



University of
South Australia

Developing digital fluency in the primary years through pre-service teacher evidence-based practice

A South Australian case study

Dr Melissa Bond

melissa.bond@unisa.edu.au

 [@misc_nerd](https://twitter.com/misc_nerd)

Sienna Wales, Claudia Schwarzkopf, Eliesa Burke

UniSA pre-service teachers



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 CENTRE FOR CHANGE AND
COMPLEXITY IN LEARNING

Education Futures



Acknowledgement of Country

I would like to acknowledge the Traditional Custodians of the land on which this teaching and research was conducted, and pay my respects to Elders past, present and emerging.

I respectfully acknowledge the Kurna, Boandik and Barngarla First Nations Peoples and their Elders past and present, who are the First Nations' Traditional Owners of the lands that are now home to the University of South Australia's campuses in Adelaide, Mount Gambier and Whyalla. I am honoured to recognise our connection to the Kurna, the Boandik and the Barngarla lands, and their history, culture and spirituality through these locations. I also acknowledge the other First Nations of lands across Australia, their Elders, ancestors, cultures and heritage.



David R Horton (creator), © AIATSIS, 1996.



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Dr Melissa Bond

Lecturer (Digital Technology Education), UniSA
EPPI-Reviewer Training & Support Officer, UCL

- High school teacher, 10 years
- Research associate, 3 years
- EPPI-Reviewer Support Officer, 2 years

Agenda

1. Digital Citizenship education
2. State of Digital Citizenship education in Australia
3. Digital Citizenship course and project
4. Research methodology
5. Preliminary findings
6. Lessons learned and suggestions
7. Q&A

Digital Citizenship education

- **Importance of digital citizenship education evident**
 - A variety of frameworks being developed¹
 - Government and NGO policies changing to reflect the increasing importance²
- **Research on digital citizenship mounting**
 - Particularly focused on high school and university students³
 - Very heavily US-centric⁴



1. Council of Europe (2019); DQ Institute (2022)
2. Burns & Gottschalk (2019); ISTE (2022); Martin et al. (2019)
3. Chen et al. (2021); Fernández-Prados et al. (2020); Richardson et al. (2021)
4. Richardson et al. (2021)

Digital Citizenship education in Australia

Goal 2: All young Australians become confident and creative individuals, successful lifelong learners, and active and informed members of the community

Australian Governments commit to working in collaboration with the education community to support all young Australians to become:

- confident and creative individuals
- successful lifelong learners
- active and informed members of the community.

Alice Springs (Mparntwe)
Education Declaration

DECEMBER 2019

Successful lifelong learners who...

