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‘The addictive nature of technology and the lack of consistent community and parental guidance is seeing this valuable tool get a poor reputation.’

PRINCIPAL FROM GROWING UP DIGITAL AUSTRALIA: PHASE 1

Gonski Institute for Education

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Foreword BY PROFESSOR ADRIAN PICCOLI

Our core mission at the UNSW Gonski Institute for Education is to address growing inequality in Australian education. We do this by engaging in practical, interdisciplinary research as well as focused professional development and advocacy.

At the Gonski Institute for Education we pride ourselves on our strong and constructive relationships with the teaching profession, principals, school system leaders and governments. It is only through these relationships and the collaboration that emerges from them that we can work towards ensuring a fair and equitable school system for each and every child in Australia.

While rural and regional education is a significant focus in the work that we undertake, we also strive to improve opportunities for disadvantaged students and students with disabilities, as well as providing improved access to opportunities required by gifted and talented students.

The one issue that constantly arises when we speak with parents, caregivers and educators is the increasing use of media and digital technologies by children and the impact that 'screen time' is having on learning and child wellbeing. Every educator, parent and carer grapples with the impacts of digital screen-based devices. In fact, one third of pre-schoolers, two-thirds of primary school children and almost all high school students have their own devices and spend a significant part of their days on them. We don't yet understand enough about the impacts of digital connectedness on our children, nor how to respond to it at home or at school.

As a result the Gonski Institute for Education, working with global scholars and change makers from around the world, embarked on a research project called *Growing Up Digital Australia*.

The key findings from Phase 1 of this study align with similar research undertaken by our research partners in Canada, and are compared and contrasted in this report. We present the views of Australian teachers and principals on how media and digital technologies are impacting both the learning and the wellbeing of Australian children. These make for sobering reading. When 78% of educators see a decrease in students' ability to focus on educational tasks, 80% see a decline in students' empathy and 60% see a decline in physical activity, it is clear that the time children spend both in and out of school on digital technologies is having a significant impact not only on their brains, minds and bodies, but also how they experience the world around them. Further, these impacts often manifest differently depending on a child's home circumstances and the socioeconomic status of their family/caregivers.

This first part of our research and the work to follow will provide us with a deeper understanding of the complex consequences that increasing time spent on media and digital technologies have on children's health, wellbeing, identities and learning. These insights will allow educators, parents and others who will use this research to have better informed conversations. Our hope is that we can work together towards a shared goal of helping young people to use media and digital technologies safely, responsibly and healthily. We also hope that the issues and recommendations presented on the following pages will be discussed when we consider the next steps in improving education for the benefit of all children in Australia.

Key messages

1. Classrooms have become emotionally, psychologically and behaviourally more complex places to teach and learn as observed by Australian teachers and principals.
2. Teachers are seeing more prolific use of technology by students, offering benefits to teaching and learning but also presenting a broad range of challenges to student wellbeing and health.
3. The key response to these observed changes must be to help children adopt and learn ways of living responsible, safe and healthy lives in the digital world around them. This is not achieved by allocating blame or banning technologies (like smartphones), but by mindful education and working together on smarter sustainable solutions.
4. Children living with, and using, media and digital technologies is a dynamic issue and must be better understood by parents, teachers and young people themselves.

Report highlights

Who participated?

- 1,876 Australian educators responded to the survey.

What are teachers worried about in students?

- 84% believe that digital technologies are a growing distraction in the learning environment. More than nine of ten educators think that the number of children with psychological, social and behavioural challenges has increased in last 3 – 5 years.
- Empathy has also declined (78% note a decrease), as well as student physical activity (60% have noted declining levels).
- Two of three teachers say the number of children arriving at school tired has increased and the same number of teachers have observed decreases in students' completion of homework on time.
- Almost all teachers noted increases in the prevalence of online harassment and bullying (81%). Over one-third of teachers have dealt with more than ten incidents of cyberbullying and online harassment in the last 3-5 years.
- Three of five educators (59%) observed a decline in students' overall readiness to learn in the last 3-5 years. The vast majority (78%) believe that students' ability to focus on educational tasks has decreased.

Benefits and perils of media and technology are not the same to different children

- Over 80% of teachers agree that students' socio-economic circumstances has some impact on their access to technology they need for learning in school, while one third directly observed that children living in poverty have had less access to technology than their more well-resourced peers.
- Teachers believe that students living in poverty, as well as male students, have been most severely negatively impacted by the explosion of technology.

What do teachers feel positive about?

- 43% of Australian teachers and principals believe think that digital technologies enhance their teaching and learning activities, rather than detract.
- Two thirds of teachers believe that opportunities to facilitate inquiry-based learning are enhanced by the use of technology and over half (55%) agreed that student reporting was enhanced by digital technologies.
- 60% of teachers believe technology has positively impacted the learning experience for students with disabilities.

What are schools doing?

- Half of the surveyed schools have Bring Your Own Device (BYOD) policies.
- 95% of schools have policies governing smartphone use, and these mostly restrict the use of smartphones while at school.

