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# **‘THE INTERNET IS ALL AROUND US’: HOW CHILDREN COME TO UNDERSTAND THE INTERNET.**

Tiana Murray & Rachel Buchanan

## **Abstract**

*While children are living more of their lives online, little is known about what they understand about the implications of their online participation. Here we report on the Best Footprint Forward project which explored how children come to understand the internet. Thirty-three children (ranging in age from 10 to 12 years old) from three primary schools in regional Australia participated in focus groups and created a work sample depicting the internet. Analysis of the focus group transcripts and work samples revealed that while the children’s understanding of the internet was not technical, their knowledge was developed through the social activities that they engaged in online, and influenced by the interactions they have in their ‘real life’ with parents, teachers and friends. The children in the study demonstrated an ambivalence about the internet; they regularly went online for a variety of purposes but these positive experiences were tempered by concerns and fears. This research presents a nuanced perspective of children’s knowledge of the internet; by rejecting the notion that children are naïve, passive consumers of digital culture, analysis of their understanding reveals it to be balanced and sophisticated.*

## **Keywords**

*Internet, children, digital culture, education, agency*

## **Introduction**

Most research relating to children and their understanding of the internet is underpinned by a ‘child safety’ discourse, which views children as cognitively limited and addicted to the internet (Leung, 2014; Wallace, 2014). This can result in children being discouraged from going online (Facer, 2012). This contrasts with the perspective that young people’s use of the internet is a normal activity in our current technology dependent society (boyd, 2014). It is expected that the ability to competently use the internet will continue to become a highly-valued skill in the future, requiring education on it today (OECD, 2016). Given the degree to which children are increasingly accessing the internet (Chaudron, European Commission, Joint Research Centre, & Institute for the Protection and the Security of the Citizen, 2015) there is a need to educate children in digital footprint management, digital literacy and cyber safety. In spite of children needing to learn these skills, little is known about how children come to know what the internet is (Edwards et al., 2016).

By exploring how children (between 10-12 years old) develop their understanding of the internet and the relationship they have with it, this paper aims to demonstrate that children exercise agency in their online activities and that their knowledge is often

underestimated and disregarded. In this investigation, we view children's behaviour as being purposeful, agentic and influenced by their social context, (James, 2009). This paper builds on prior research in this area (Edwards et al., 2016) and provides a localised perspective on children's understanding of the internet and their behaviours online. This research provides reassuring insights into the knowledge and attitudes of an age-group often considered to be at-risk with regard to their online behaviour (Anderson, Steen, & Stavropoulos, 2017).

We turn now to an overview of the literature regarding attitudes to children's online activities, children's usage of the internet and their understanding of the internet. This is followed by the details of our study. We describe participants' work samples and analysis of their discussion to show that children have a balanced understanding of both the benefits and dangers of their online activities. While they do not have a technical understanding of the internet, they have a sophisticated understanding that can be productively built upon by educators to teach students about increasingly important digital skill such as: cyber safety ICT literacy; and digital footprint management.

## Literature Review

### *Attitudes towards children's online activity*

The internet has been described as a 'double-edged sword that has both positive and negative social consequences' (Yan, 2005, p. 387). Issues pertaining to identity, privacy, online crimes, child safety etc. have dominated discussion about the children's use of the internet (Livingstone, Mascheroni, & Staksrud, 2017). The depiction of the internet as a risky technology has led to a considerable body of research in the area of problematic internet use, a field that focuses on ways that society can protect people from online dangers and technology addiction (Anderson et al., 2017). This focus has led to children and teenagers being discouraged from going online, in an effort to protect them from making mistakes and encountering danger (Ferriter, 2011). This anxiety has led to the assumption that many social problems stem from the internet; however, it has been suggested that many of these problems stem from society itself (Chapman & Buchanan, 2012) rather than technology. boyd (2014) documents this phenomenon in depth, claiming that young people are not doing anything inherently different than they were in the past; rather, social media and the internet have provided them with new ways of socialising and interacting with others.

It is suggested that adult's ambivalence concerning the internet has led to inadequate education on how to harness the advantages of the technology. boyd (2014) proposes that:

Rather than resisting technology or fearing what might happen if youth embrace social media, adults should help youth develop the skills and perspective to productively navigate the complications brought about by living in networked publics (p. 213).

Facer (2012) claims that the debate surrounding children, young people and internet usage needs to be reframed by exploring why children interact in certain ways online, and by rejecting the dominant definition of child as being innocent and naive. Understanding that children have agency and actively construct their own lives (James, 2009) allows for

an exploration of how they can use the internet as a space for identity formation (Mallan, 2009). Taking the position that children are agents who actively construct their own lives, and form their own independent relationships and cultures, we view the study of children as being worthwhile in its own right not for what it can tell us about the adult world, but rather what it reveals about children themselves and culture that they create (James, 2009). Our particular focus is how children come to understand the internet and the uses that they make of it. Given that young people use online spaces to socialize, jockey for status and communicate with one another outside the of the gaze of adults (boyd, 2014) our position is that children's agency is demonstrated through their online activities and in how they understand these.