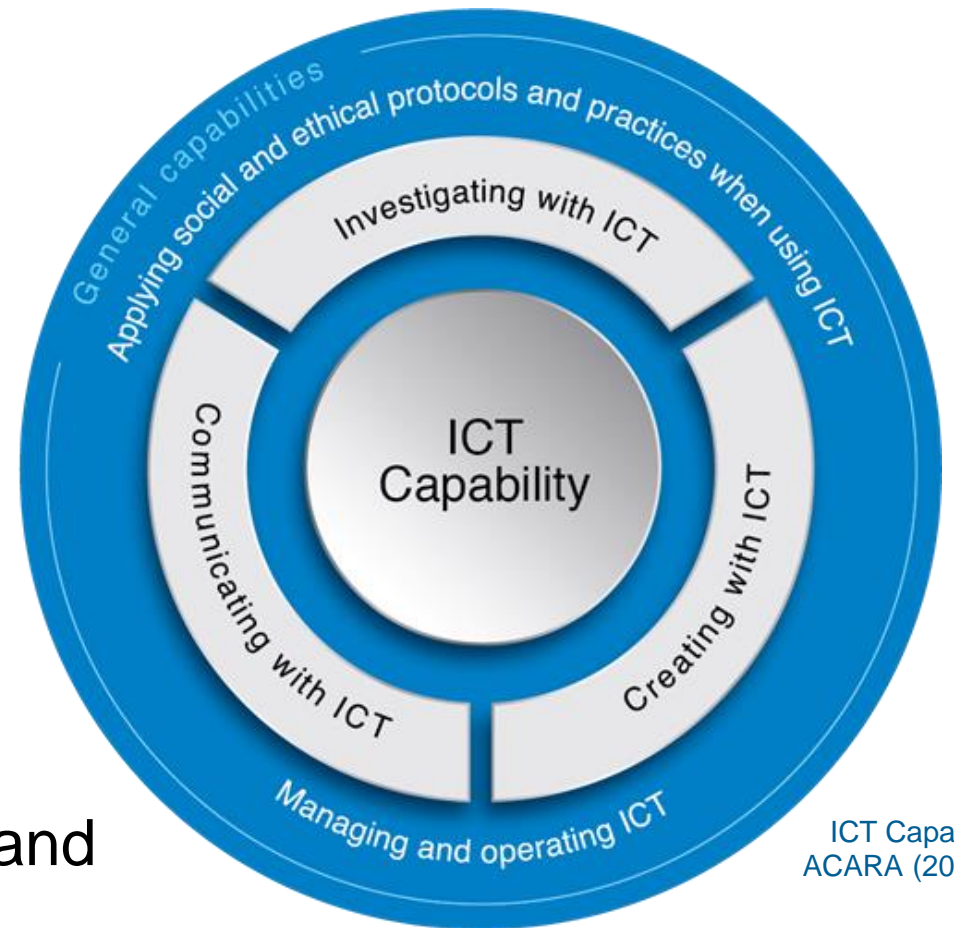
- are productive and informed users of technology as a vehicle for information gathering and sharing, and are able to adapt to emerging technologies into the future



Digital Citizenship education in Australia

- **Australian Curriculum v8.4**

- One of seven General Capabilities
- Intended to be taught across all subjects
- 5 key foci
 - ❖ Investigating
 - ❖ Creating
 - ❖ Communicating
 - ❖ Managing and operating
 - ❖ Applying social and ethical protocols and practices



Digital Citizenship education in Australia

▪ Australian Curriculum v9.0

Practising digital safety and wellbeing

- Manage online safety
- Manage digital privacy and identity
- Manage digital wellbeing

Managing and operating

- Manage content
- Protect content
- Select and operate tools

Creating and exchanging

- Plan
- Create, communicate and collaborate
- Respect intellectual property

Investigating

- Locate information
- Acquire and collate data
- Interpret data



Digital Literacy elements
ACARA (2022b)



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Digital Citizenship

COURSE LEVEL Undergraduate

YEAR 2022 ▼



SHARE



PRINT

COURSE INFORMATION



AREA/CATALOGUE

EDUC 1084



COURSE ID

153421



TIMETABLE/S

First Semester
(Study Period 2)



COURSE LEVEL

Undergraduate



UNIT VALUE

4.5



COURSE OWNER

UniSA Education Futures



OFFERED EXTERNALLY

Yes



UNIVERSITY-WIDE ELECTIVE COURSE

No

- 16 enrolled, but 13 active students
- 13 week course
- Many with no prior teaching experience

Pre-service teacher year	Number of students
2 nd year	3
3 rd year	9
4 th year	1



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Digital Citizenship

COURSE LEVEL Undergraduate

YEAR

2022



DQ Competencies

	Digital Identity	Digital Use	Digital Safety	Digital Security	Digital Emotional Intelligence	Digital Communication	Digital Literacy	Digital Rights
Digital Citizenship	1 Digital Citizen Identity	2 Balanced Use of Technology	3 Behavioural Cyber-Risk Management	4 Personal Cyber Security Management	5 Digital Empathy	6 Digital Footprint Management	7 Media and Information Literacy	8 Privacy Management
Digital Creativity	9 Digital Co-Creator Identity	10 Healthy Use of Technology	11 Content Cyber-Risk Management	12 Network Security Management	13 Self-Awareness and Management	14 Online Communication and Collaboration	15 Content Creation and Computational Literacy	16 Intellectual Property Rights Management
Digital Competitiveness	17 Digital Changemaker Identity	18 Civic Use of Technology	19 Commercial and Community Cyber-Risk Management	20 Organisational Cyber Security Management	21 Relationship Management	22 Public and Mass Communication	23 Data and AI Literacy	24 Participatory Rights Management