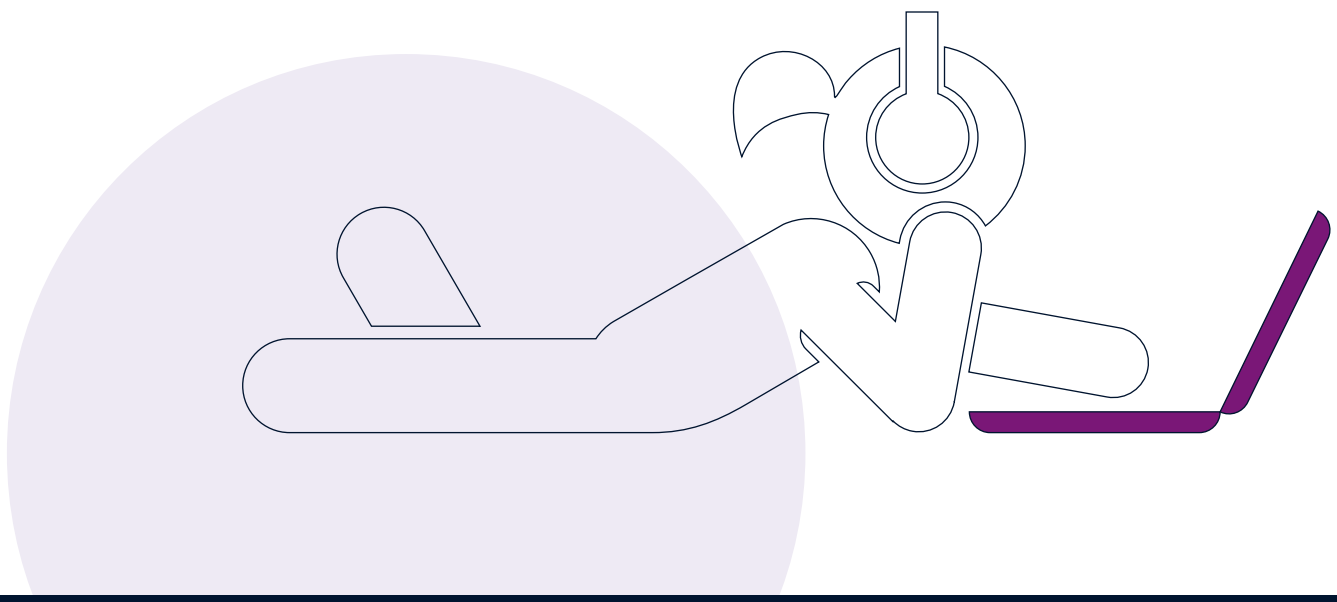
Introduction

Screen-based technology has become an omnipresent force in the lives of Australian children, and it penetrates every aspect of a child's life. Today's cohort of school-aged children is the first generation of children that have been immersed in the digital era, as learners and citizens.

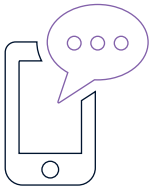
As adults therefore, we have much to learn about their habits, and the opportunities, benefits and pitfalls of screen-based technologies. Growing Up Digital Australia (GUD Australia) sets out to do just that.

Digital technologies, and media based on them, have provided opportunities for children to express themselves in a range of ways, connect with others, learn using a variety of mediums, find out and share information ubiquitously, and as a means of entertainment. It is now common for children to take their phones to school, to work on computers and tablets during school hours and at home, and to sleep with these devices on their bedside tables. In many parts of the world almost half of children's waking hours are now spent in front of digital screens.

Recent data by the Royal Children's Hospital Child Health Poll in Melbourne revealed that the majority of Australian children across all age groups are exceeding the current national recommendations for screen time use. In this survey, according to parents, the majority of Australian children are spending an average of over **four-and-a-half hours on a screen at home on a typical day.** This is not accounting for screen time while at school. Their sample of 1,977 Australian parents with children aged 0-18 years also showed that 94% of teenagers, 36% of primary children, and 36% of pre-schoolers have their own screen-based device (Rhodes, 2017).



The possible consequences of high levels of digital media usage continue to concern many educators, parents and young people themselves.



Nationally, according to *Growing Up In Australia: the Longitudinal Study of Australian Children* report (LSAC), which is Australia's first major longitudinal study exploring child development broadly, up to 30% of a child's waking time is spent in front of a screen.

The overuse of digital media minimise, or even displace, the opportunities that children have for learning, socialising, and playing in face-to-face settings that offer considerable developmental benefits (Yu & Baxter, 2015). The possible consequences of high levels of digital media usage continue to concern many educators, parents and young people themselves.