### *Children's Usage of the Internet*

While adolescents, in general, are enthusiastic users of the internet and social media (Sherman, Greenfield, Hernandez, & Dapretto, 2018) Australian children are particularly avid users of the internet. Over 59% of Australian children aged 8 and above spend more than the recommended 2 hours per day in front of a screen (Houghton et al., 2015). While an increasing proportion of children have access to the internet, the degree to which they can make positive and generative use of their access is still dependent upon factors such as SES and location (Dolan, 2016; Hughes, Foth, Dezuanni, Mallan, & Allan, 2018; OECD, 2016; Park, 2017). While within Europe there has been a history of research exploring the risks to, and benefits of, internet use for children (Livingstone et al., 2017) this hasn't been explored as thoroughly in the Australian context (Donkin & Holloway, 2015).

Given the increasing importance of the internet, children are required to have a variety of digital skills related to their online activities. Such skills include ICT literacy (Thomson, 2015), cyber safety (Office of the eSafety Commissioner (Australia), 2018), and digital footprint management (Buchanan, Southgate, Scevak, & Smith, 2018). Digital footprint refers to the information and data that people generate, through purposive action or passive recording, when they go online (Thatcher, 2014). Children (10 – 12) understand that their internet usage generates digital footprints, and they have a variety of strategies to minimise these and stay safe online (Buchanan, Southgate, Smith, Murray, & Noble, 2017). Such studies suggest that although the internet offers benefits for students, they need to be better educated in order to make the most of digital technologies (Thomson, 2015).

### *Children's Understanding of the Internet*

Most research concerning children and the internet reports on children's usage of the internet and the types of activities they are engaging in, rather than children's understanding of it (Anderson et al., 2017); few studies in Australia have focused on examining children's conceptualisation of the internet (Edwards et al., 2016). Edwards and colleagues found that only some children aged 4 and 5 were familiar with the concept of the internet and were able to about to relate the internet to activities and devices via which it was accessed (2016). Studies that have examined children's understanding generally operate under the assumption that children do not have the cognitive capacity to interact maturely online (Chaudron et al., 2015). This is a point of view that emerges from a cognitive developmental perspective, and this can be seen to be the dominant view in the media (See for example "Is social media a liability for schools? | The Educator Australia," 2018). It has been reported that children under the age of eight 'are little aware

of what the internet is, what 'online' means, what risks that encounter or the benefits they can gain' (Chaudron et al., 2015, p. 7).

Livingstone (2014), argues that children's understanding of social networking is related to their social world, shaping the way they behave online. She suggests that children's understanding of the internet and their related actions are associated with age rather than their cognitive development. She states that children have 'particular motivations, live in diverse contexts and face different challenges at different points in their lives' (Livingstone, 2014, p. 299). This study aligns with Livingstone's perspective and examines how children's understanding of the internet has been shaped by their social context.

## Methodology

The aim of the *Best Footprint Forward* project was to investigate child, parent/carer and teacher knowledge, awareness and attitudes towards digital footprints and strategies used to manage these. Here we report on a small part of that overall project - the results of the research undertaken with thirty-three primary school students in years 5 and 6 (the final years of primary/elementary school in NSW). Using focus groups and work samples we explore aimed to answer the question:

How do 10-12 year-old children understand the internet?

### *Participants*

Thirty-three students (between the ages of 10-12 years) from three public primary schools participated in 6 mixed gender focus groups. The participating schools were situated in a regional area of NSW, Australia. Two focus groups took place at each of the three participating schools. Given the exploratory nature of the study, convenience sampling was used. The principals of 25 primary schools in the local area were emailed information about the *Best Footprint Forward* project and an invitation to participate. The first 3 that agreed to participate were included in the study. The children in the Stage Three (grades 5 & 6) classes of West Public School, Lake Public School, and Beach Public School were invited to participate in the research. This sample was made up of thirteen Beach PS participants, nine from West PS and eleven from Lake PS.

### *Ethical Procedures*

The study was approved by the University of Newcastle's Human Ethics Research Committee [Approval number H-2015-0293] and through the NSW Department of Education and Training [Approval number 2015436]. Signed informed consent was obtained from parents and signed assent from the participating children. The children's assent was rechecked at the beginning of each focus group when the facilitator summarised the project and the rights of participants in age-appropriate plain English, and asked the children if they assented to take part in the research. Participants were told that they were free to stop participating in the focus group sessions at any time; no child chose to stop participating in the discussion. Participants were also asked to keep their work samples anonymous, to protect their privacy, as well as avoiding any potential selection bias (Creswell, 2012). The schools and participants were assigned pseudonyms.

### *Conceptual Framework*

Starting with the position that children have agency and exercise it within their social worlds (James, 2009) we sought to investigate how children come to understand the internet. Given that children's increased uptake of technology and usage patterns are reflective of teenager's usage several years ago we utilised boyd's (2014) ethnographic work on the digital lives of teenagers. boyd describes teenagers 'hanging out' online in 'networked publics', how their online worlds are connected to their 'real life' social worlds and how normal, social behaviours exhibited by teenagers are now being performed in an online space caused in part by social shifts that have seen a reduction of (offline) public space being available for young people to socialise in. As Schrock and boyd (2011) state:

youths navigate an online environment from childhood through adolescence, where they explore their identity, interact with peers, and develop relationships through social network sites (SNSs), online chats, massively multiplayer online games (MMOGs), message boards, and blogs. (p.368)

### *Data Collection*

Focus groups were chosen in order to utilise an approach that recognised the child as an active agent with their own views and understandings of the world and explore how this affects children's experiences (Groundwater-Smith, Dockett, & Bottrell, 2015). Participants took part in a focus group that involved a discussion on their knowledge of the internet and their behaviours online. During the focus group, the participants were also asked to complete a work sample the internet.