Digital Citizenship

COURSE LEVEL Undergraduate

YEAR

2022 ▼

Week	Concepts covered	Assignments
1	Introduction to the course and digital citizenship	
2	Digital citizenship concepts, digital life in Australia, digital footprint management	Forum post
3	Digital citizenship and the Australian Curriculum	
4	Digital communication, Twitter	
5	Digital emotional intelligence, Google Classroom	
6	Digital rights & responsibilities, Class Dojo	Forum post
7	Digital literacy, Voki, Nearpod	Forum post
8	Digital access and law	
9	Digital security, cyber security	Presentation to teachers
10	Working on the case study report	Case study report
11	Working on lesson plan, student perceptions of technology use and DC	
12	Giving double lesson	Self & peer assessment
13	Lesson debrief and hot topics	Lesson plan & reflection

Digital Citizenship Project

Step 1

PSTs paired with a mentor teacher and their class from Year 1 to 6 in one metropolitan Adelaide government school.

Step 2

PSTs design a single lesson on digital citizenship and get feedback from mentor teacher and lecturer.
















Step 3

PSTs give the lesson to the class, including surveying the students:







- Technology use at home (perceptions)
- Information shared online
- Student voice survey – rights & responsibilities, online safety lessons, online safety in school (eSafety Commissioner)
- Technology time log (collected one week later)

Digital Citizenship Project

What kind of information do you share online?

 Your Nickname	 Your Name	 Banking Details	 Hobbies & Sports
 Memes	 Your Town or City	 GIFs	 Favourite Band
 Pet's Name	 Holiday Location	 Home Address	 Birthday
 Login & Password	 Hair Colour	 Geotagged Photos	 Mobile Number
 Email Address	 School Name	 Check-in Location	 Photos

Which technology do you use at home and how often?

<input checked="" type="checkbox"/> Laptop 	I use this... <input type="checkbox"/> every day <input type="checkbox"/> 2-3 times a week <input type="checkbox"/> once a week <i>2 or 3 times a month</i> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Mobile phone 	I use this... <input type="checkbox"/> every day <input type="checkbox"/> 2-3 times a week <input checked="" type="checkbox"/> once a week
<input checked="" type="checkbox"/> Video games 	I use this... <input type="checkbox"/> every day <input type="checkbox"/> 2-3 times a week <input checked="" type="checkbox"/> once a week	<input checked="" type="checkbox"/> TV 	I use this... <input type="checkbox"/> every day <input checked="" type="checkbox"/> 2-3 times a week <input type="checkbox"/> once a week
<input checked="" type="checkbox"/> Tablet/iPad 	I use this... <input type="checkbox"/> every day <input checked="" type="checkbox"/> 2-3 times a week <input type="checkbox"/> once a week	<input checked="" type="checkbox"/> Virtual Reality / Augmented Reality 	I use this... <input type="checkbox"/> every day <input type="checkbox"/> 2-3 times a week <input type="checkbox"/> once a week <i>once in my life</i> <input checked="" type="checkbox"/>

Digital Citizenship Project

My thoughts about online safety at school

Year 4-6 survey

Section 1 - Online safety and me: I know my rights and responsibilities

	A Not at all	B Sometimes	C Often	D Always
--	-----------------	----------------	------------	-------------

- I feel comfortable expressing myself online. I make good choices about what I share and who can contact me.
- I know what to do and who can help if someone is bullying me or one of my friends or family online.
- I am kind and respectful when I talk and share with others online.
- I think about how much time I spend online and the types of activities I do.
- I am aware of my rights and responsibilities when I go online.
- I think about the safety of others when I create online tools (for example, by protecting their identity in a survey).