Despite the pervasive presence of these technologies in a child's daily life, there has been little research conducted into what impact these devices are having on a child's ability to engage actively in teaching and learning in school. Consequently, educators are feeling out of their depth as to how to best manage the challenges posed by the digital era. On the one hand, technology facilitates a range of learning opportunities and connects children to people, places and information they would not otherwise have access to. There is no shortage of research exploring how media and digital technologies can benefit teaching and learning (Danby, Fleer, Davidson, & Hatzigianni, 2018; Eady & Lockyer, 2013). On the other hand however, digital devices are a constant distraction and the platforms that children are using give rise to significant risks, including cyberbullying, distraction from classroom tasks and health complaints, such as anxiety disorders, depression, and obesity (Chassiakos, Radesky, Christakis, Moreno, & Cross, 2016; Common Sense Media, 2015; Hassan, 2016).

GUD Australia is a ground-breaking research project that seeks to understand how the widespread use of technology is impacting Australian children. The insights from this research will add to the developing evidence base on the impact of digital technologies on young people, and potentially inform politicians, educators and parents in the educational community on how to help our children live with digital technologies.

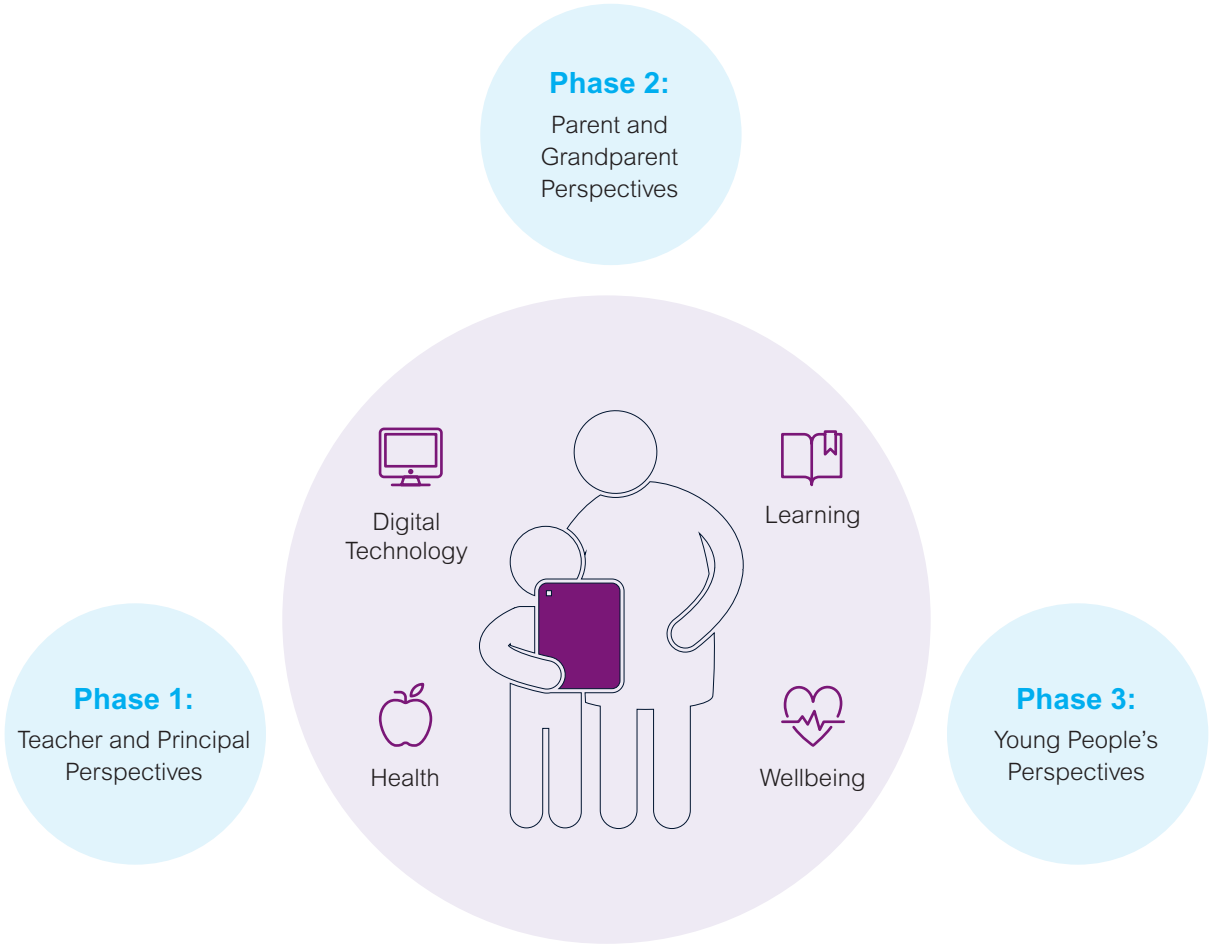
Issues relating to digital device usage, both positive and negative, are often discussed subjectively (i.e., focusing on polarising moral questions) and pitted as a one-sided argument. This investigation is not intended to dismiss the value of technology use in schools, nor to only explore its risks and pitfalls. Digital media is the current reality of the world that children are growing up in. They are indeed growing up digital. However, we need better research to inform deeper understandings of how media and digital technologies affect children's lives, learning and wellbeing.