*Focus Groups.* The participants were asked to attend a 40-minute focus group held during class time. Discussion during this time was audio-recorded and transcribed. All participants consented to the recording prior to data collection. The focus groups were semi-structured and guided by a researcher with a list of prepared questions (Punch & Oancea, 2014).

*Work Sample.* After the focus group, participants were invited to complete a worksheet depicting their understanding of the internet. The worksheet requested that participants draw a picture, write an explanation or create a diagram of their understanding of the internet. The drawings underwent a visual analysis, with the researchers first examining the most prevalent images in the drawing and considering their potential meaning. Once the drawing had been interpreted, any accompanying written text was used to cross-check the assumptions made by the researcher and confirm that these were valid (Bland, 2012; Punch, 2002). The collection of the work samples allowed for a personalized response from the children (Bowen, 2009);

### *Data Analysis*

The first stage of analysis involved examining the data and undertaking open coding (Punch & Oancea, 2014). While this was not a deductive process with set categories, the coding was informed by boyd's (2014) work, which influenced the researchers to look for particular ideas that may influence children's understanding of the internet. This process was first applied to the transcripts of the focus groups, and then subsequently applied to

the work samples. The data was then triangulated and compared to search for any emerging patterns. A final analysis was conducted and then common themes across the two data sources were synthesised and examined at a closer level.

The next stage of analysis involved placing these themes in the context of boyd's (2014) work and undergoing a thematic analysis (Bowen, 2009). The major themes were analysed in regard to their relevance to children's social lives and use of the internet, and the interaction between these two. The use of boyd's (2014) framework in this analysis allowed the researcher to reject the 'taken-for-granted' assumption that children's internet use is influenced by their obsession with technology, and examine its position and impact in the child's social context. Conclusions drawn were then related back to the core research question, to ensure alignment between the intent and the result. Triangulation of data against the literature was also employed to check for validity and rigour, and ensure that any conclusions elicited were not created from a single point in the data (Bowen, 2009). Member checking was not undertaken, as the work samples were submitted anonymously.

## **Results and Analysis**

### *Overview of Data*

All data was openly coded and the major themes that emerged from the analysis were children's social use of, and their ambivalence regarding the internet. That is, the children enjoy going online for a variety of social activities, but they have a number of fears and concerns. Both data sources revealed a variety of issues and ideas that 10-12-year-old children have relating to their use of the internet. Generally, the participants had a good understanding of various uses of the internet and ways to access it. Children discussed accessing the internet through a range of devices and reported engaging in activities such as: posting content and chatting on social media; completing homework; using a search engine to do research; playing games; watching videos; and online shopping.

When asked to draw or write what the internet was, many children drew a device that could be used to access it as a visual representation. Focus group discussion and written text descriptions were varied however, with it being described as a place, a device, a search engine, a website, a source, a free zone, a big brain, an electronic dictionary, an invention, and the world. Children described their parents, teachers and cyber safety talks run by external providers as sources of information about the internet.

In all focus groups, students discussed good and bad things about the internet, with all students agreeing that they like using the internet, but that there are risks that affect the way they interact online. Approximately half of all of the work samples outlined a negative aspect of the internet. The participants were aware of cyber safety and digital footprint and understood that creating online content, interacting online and signing up for websites could be traced back to their online identity. In the following, the above ideas are explored in greater detail, through reference to specific work samples and focus group discussions.

*Their developing knowledge of the internet*

When the participants were asked what the internet was in focus groups, a diverse range of responses was offered. They provided answers such as a device, a website, a place, a search engine and a big brain. However, this question seemed to confuse a lot of the participants during focus groups, as illustrated by the following conversation.

*Facilitator:* So, I've got kind of like a big question for you. So, what do you think the Internet is? Do you know?

*Connor:* I think it's just a big search engine. Well pretty much without it, you could just be lost sometimes I guess. But the internet is – whoever made it is a genius I guess. So yeah, that kind of sums up what the internet is. It's just every – it's a lot of things, like yeah.

*Facilitator:* I think that was really good. What do you think Zac?

*Zac:* Well I just think it's something where you can go and it allows you to access stuff that people have made and put up there. And like just silly stuff and funny stuff but, I don't really know, I don't have a true, proper answer.

*Facilitator:* That's an answer.

*Brodie:* I think it's just a thing to play games and that, and watch videos and all that. [West PS Focus Group 2]

The work samples offered a range of ideas about what the internet was, with all samples describing or illustrating the internet either in terms of the activities that the participants engage with online, or the devices used to access it (see Figures 1 & 2). It can be concluded from both the focus group discussion and the provided work samples that the participants did not have a technical understanding of the internet. While participants showed limited comprehension of the complexity of the internet, seven students did recognise it as a global resource that can be accessed from any device, represented either through an illustration or a written explanation.