Section 2 - Online safety lessons: At school we learn about online safety

	A Not at all	B Sometimes	C Often	D Always
--	-----------------	----------------	------------	-------------

- The online safety lessons I have done make me think about being safe when I go online.
- In class, we talk about how our differences can change our online experiences (for example, someone might be cyberbullied because they look different).
- My teachers have taught me to think about what I see and hear online and ask questions to find out whether it is true or not.
- I talk to my teachers if something good or bad happens online (for example, if I unlock a new level on a Maths game or if someone I know is being bullied online).
- My teachers talk about what I can do if someone online makes me feel uncomfortable or unsafe (for example, if a stranger asks to be friend online).

Section 3 - Online safety at my school: What my

- I feel that my school believes online safety is an important part of my wellbeing.
- When we have lessons about being safe, we talk about how this looks online as well as offline.
- My school has steps in place in case something bad happens online (for example, if a student is being cyberbullied).
- I am given opportunities to share my opinion about what our school does to keep us safe online.

Digital Citizenship Project

Step 4

After analysing the survey data, PSTs give a multimodal presentation of the results to their mentor teachers in two year level groups (Year 1/2, Year 3/4, Year 5/6), comparing and contrasting between them.

Step 5

PSTs choose one or two topics to focus on in an upcoming double lesson, based on the results of the surveys, their experiences having taught the intro lesson and feedback from the mentor teachers.

Step 6

PSTs give their double lesson to the students and then receive further written and verbal feedback from the mentor teachers and the teacher educator.

- PSTs hand up their lesson plan and reflection.

Research Methodology

- **Ethical approval**

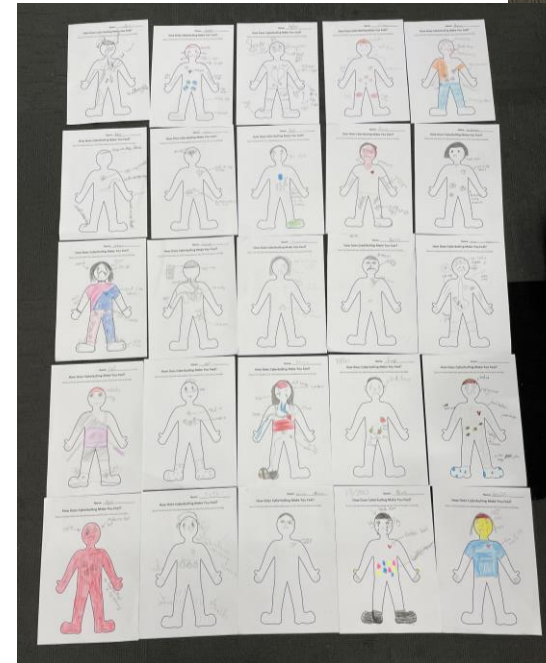
- UniSA ethics approval #204512

- **Qualitative case study design**

- Work samples
- Surveys
- Semi-structured interviews

- **Potential participants**

- 13 pre-service teachers, 6 mentor teachers, 1 Dep. Principal and 1 lecturer



Research Questions

1. What are pre-service teachers' understanding of and preparedness to teach digital citizenship?
2. What are pre-service teacher, mentor teacher, school leader and teacher educator perceptions of an evidence-based digital citizenship teaching activity within a first-year undergraduate course?
3. What are primary school educators' perceptions of their students' digital citizenship practices (cyberbullying, digital netiquette, digital footprint, digital privacy, and digital identity)?
4. What digital devices are used by primary school students outside of school and how frequently?
5. What kind of digital activities do primary school students engage in outside of school and how frequently?
6. How much time do primary school students spend on technology?
7. What kind of information do primary school students share about themselves online?
8. How does primary school student use of digital technologies differ between year levels?