We recognise that there are benefits and drawbacks to the use of technology and that we are facing a truly complex issue, perhaps more than so some parents and policymakers realise. This report will summarise the key findings of the Phase 1 of GUD Australia study and provide a snapshot of what is taking place in Australian classrooms, and what Australian educators are observing in their schools and classrooms. The findings from this research, drawn from a large Australian sample, are linked to the existing literature and make evidence-based policy recommendations. It must be stressed that the findings are sample specific, and generalisations are not possible nor sought in this project. Notwithstanding this, owing to the large Australian-wide sample, the findings are likely to reflect the views of many Australian educators and school leaders.

Background

While a discrete project in its own right, this initiative is part of the worldwide Growing Up Digital (GUD) study. GUD Australia builds on the quality research methodology that has been developed and tested internationally. Researchers from Harvard Medical School, the Alberta Teachers' Association, the University of Alberta, and Boston Children's Hospital developed a collaborative initiative, Growing Up Digital Alberta, to better understand the scope of physical, mental and social consequences of digital technologies on young people.

In December 2015, a stratified random sample of 3,600 teachers and principals from across Alberta were invited to participate in their phase one survey. This request resulted in over 2,200 participants and generated a sample that is highly representative of Alberta's teaching population and corresponds closely to the profession's demographics (Central Okanagan Teachers' Association, 2016).



Why are we concerned?

It is well-established that almost all children are immersed in technology and exposed to it in some form daily. Yet, there is not enough research directed at exploring how this new reality is affecting a child's ability to learn and grow.

Several cross-sectional and longitudinal studies have provided concerning results, linking excessive screen time with developmental difficulties including cognitive delays and poorer academic performance, even well into adulthood (Hancox, Milne, & Poulton, 2005; Madigan, Browne, Racine, Mori, & Tough, 2019). However, academic impacts are not the only outcome of interest. Alongside the potential impact on children's learning and cognitive development, additional investigations need to consider how digital media and children's social, emotional, and physical development intersect.

As a precursor to this study, in 2019 the UNSW Gonski Institute for Education (GIE) undertook a community survey of more than 1,600 Australia adults to find out their views on a range of issues important to children today. Participants were selected at random from the community and responded voluntarily, and responses were disaggregated by gender, age categories and educational attainment. Results showed that 92% say smartphones and social media reduce the daily physical activity and outdoor play time of kids, and 77% acknowledge that devices negatively impact a child's wellbeing and relationships.

Screen time guidelines for children and youth exist around the world. In Australia, the guidelines are set out as part of the Physical Activity and Sedentary Behaviour Guidelines and adopt the approach of suggesting consumption be considered by minutage.

The recommended consumption of digital media increases with a child's age and the guidelines are based on the idea of media as a 'digital babysitter' and a source of entertainment. These guidelines were developed prior to the proliferation of mobilised screen-based technology have been critiqued for being narrow, in that they do not reflect the educational purposes that digital media can be utilised for (Merga, 2015; Rhodes, 2017).

On the other hand, the American Academy of Paediatrics not only provides time-based recommendations, but also broader advice about forming healthy media habits and the quality of the screen-time.

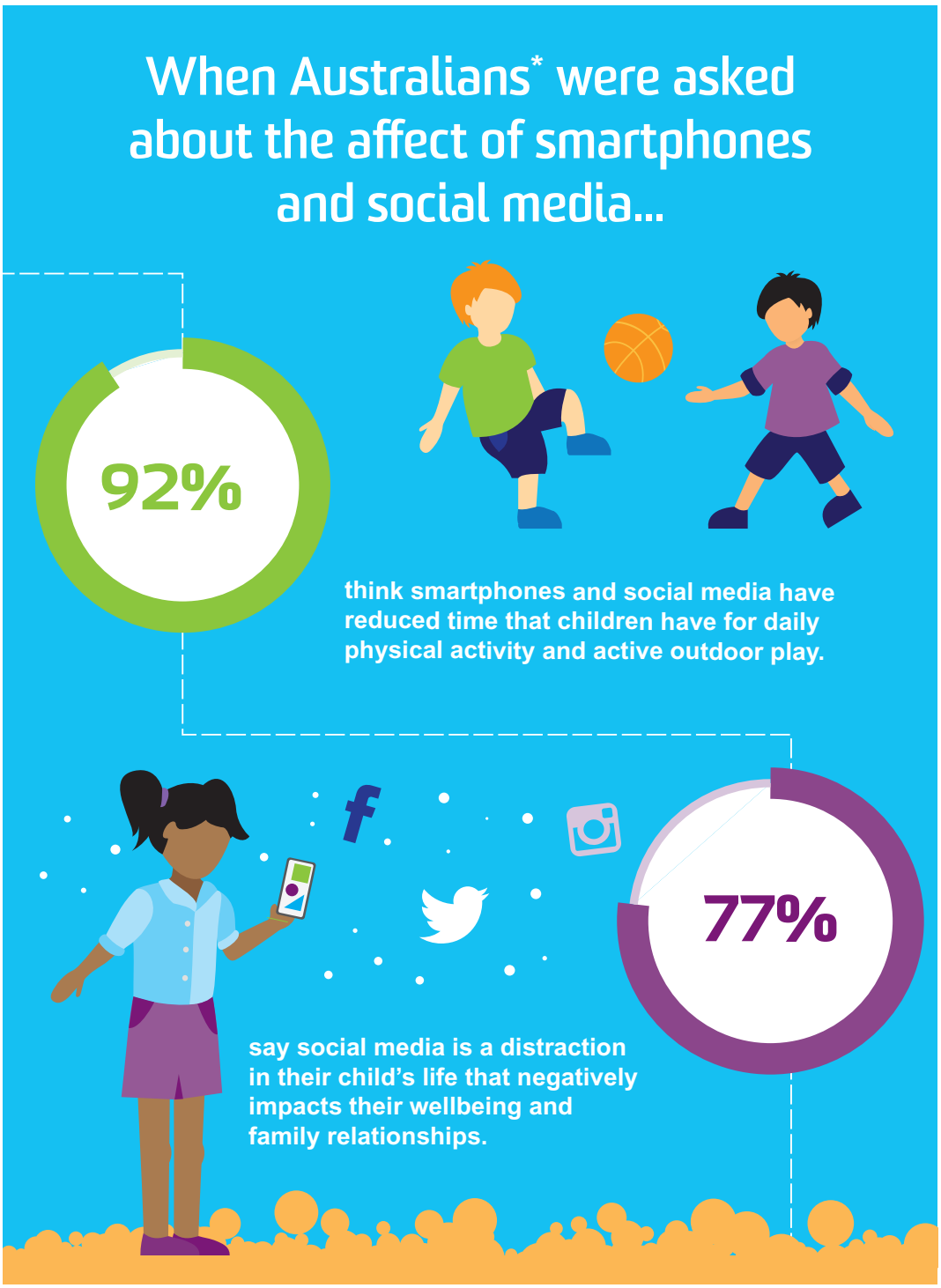
While schools have a role to play in managing children's exposure to screens and the quality of screen-based content and activity, ultimately the responsibility rests with parents. Screen time starts early, and children are coming to school with steeply ingrained habits.