*Bree:* And it's not just on a computer, like you have to have a computer to go on the internet. It's always on your phone or iPad or yeah. So, it's very convenient. Yeah. [Lake PS, Focus Group 1]





Figure 1: Work sample from Lake PS



Figure 2: Work sample form Beach PS

While not describing it as a network, students discussed the many benefits of being able to communicate with others on the internet, particularly long-distance relatives or friends.

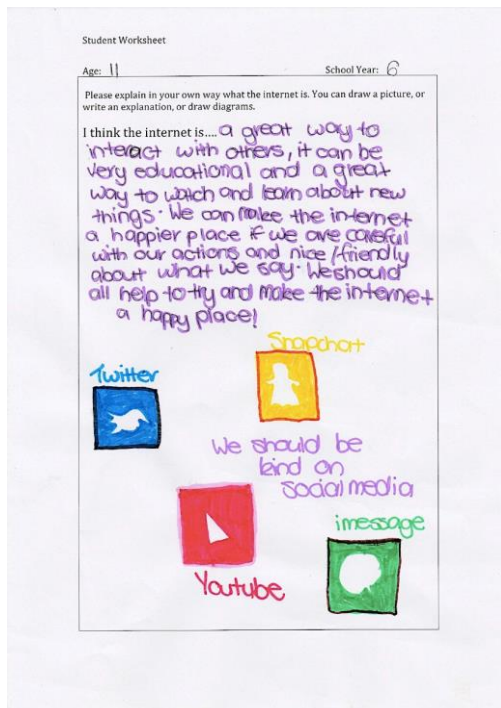


Figure 3. Work sample from Lake PS

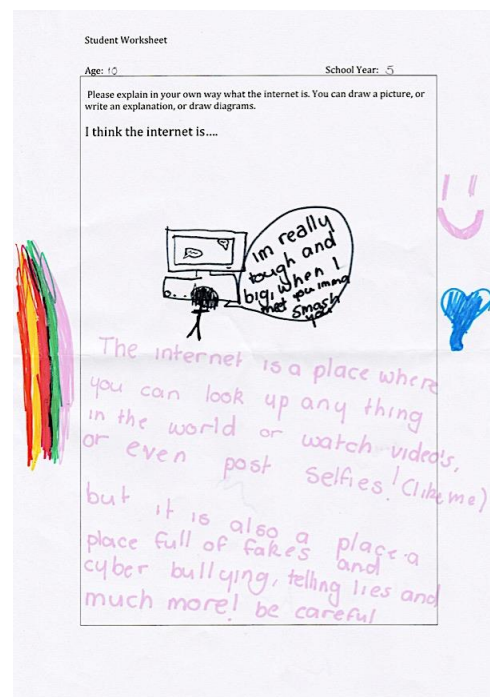


Figure 4. Work sample West PS

This demonstrates that children are aware that the internet is an interconnected network on which people share information, even if they were not able to give a technical description of this.

*Zac:* I have a few cousins in Dubbo, like out in the West and we used to like always – we love going out there and stuff, but now we don't have to wait as long. We can just sometimes talk over the internet and stuff, but then it's even better when you get to go see them and stuff, so yeah. It's pretty good. So, good for communication and stuff. [West PS, Focus Group 2]

The activities they regularly engage with online has had some impact on their understanding of the internet as all explanations of the internet were described or illustrated through accounts of social media, gaming, video watching, and researching (See Figures 2, 3, & 4). This assists in explaining the participant's descriptions of the internet as a search engine, a device, or a website, as these are the portals through which children access the activities they engage in on the internet.

A number of children, across all focus groups, also described the internet as a place.

*Facilitator:* ...What is the internet?

*Kelly:* A place where people post selfies.

*Indiana:* A place where you can look at – you can search anything on Google and stuff and you can research places or your favourite celebrity or something. [West PS, Focus Group 1]

This conceptualisation of the internet as a place, was represented in sixteen of the work samples, through written text. These descriptions of the internet as a place support boyd's (2014) notion of 'networked publics'. The participants' use of the word 'place' to describe the internet suggests that children are viewing the internet as another space to gather, where they can get in touch with friends and stay connected.

#### *Positive experiences and normality of children's activity online*

*Accessing the internet.* Discussion during focus group sessions revealed that the participants accessed the internet from a large variety of devices. These included computers, laptops, tablets, iPods, mobile phones, gaming consoles and smart televisions. Some children had access to a large range of electronic devices on which they could go online, while others were more limited in their opportunities for access.

*Facilitator:* 'What kinds of devices do you use to go online? So, someone said they have an iPod. Alisha has an iPod.'

*Laura:* 'I've got an iPad.'

*Bree:* 'iPod, iPad, computer and what? Oh, and my mum's old phone.' [Lake PS Focus Group 1]

Twenty-eight of the thirty-three work samples illustrated a range of technologies that can be used to access the internet, confirming that the participants are well aware of methods of getting online (as seen in Figure 5) and associate the internet with the devices used to access it. The most popular way to access the internet was on handheld devices, with over two-thirds of the children mentioning they had access to an iPad, mobile phone or iPod. They engaged in recreational, social activities on these devices, such as chatting to their friends, playing games through apps or using social media. In contrast, a few children implied that they only use the computer as a tool for research, gaming, or homework.