Research Questions

Today's focus

1. What are pre-service teachers' understanding of and preparedness to teach digital citizenship?
2. What are pre-service teacher, mentor teacher, school leader and teacher educator perceptions of an evidence-based digital citizenship teaching activity within a first-year undergraduate course?

Preliminary Findings - PSTs

How would you define digital citizenship?

tech engage society
digital footprint
online presense
online safety
tools
use of technology
learning with technology
using information tech

person online
safe
considerate
safety
online
skills
respect
respectful

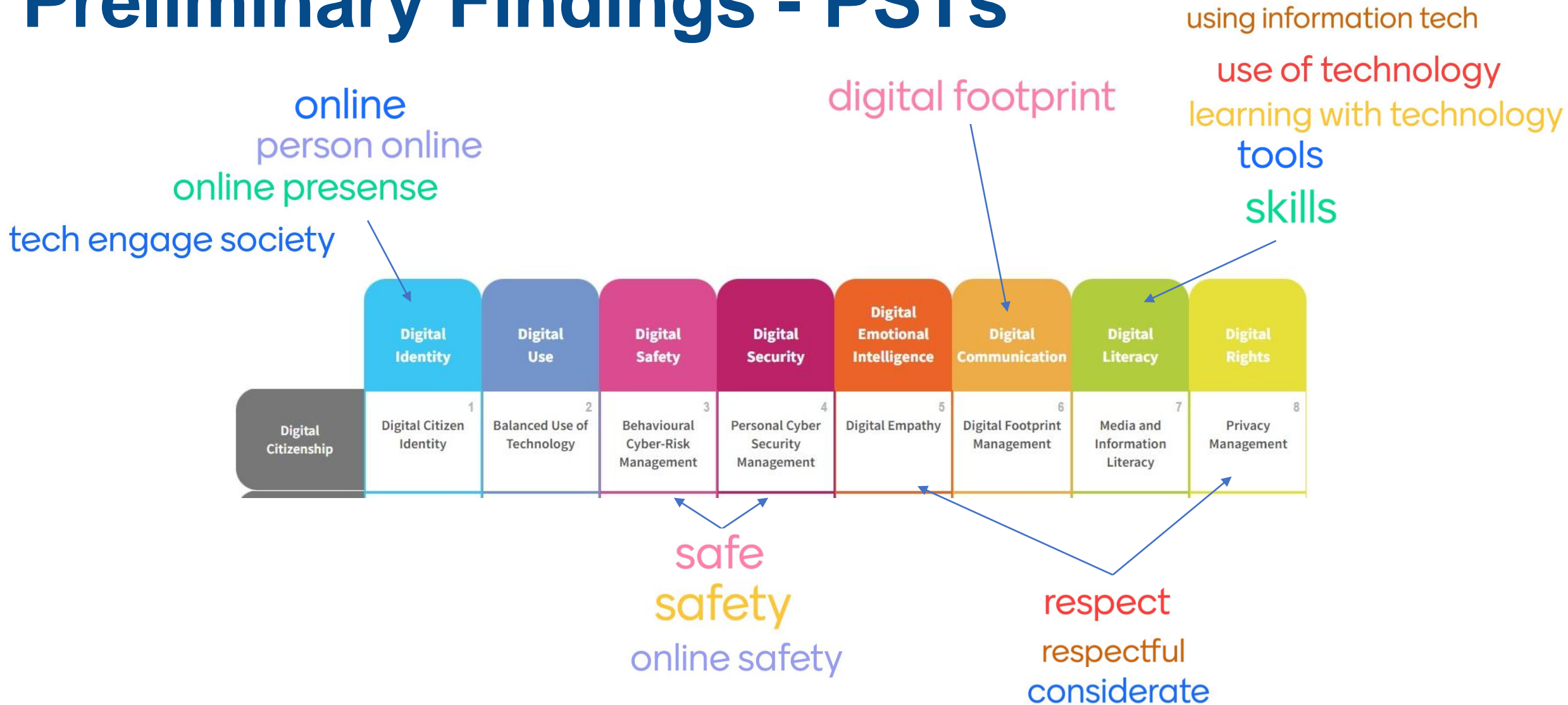
Preliminary Findings - PSTs

How would you define digital citizenship?