Recent research by the National Institute of Child Health and Human Development suggests that 87% of children had digital media exposure which exceeded the recommendations outlined by the American Academy of Paediatrics (Trinh et al., 2019).

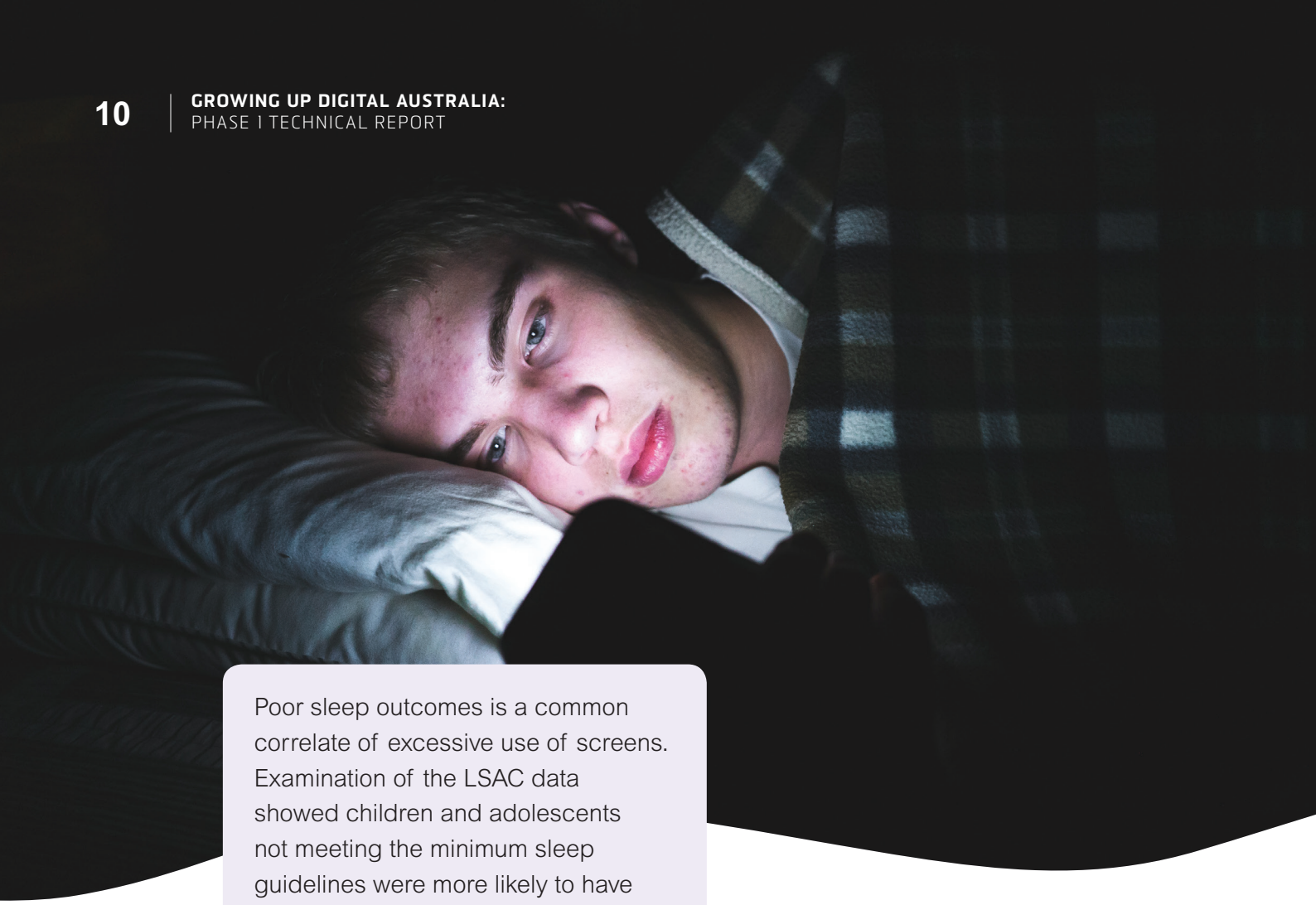
In addition, this study showed that screen time for some children increased as much as 300 per cent between the ages of one and three.