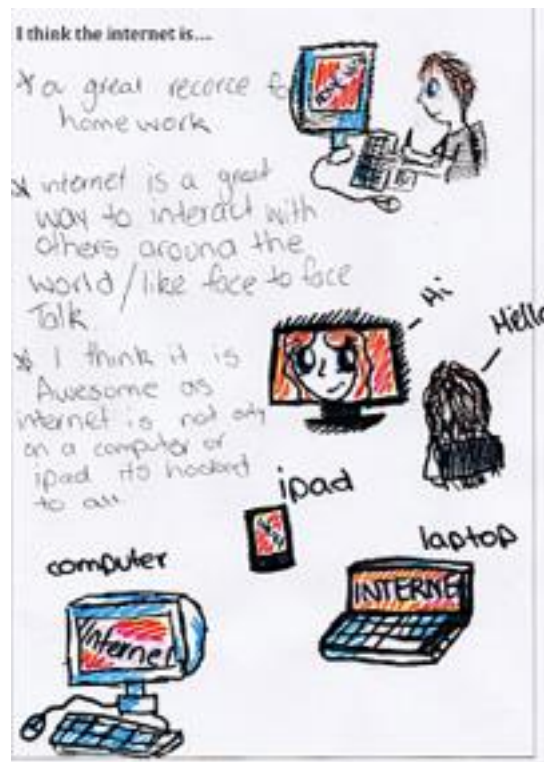


Figure 5. Work sample from Lake PS

*Facilitator:* Do you use a computer to go online?

*Sarah:* Yeah, or the iPad.

*Jessica:* The iPad.

*Joseph:* I don't use a computer unless it's like, assignments.

*Online pastimes.* The types of activities that the participants are engaging in online are varied, though creating content on social media such as Instagram, chatting to friends, watching YouTube, researching for homework, and playing games were consistently mentioned as activities the children enjoyed. Approximately eighteen of the children in the focus groups reported having Instagram or Snapchat, and using these regularly. These children stated that they mainly talked to friends on these platforms, using the chat function, but some children also posted content, such as 'selfies'. When asked, the children said that their accounts were set to private.

*Additional influences on understanding.* While the work samples revealed information on how children gain an understanding of the internet through their devices and activities they engage in online, the focus group discussions revealed that children also receive advice from teachers, parents and cyber safety talks.

*Facilitator:* ...Do you think you get a lot of information about the internet from your school?

*Laura:* Yeah.

*Maddison:* Like my class right now, they're in the computer lab. They're like doing research on like the modern things.

*Georgia:* We have a lot of cyber bullying talks and programs that help us understand like how it's not good and how you should be careful.

*Bree:* Yeah, there's a few kids in our school – like the teachers have been talking to us – few kids in our school have been cyber bullied.

*Facilitator:* Okay. So, the school does help out with a little bit of that?

*Bree:* Yeah. Just a little bit.

*Facilitator:* Do you get much information from your parents as well?

*Kate:* Yeah.

*Georgia:* Yeah.

*Bree:* Yes.

*Maddison:* My dad and mum, they like want me to do it by myself. They want me to try it by myself first. [Lake PS, Focus Group 1]

Most of the advice that children had received about how to interact online came from internet safety talks from external providers. Both Lake PS and Beach PS participants outlined that they had received advice from safety talks that focused on the consequences of cyber bullying, ways of protecting themselves from hackers, and ways to protect their privacy online. West PS had not had an internet safety talk, but had been advised not to use social media.

*Facilitator:* At school have they taught you much about social media or anything?

*Jorden:* Not really.

*Zac:* Mainly just the bullying part.

*Connor:* A few times we've been told, like in Year 5, not to have social media. Like if we were caught having social media then they said the police were going to come here or something. [West PS, Focus Group 2]

This discussion reveals the varying levels of support that students receive from schools in terms of advice on internet use and social media. As there are no syllabus requirements on social media education, some children are receiving a more comprehensive digital education, while others are being taught not to use it. This demonstrates inequity among the schools as not all children are receiving the same kinds of support from their school, illustrating the need for widespread digital footprint education that assists those who may be disadvantaged.

### *Children's Experiences Online*

When all participants were asked if they liked going on the internet, a resounding yes followed. Yet, the children in the focus groups shared experiences that were both good and bad, exemplifying that not all experiences they have online are positive ones. This was a theme that was also evident in work samples, with a mix of joyful and unhappy faces represented on the people in the drawings (see Figures 6 & 7).

Half of the work samples also made comments on popular issues concerning children and the internet, including, cyber bullying, addiction, privacy, fake content, and online predators. Fourteen of the work samples also mentioned the dangers of social media in

some form, illustrating that social media has become a significant activity in these children's lives (as seen in Figure 3).



Figure 6. Work sample from Beach PS



Figure 7. Work sample from Beach PS

*Cyber bullying.* This issue was the most commonly discussed in the focus groups, as well as represented in the work samples, with nine work samples commenting on the topic of cyber bullying (See Figures 4 & 8).