thought provoking
 being safe online
 caring for self
 amazing
 digital safety
 digital footprint
 responsibility
 working with technology
 caring for community
 online presence
 informative
 online
 respect

knowing how to work tech
 engaging positively
 online awareness
 responsible online
 safety online
 relevant
 interacting with others
 being safe online
 effectively us technology
 open-minded
 safety

Preliminary Findings - PSTs



Preliminary Findings - PSTs



Preliminary Findings - PSTs

Pre-course digital citizenship awareness

	NO KNOWLEDGE	VERY LITTLE KNOWLEDGE	A SMALL AMOUNT OF KNOWLEDGE	QUITE A BIT OF KNOWLEDGE	A LOT OF KNOWLEDGE	TOTAL	WEIGHTED AVERAGE
☆	25.00% 1	25.00% 1	25.00% 1	25.00% 1	0.00% 0	4	2.50

2.5★
average rating



Post-course digital citizenship awareness

	NO KNOWLEDGE	VERY LITTLE KNOWLEDGE	A SMALL AMOUNT OF KNOWLEDGE	QUITE A BIT OF KNOWLEDGE	A LOT OF KNOWLEDGE	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	0.00% 0	0.00% 0	0.00% 0	100.00% 4	4	5.00

5.0★
average rating



“It was very educational and it definitely assisted with my knowledge of digital citizenship because I'd never actually heard of that term before”

n = 4

Preliminary Findings - PSTs

How would you describe your digital citizenship lesson?

students engaged
 kids were engaged
 lots of participation
 ran smoothly
 they listened well
 really fun
 successful
 different
 fun
 engaging
 enjoyable
 learning rich
 great feedback
 great digital awareness
 very well
 kids were excited
 exciting
 great

developed understanding
 extremely interactive

went well
 successful
 useful
 informative
 engaging
 enlightening
 fun
 enjoyable for kids
 effective
 kids enjoyed it
 learnt new skills

n = 10

Preliminary Findings - PSTs

Effectiveness of the project to stimulate primary school student awareness of digital citizenship

	NOT EFFECTIVE AT ALL	NOT VERY EFFECTIVE	SOMEWHAT EFFECTIVE	VERY EFFECTIVE	INCREDIBLY EFFECTIVE	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	0.00% 0	0.00% 0	75.00% 3	25.00% 1	4	4.25

4.3★
average rating



Effectiveness of the project overall

	NOT EFFECTIVE AT ALL	NOT VERY EFFECTIVE	SOMEWHAT EFFECTIVE	VERY EFFECTIVE	INCREDIBLY EFFECTIVE	TOTAL	WEIGHTED AVERAGE
☆	0.00% 0	0.00% 0	0.00% 0	25.00% 1	75.00% 3	4	4.75

4.8★
average rating



Preliminary Findings



Benefits for PSTs

- PSTs become teacher researchers
- Current data
- Developing local knowledge of student digital citizenship
- Actual classroom experience – practical aspects
- Seeing how other PSTs teach and bouncing ideas off each other