In a 2019 US-based study, children with parents who have higher levels of education, female children, and children in two-parent families were least at risk of having excessive levels of screen time, while twins, children of first-time mothers and children in home-based care were the most likely to have problematic levels of screen time usage by the age of eight. Interestingly, however, while screen time levels increased in early childhood, it decreased to less than 1.5 hours per day by ages seven and eight. The researchers attribute this to the amount of time being spent on school-related activities, as opposed to the 'free' time of toddlers and pre-schoolers (Trinh et al., 2019).

Figure 1: **Opinions about smartphones and social media**



*1700 respondents nationwide.



Poor sleep outcomes is a common correlate of excessive use of screens. Examination of the LSAC data showed children and adolescents not meeting the minimum sleep guidelines were more likely to have poorer mental health (e.g. anxiety, depression, unhappiness), be late for or absent from school and most notably, have internet access in the bedroom or spend more time on the internet (Australian Institute of Family Studies, 2018).

In 2018, the Australian Parliament conducted a parliamentary inquiry into Sleep Health Awareness. While this inquiry was broad and explored a range of factors, the effect of electronic media was listed as a cause for inadequate sleep. In particular, this inquiry cited research by the Sleep Health Foundation that stated 'children who have, on average, three hours of screen time per day are more likely to have higher rates of poor sleep and poorer educational outcomes than children who spend less time in front of screens (Parliament of Australia, 2019).

It should also be noted that the Australian Institute for Sleep Health conducted research that found that 70-85% of teenagers got insufficient sleep on school nights. A similar pattern was also observed in GUD Alberta and more recently in Finland as well.

Furthermore, the Australian Council on Children and the Media (ACCM) cited a survey which found that almost half of Australian children 'regularly use screen-based devices at bedtime, with one in four children reporting associated sleep problems'. The Wellbeing in Schools Australia submission stated that disrupted sleep among students, which they attributed to night time use of digital devices, was resulting in students not being 'as attentive in class, struggling to remain awake, functioning below their capacity and in some instances not attending school on a regular basis or starting to disengage' (Parliament of Australia, 2019) So while the present study is not seeking causation, the relationship between the overuse of digital devices and compromised health and learning outcomes is clearly well established.

What are the potential risks of being constantly connected? At the same time as screen time is increasing and sleep is decreasing, developmental outcomes in areas such as mental health and physical health have experienced a significant deterioration (Mission Australia, Youth Survey Report 2018). According to earlier research, there are several. Australia's eSafety Commissioner Julie Inman Grant reported that one in five children have experienced some form of cyberbullying (Karp, 2018).

> Almost all of the online abuse is peer to peer and has a nexus to social conflict within the school gates.
>
> (Karp, 2018)

A systematic review conducted in 2014 looked at the impact that screen use had on sleep in children and adolescents. The researchers reviewed 15 years' worth of data and concluded that screen time was negatively associated with sleep outcomes, shortened sleep time and delayed falling asleep in 90% of the studies (Hale & Guan, 2015).

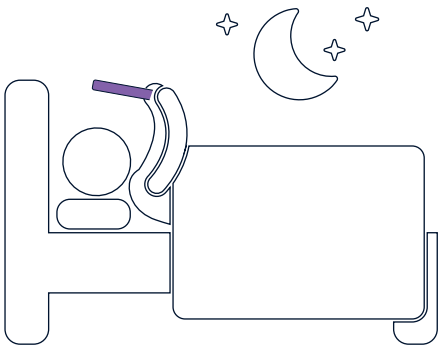
According to a report by the eSafety Commissioner (Office of the eSafety Commissioner, 2018), *Parenting in the digital age*, less than half their sample of 3,520 Australian parents of children aged two to 17-years-old feel confident that they could help their children deal with online problems, including cyber bullying, sexting and predatory behaviour. On the other hand, 94% of parents regarded their child's online safety as important. Hence, there is a clear need for parental support and education in forming and managing their child's online habits and schools are the ideal entry point. (Office of the eSafety Commissioner, 2018).