Figure 8: Work sample from West PS

It was clear that it was an issue that deeply troubled some of the participants, and has an impact on the way that they use the internet day to day.

*Indiana:* 'She actually sent me a message on Instagram and it was like this long paragraph, I remember about two terms ago and she sent me this massive paragraph. It was just like all swearing and bullying and stuff to me and it was like, this long on the phone.'

*Anna:* 'Yeah. I don't know how I got it, it was like this direct message where you talk, but it was like, one on one with me and Sophie and I didn't know how to delete it because it's one person. So, I couldn't, like, leave the conversation so it would delete and Mum always, like, looked on it so I just like, deleted every single one.' [West PS, Focus Group 1].

The illustrates that Anna had developed a strategy to help them deal with instances of cyber bullying, by attempting to delete the conversation. Other strategies utilised by the children were talking to their parents, and reporting it to the principal or the police if they felt threatened by cyber bullying. Children are aware of the negative aspects of the internet, and are able to put strategies into place that minimise their chances of finding themselves in undesirable situations.

What was also made evident during the conversations in the focus group is the instances of cyber bullying that were described by participants are connected to bullying in 'real life'. For example, Indiana and Anna went on to describe a 'real life' bullying incident perpetrated by the same girl who was cyber bullying them.

*Anna:* 'She chased me and Indiana on the weekend and she wanted to bash us.'

*Indiana:* Yeah, on Friday she pushed our friends – like, grabbed her ponytail and threw her into – did you see that, like, brick wall part just out the front of our room? Yeah, well she pushed her into that bin and that brick wall part and then...'

*Anna:* 'She got suspended, she comes back on Friday.' [West PS, Focus Group 1].

This linkage of 'real life' bullying illustrates that when children go online, they perform the same behaviours as they do in 'real life' It assists in rejecting the sensational notion that technology is the cause of cyber bullying and is changing the way children behave. When this notion is considered, it places cyber bullying in context as a common, albeit negative, social interaction between children.

*Addiction, predators, and privacy.* Addiction is one of the major concerns that adults have when it comes to children using the internet. The discussion revealed that many of the participants did not consider themselves addicted to the internet, but deemed their older brothers and sisters, who were teenagers, to be hooked on the internet.

*Lizzy:* 'But I think that the internet is kind of changing your life because sometimes you're addicted to it and you don't get off it.'

*Maddison:* 'Like my sister, she used to play soccer but now she's hooked on her phone and she's not really good at soccer.' [North PS, Focus Group 1].

This belief about their older sibling's addiction most likely stems from the dominant discourse in society that children and teenagers are addicted to technology. Participants of the focus groups, while enjoying use of the internet, also believed that excessive use of it would ruin their lives, and five children touted the need for moderation during focus groups.

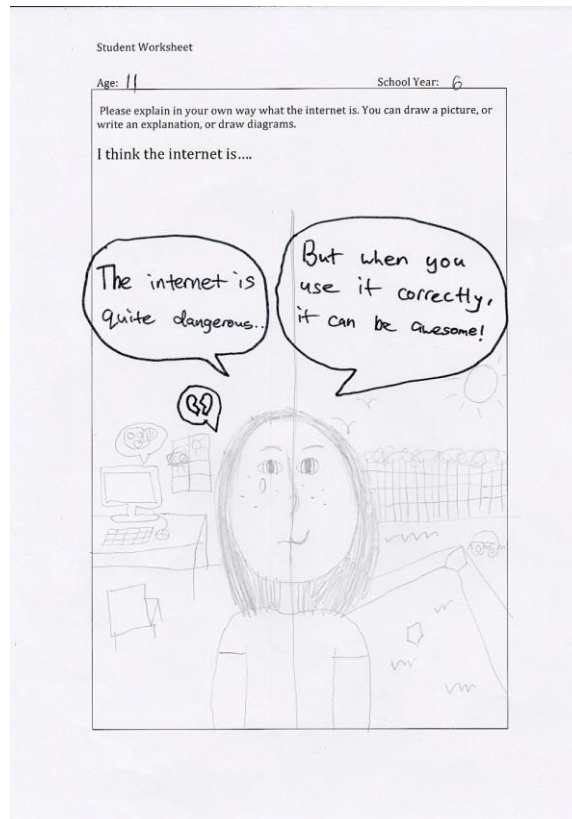


Figure 9. Work sample from Beach PS

Figure 9 exemplifies the ambivalence towards the internet expressed by the children; it shows the mixed feelings the participant has about going online. The half of the person on the side with the computer is upset and crying, while the half playing outside is smiling and happy. The speech bubbles provide context that reveals the child believes there is a correct way to use the internet, and the drawing of the outdoors underneath it suggests that they believe the internet should be used in moderation.

This concern also extends to online predators. Many parents stress over scenarios of their children being abducted by an adult they have met online, due to the shocking media stories that focus on the rare cases.

*Facilitator:* ‘...Well the final official question I have for you is what would you like to know about the internet?’

*Mitchell:* ‘I’d like to know why there is so many internet predators.’

*Facilitator:* ‘Okay.’