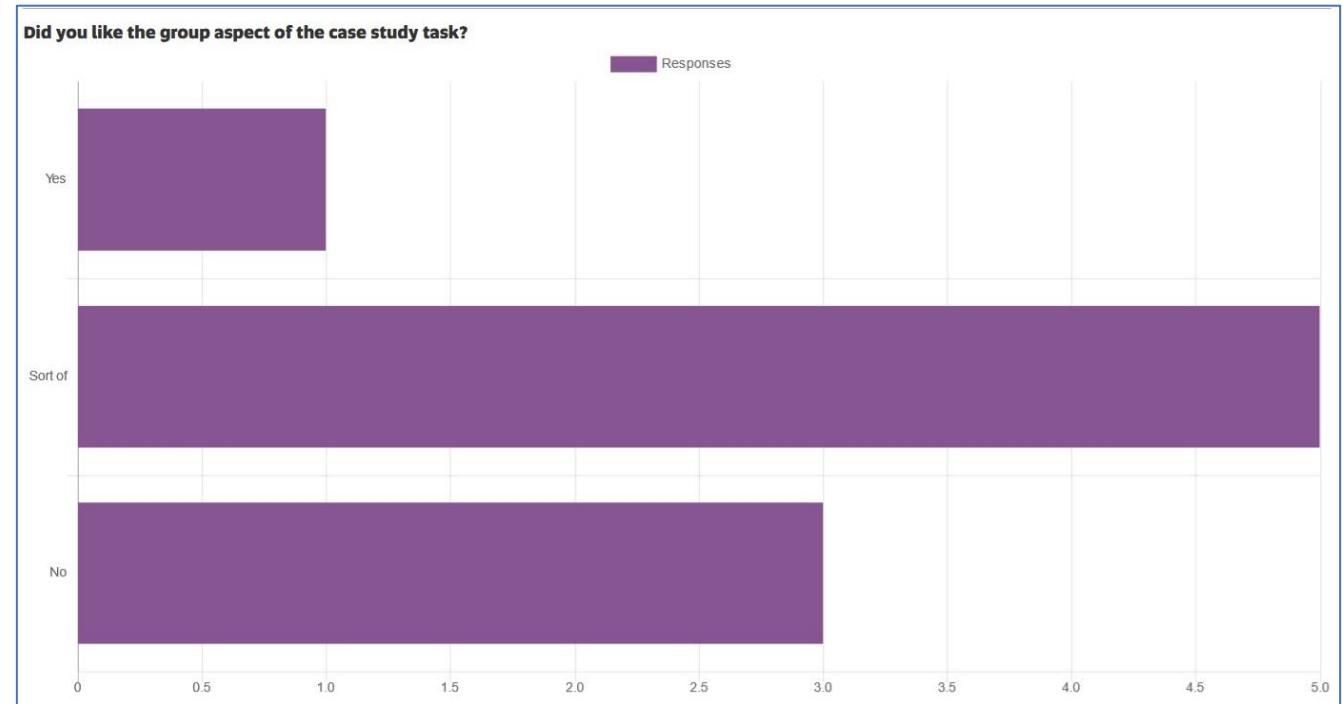
Benefits for Mentor Teachers

- Mentor teachers are exposed to what PSTs are being taught
- Find out information about their students and how they compare to other classes
- Good for classroom teachers not expert in Digital Technologies

Preliminary Findings - PSTs

Challenges

- Online learning first timers
- Trying to find time to collaborate
- PS student understanding of time
- Knowledge of data analysis
- PSTs did not enjoy the group work aspect overall.
 - 4 would rather have worked alone
 - 4 would have preferred to choose their own group members
 - 1 wasn't fussed.