In the present study, we avoid using the term 'addiction' when talking about heavy use of media and technology. Instead, the term Problematic Interactive Media Use (PIMU) that Dr Michael Rich uses in GUD Alberta is more appropriate to describe situations where an individual can't fully control behaviours and use of media and technology.

Proving causality between PIMU and declining mental health, wellbeing or learning outcomes is hard to do. Namely, because there is little evidence to support dose and response relationships in this space and there are other confounding variables at play. Instead, causal connections between exposures and outcomes are normally drawn from 'associations' found in observational studies where causality may not be applied. A classic example of similar associations is the question whether cigarette smoking causes lung cancer. Randomised control trials that would be required to prove such causal connections are often problematic or unethical to set up. However, we do know that cigarette smoking is the number one risk factor with lung cancer linked to 80-90 percent of lung cancer deaths (Thagard, 1998).

As a result, cross-sectional methods are usually implemented in research exploring the problematic consequences of screen time overuse. However, researchers are beginning to explore what effect screen time is having on the developing brains of the children growing up in the digital age. Researchers from the National Institutes of Health are currently undertaking the Adolescent Brain Cognitive Development (ABCD) study (Radcliffe, 2018). This study is following more than 11,000 9- and 10-year-olds throughout the United States and tracking their brain development and health across a range of domains. As part of this study, MRI scans found significant differences in the brains of some children who reported using smartphones, tablets, and video games more than seven hours a day.

In addition, children who reported more than two hours a day of screen time got lower scores on thinking and language tests. The scientists caution that the only conclusion that can be reasonably confirmed is that these phenomena are occurring at the same time, rather than applying strict causation. Bi-directionality is also possible, in that while screen time may lower academic performance, it is also possible that children who have academic difficulties are more drawn to screens (Radcliffe, 2018).



Methodology

Ethical clearances

GUD Australia was deemed to be low risk to any individual, and all data collected preserved the participants' anonymity. This project received UNSW Human Ethics Committee approval (Approval Number HC190349), valid until 18 June 2024, as well as SERAP approval (Approval Number 2019286), valid until 20 August 2020.

Research instrument development

The questionnaire is based on that developed by Harvard Medical School, Boston Children's Hospital and the University of Alberta. The original questionnaire was based on theoretically derived hypotheses and empirical data, and the key areas of consideration include the links between digital media usage and areas such as exercise, homework, identity formation, distraction, cognition, learning, nutrition, and sleep quality and quantity. Several questions were modified to ensure relevance and application to the Australian context and appropriate terminology applied.

Furthermore, items were added to extend the survey findings beyond those collected in Alberta. These included additional demographic questions to find out about the background of teachers, questions about equity as it relates to the access and impact media and digital technology has on specific groups of students, the school policies that are in place at specific schools, and the positive aspects of technology use by both students and teachers. The items were presented using Likert scales, checklists, as well as open-ended questions to allow educators to speak more freely on issues they felt were pertinent. In planning this study, we recognised that a complex issue like this cannot be explained by numbers alone. In the Australian research, teachers were asked to comment on how they have been surprised by the use of technology by students using free-text, and we were provided with examples of a wide range of scenarios.

The researchers undertook a small-scale pilot with colleagues to ensure the modified tool is valid, accessible, and user-friendly, and changes were made based on the feedback received.

The mean completion time of the survey was 14 minutes.

Data collection and analysis

The survey was hosted on the Qualtrics platform, using a secure link. Analysis was conducted within Qualtrics and also SPSS (version 25). Descriptive analysis of the data forms a large part of this report and was carried out in order to report on frequencies and percentages around key survey indicators and across sub-sample groups.

Sample and teacher demographics

The survey went live in September 2019 and remained open until the end of the 2019 school year. It was open to all teachers, principals and school support staff in all sectors (Government, Catholic and Independent) from preschool to year 12 in Australia.

Both convenience and snowballing sampling techniques were employed. Several strategies were implemented to ensure as many Australian teachers as possible had opportunities to participate, while also respecting the integrity of the data. Direct mailouts via email were the predominant strategy. Several agencies, including the Australian Research Alliance for Children and Young People, EducationHQ, the NSW Teachers Federation, the Association of Independent Schools of South Australia, the South Australian Department for Education and Child Development, Catholic Education SA, and the NT Department of Education, distributed information about the survey to their members, for which we are grateful.

Respondents had the option to nominate themselves into a draw for a $100 Coles Myer gift card, as a token of appreciation for their completion of the survey. Following the close of the survey, all names were entered into an online randomiser and five people were drawn at random as recipients of the gift card. These people were contacted by email, and their gift cards were posted to them.

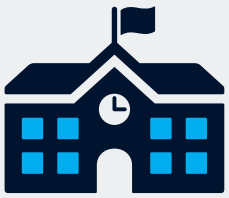
Who Participated?