*[general agreement]*

*Paul:* ‘Yes that would be good. I’d like to hear that.’

*Facilitator:* ‘So who’s taught you about Internet predators?’

*Mitchell:* ‘My parents.’ [Lake PS, Focus Group 2].

Concerns about predators were also illustrated in three work samples (see Figure 10).

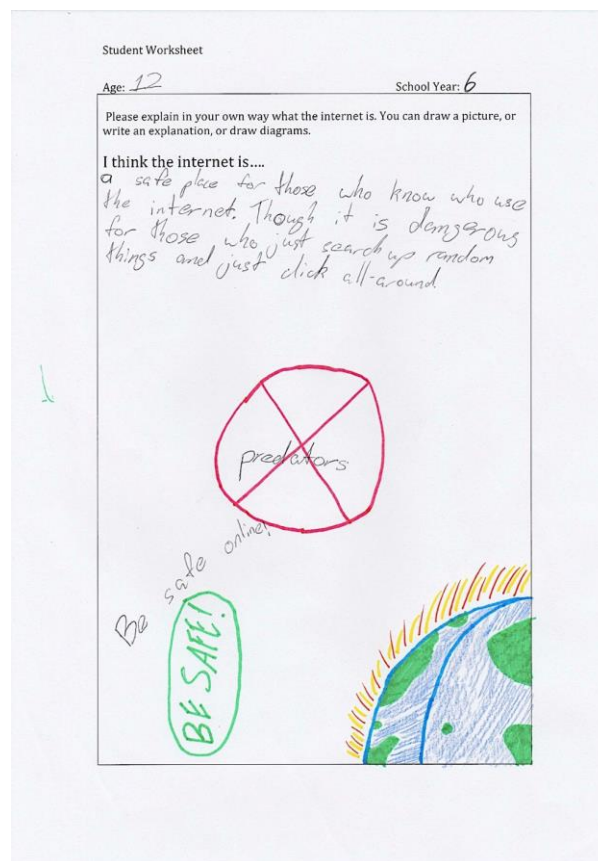


Figure 10. Work sample from Lake PS

Closely linked to the issue of predators, was the issue of privacy.

*Connor:* 'I've never really put in – yeah, anything – if there's anything more than, say where you live or date of – or sometimes I put a date of birth but I don't really put in where you live and stuff, I just make sure it's just – like they can't be traced back to where I actually am and stuff. So yeah.' [West PS, Focus Group 2].

All focus groups discussed how sharing personal information online could lead to hackers or online predators finding them or using their information. Strategies that the participants used to overcome this were using fake emails to sign up for websites, ensuring they did not upload photos in their school uniform, not using their real name during gaming, and setting up private social media accounts.

*Lizzy:* 'If your profile's not set to private and they see like where you live and go try to find you and they try to be you and have your photo.' [North PS, Focus Group 1].

The children's comments suggest that societal concerns about children being online may have affected the way that children think about, and interact with the internet. Parent's worries about privacy, addiction and paedophiles online caused the participants to devise strategies for avoiding these issues, while still being able to enjoy using the internet. It appears that these concerns shape the way children view the internet, with most children portraying it in a negative light. However, it seems that while the participants were wary



of the dangers of the internet, they had also developed strategies for avoiding these dangers, challenging the stereotype that children are too naïve to be online.

## **Discussion: Sociality and Ambivalence**

The findings we describe are reflective of the literature doing with how children come to understand the internet (Edwards et al., 2016). The participants in this research were regular internet users, and enjoyed using the internet to chat to friends, play games and watch videos, among other activities (boyd, 2014). A large proportion of the children involved in this study had social media such as Instagram, while others did not yet use it, suggesting a transitional stage in their online usage (Anderson et al., 2017). Those that did use it, used it for staying in touch with their friends or family, and most had their accounts set to private. Some participants in this study defined the internet as a ‘place’ where they can chat with friends and play games, suggestive of boyd’s (2014) concept of ‘networked publics’ being a new social space for children to hang out because they cannot in ‘real life’.

Many children did not have a clear technical idea of what the internet was. However, children went on to explain it through reference to the activities they performed online, echoing Edwards et al.’s findings with younger children (2016). They described it as either where they performed these activities, or as the device they used to access these activities. While some children had a more abstract definition of the internet, describing it as a big brain, or a resource to do research on, most participants conceptualised it in terms of its social features. Many of the participants’ definitions of the internet also included warnings about the dangers, and outlined the consequences of ‘misuse’ of the internet. This could be attributed to the sources of information they have on the internet, which are primarily teachers, parents and cyber safety talks at school. These adult sources of information are all influenced by societal anxiety about children being addicted to technology, and therefore often portray the internet in a negative light to children (boyd, 2014; boyd & Hargittai, 2013; Wallace, 2014).

Examination of the data utilising boyd’s (2014) work allowed for a nuanced interpretation of children’s understanding of the internet; one which views their behaviours online as social, and their motivations for doing so as influenced by their ‘real life’ community. An examination of focus group discussions and work samples, suggests that the social aspects of the internet motivate children to go online, rather than the technology itself. These children understand the internet in terms of its social affordances and engage in social pastimes when they utilise it. Their understanding and practises on the internet are also affected by the interactions they have with parents, teachers and friends, leading many children to be apprehensive of going online.

