and science texts posed greater difficulty to read critically than the English text

- Students reported higher confidence in their **interpersonal** skills (e.g. cooperation) online than their **intrapersonal** skills (e.g. self-control)

I try to be nice to others online, I care about their feelings

*very like me* — *does not describe me well*

It is hard for me to get off some sites when asked

*very like me* — *does not describe me well*

- These results indicate that particular attention may be needed to develop students' **information literacy, critical literacy,** and **self-control** in a digital context

## Online Discussion Board Posts (Argumentation)

Students were in **Years 3-8**
**57** engaged in a discussion board

*A specially designed activity to show how well students could argue in a digital context*

- Their posts on the board suggest that students could make a claim and state their view, but found it hard to integrate claims (about 10% did)

- Longer posts did not result in better critical reasoning; rather, effectiveness required well-connected and clear arguments

- These results suggest that students need more support in the skills of reasoning, such as considering others' perspectives

## More Information

If you have any queries, you are most welcome to contact the project manager, Angela McNicholl, at a.mcnicholl@auckland.ac.nz or 09 923 8978, or email the principal investigator Professor Stuart McNaughton on s.mcnaughton@auckland.ac.nz

Visit the Developing in Digital Worlds website to find out more:

developingindigitalworlds.blogs.auckland.ac.nz

Thank you to all those who contributed to this research.

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