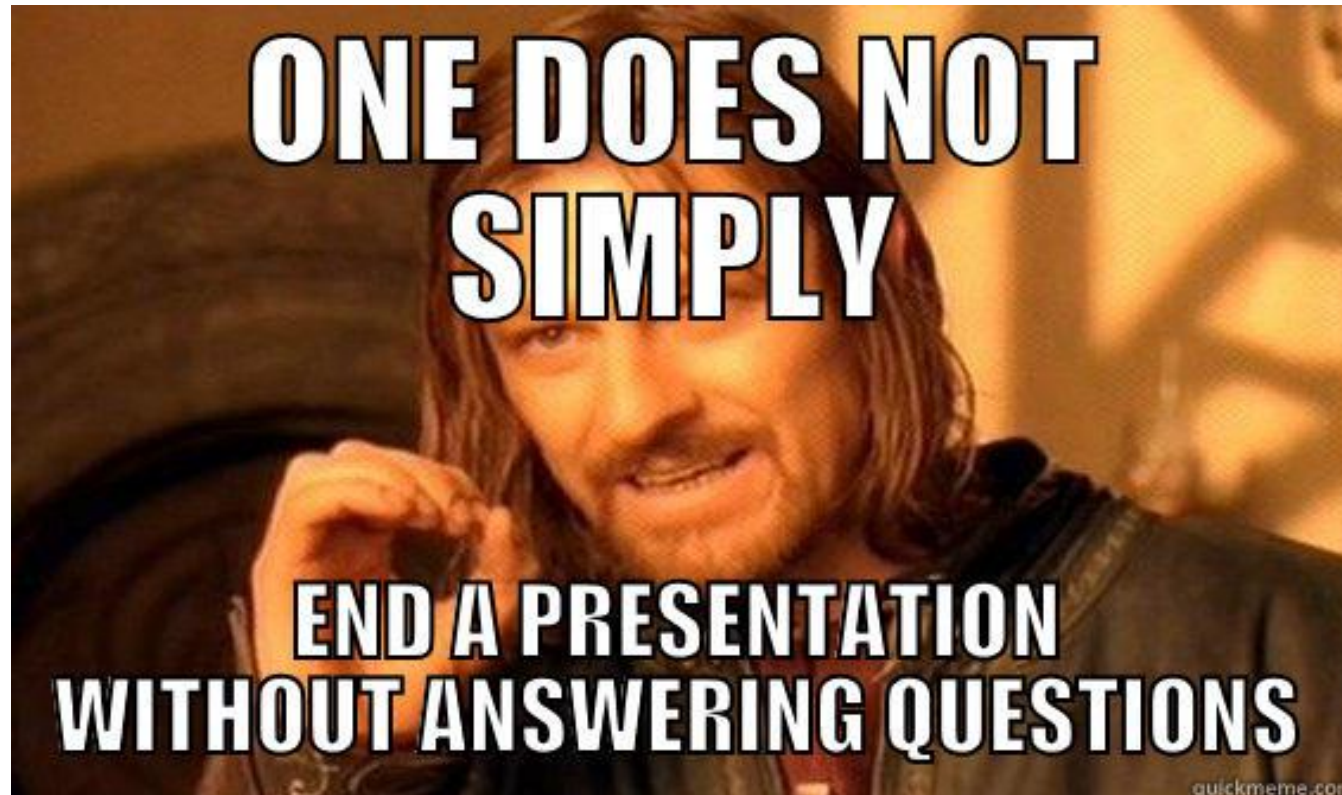
Lessons learned and suggestions

- Allow PSTs to work alone or in a pair
- Run an introductory information session for mentor teachers
- Encourage mentor teachers to provide more critical feedback
- Allow PSTs more opportunities to compare data between classes
- Have a compulsory presentation in Week 13 to each other about their experiences and findings
- PSTs to check that their tech works in the classroom beforehand
- Provide an example case study to PSTs

“I would have liked to have come up with my own question to answer and create my own surveys to answer that question.”

“I would easily be able to create lessons for year 4s again and younger age groups, but would like to know more about the year 5 and 6’s results.”

Questions



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University of
South Australia

Dr Melissa Bond



e melissa.bond@unisa.edu.au | [Twitter](#) | [ResearchGate](#) | [Google Scholar](#) | [LinkedIn](#)
w <http://drmelissabond.weebly.com/> | <https://people.unisa.edu.au/Melissa.Bond>