Children’s concerns about the internet included cyber bullying, addiction, online predators, privacy, and negative digital footprints (boyd, 2014; boyd & Hargittai, 2013). The children in the focus groups had developed a range of strategies for coping with these dangers online, showing that they are capable of negotiating these concerns (Buchanan et al., 2017). However, participants in the focus groups talked about interaction on the internet as something that should be avoided if possible, in case it could have an effect

on you later in life. The children had been taught to be apprehensive of the internet and the related dangers, rather than incautiously embracing the positive aspects. For example, the students saw their digital footprint as a liability rather than an asset that can be used curated to develop a coherent digital identity (Buchanan, et al., 2017; Mallan, 2009).

Just as half the work samples depicted the internet positively, and half showed its negative aspects (and sample 9 beautifully depicted it as simultaneously good and bad), the children understand the internet as both a positive technology and a source of danger. Their agency (James, 2009) is reflected in ways that they use the extend and participate in their social worlds. They connect, communicate, socialise and play games together (boyd, 2014) and they see the internet as a valuable source of information. They also view the internet as dangerous; reflective of the parental, school and wider social discourses that they have been exposed to. That they have strategies to deal with the dangers demonstrates the way in which they exercise their agency in their uses of and understandings of the internet. The participants in this study were drawn from 3 regional schools in Australia. The specific uses of the internet that they describe (Instagram, chats, selfies, homework, Youtube) and their concerns are reflective of the processes (social and educative) that they have been exposed to and access that they have to the internet. These have coalesced to form a specific digital culture of social participation. While the norms of this shared participation are specific to this location and time, it captures the dichotomy of the positive and negative social consequences of online participation (Yan, 2005).

The uses of internet connected technologies are expanding, and for children are likely to include further uses of wearable devices (Lupton & Williamson, 2017), greater use of educational and behavioural technologies in schools (Williamson, 2016), and devices that capture data in the home (Lupton & Williamson, 2017). Listening to students voice their concerns about bullying, addiction, predators, and privacy shows that they are not naïve to the implications of the ubiquity of the internet. Given that they have these concerns, they should be educated about their rights and how to protect their data and their privacy (Livingstone & Third, 2017).

## **Conclusion**

The purpose of this research was to examine how children come to understand the internet. Many of the findings of this research resonated with the work of boyd (2014), which suggests that young people's use of the internet is motivated by social interaction and through this they came to understand the internet. By utilising a social framework, this research was able to move beyond the moral panic in society about children and technology. This study showed that children's enthusiasm is tempered by an awareness of online dangers. Children in the focus groups were capable users of the internet, were very aware of the negative aspects of the internet, and had developed a range of strategies for coping with these. They stated that they would report bullies, and were careful not to give away personal information. This research reveals that while children have a metaphorical rather than technical understanding of the internet, they are still able to develop strategies to avoid danger and avoid making themselves vulnerable to predators or bullies. This level of strategy and deliberate behaviour suggests that children of this age group have the capacity to respond well to, and understand information about digital footprints, digital literacy and other cyber safety messages. Their nuanced understanding,

built from their online experiences and education from school and parents, shows that they have a knowledge base that can be productively built upon.

This research has implications for policymakers and teachers as there needs to be a shift in thinking about children using the internet. Rather than utilising the dominant representation of children as naïve (Facer, 2012) and assuming they need to be protected from the internet, policymakers need to understand that children have agency (James, 2009) and that their use of the internet is purposeful and informed. While protection is a concern, children's knowledge about the danger of the internet could be leveraged and form the basis of an education that would take advantage of the affordances of the internet, and prepare them for a society in which technology will be even more highly integrated (Van Ouytsel et al., 2014). Given the calls to provide students with a variety of digital skills, including: digital career literacy (Hooley, 2012); ICT literacy (Thomson, 2015); digital footprint management (Buchanan et al., 2018); and a range of other 21<sup>st</sup> century skills (ACARA, n.d) understanding that children 10-12 exercise agency in the digital space and have a balanced understanding of the internet provides a good basis for this further education.

It is important that any future research into children's understanding or use of the internet listens to children's voices and experiences, as this research has done. By listening to what children have to say, targeted resources can be supported that address children's concerns or gaps in their knowledge. Too many of the decisions made involving children are made by adults who have not consulted with children, and are based on adult assumptions (Groundwater-Smith et al., 2015). This paper has provided an alternative perspective to the controversy surrounding children's use of the internet. We have supplied a snapshot into internet usage of three groups of children in regional Australia. This snapshot provides a counterpoint to the dominant narrative of children as naïve consumers of the internet. It shows that the educational interventions, parental norms, peer activities and the availability of specific digital tools coalesce to form a specific digital culture of shared participation. This participation shapes how children understand and use the internet. It shows that an age group, often considered vulnerable (Anderson et al., 2017) are capable of understanding the implications of their actions online and negotiating the pleasures and problems that occur with using the internet. As work sample 1 stated "The internet is all around us" and, as eloquently illustrated in sample 9, can be a source of both happiness and sadness for children. By building on this nuanced understanding we can help prepare students for participation in our increasingly connected world.

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