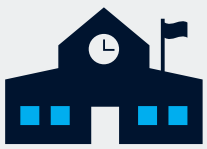
A total of **1,876** respondents completed the survey, although not all questions were answered by all respondents.

The educators who responded were **predominantly female (74%)**, and most respondents were **between the ages of 41-60 (60%)**

For the most part, respondents were experienced educators, with **48% of the sample having more than 20 years teaching experience. 48%** of respondents were **classroom teachers,** while a further **31% were principals**

The remainder were involved in early childhood settings, school administration and temporary teaching positions.





95% of the respondents worked in primary and secondary schools, and 26% worked in **rural, regional and remote schools.** These characteristics suggest that this sample closely reflects the wider teaching population in Australia.

Results

Major findings

What is reported here is the Phase 1 of the GUD Australia study. It focuses on Australian educators' views on the lives and experiences of young people in schools and classrooms. Just like in GUD Alberta, educators in this Australian study were asked to compare the situations in their schools today to what they were 3 – 5 years ago. Phase 2 will seek to explore whether similar perspectives are shared by parents and grandparents, and Phase 3 will explore the experiences of young people when they grow up in the digital world.

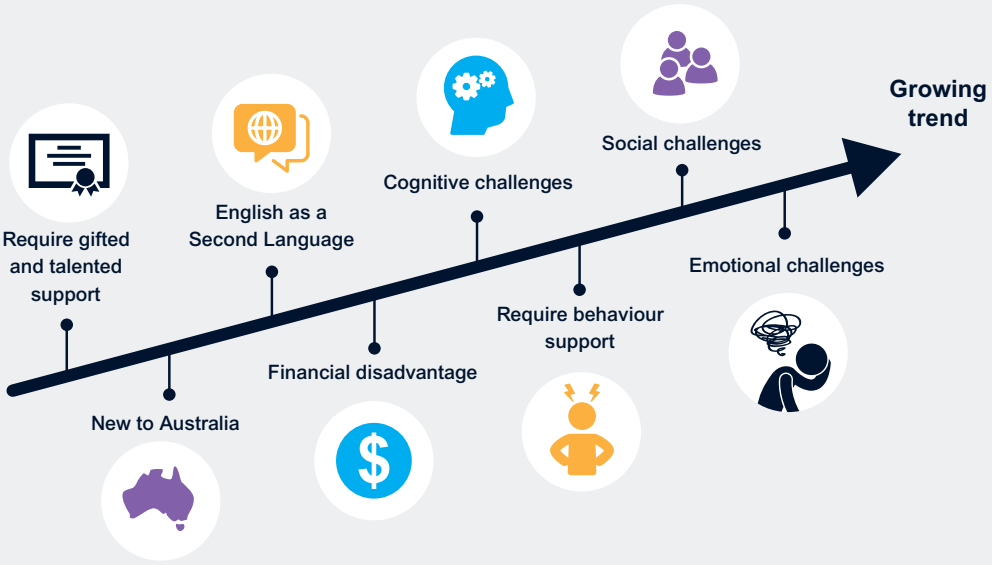
YOUNG PEOPLE ARE NOT WHO THEY USED TO BE

More than half the sample have observed a decline in students' overall readiness to learn (59%, n = 1171). Many teachers observed declining literacy, numeracy and oral language skills, as well as reduced abilities to apply deeper meta-cognitive skills to their learning and concentrate on tasks.

Overwhelmingly though, teachers expressed greatest concern with how the increasing use of digital technologies were impacting on students' social and emotional competencies, especially their ability to form and maintain relationships.

Classrooms are becoming increasingly more complex in terms of larger numbers of students presenting with intellectual, social, emotional and behavioural needs, as well as students that have challenging circumstances outside of school due to financial disadvantage or resettlement or language barriers. According to Figures 2 and 3, it can be noted that across all categories, except students requiring gifted and talented support, the complexity of student needs has increased in the last 3-5 years. In particular, 94% of teachers have noticed increases in the number of students presenting with emotional challenges.

***Figure 2:* Student characteristics over the last 3-5 years**



This statistic was supported by comments from teachers. For example:

The numbers of students with difficulties has increased noticeably across all fields (cognitive, emotional, social, behavioural). Students appear to have more difficulty concentrating, making connections, learning with enthusiasm, increasing boredom in school (even when the content and teaching style has not changed significantly).

Figure 3: Emotional and social challenges

The researchers were especially interested in how children with emotional challenges are faring at school. The variables of students presenting with emotional challenges and students' overall readiness to learn were cross-tabulated. It was found that these variables were significantly correlated, using a Pearson Chi-Square, x^2 101.7 (n = 1876, p < .01, 16 df), students in this sample presenting with emotional challenges are the most likely to have a somewhat or significantly decreased readiness to learn. This is presented graphically in Figure 3, which shows that students with significantly increased prevalence of emotional challenges were also the most likely to have significantly or somewhat decreased readiness to learn.

> There is increasing anxiety among students, some cases are severe.

Educators expressed concern about the increasing number of students presenting with emotional and even mental health concerns, sometimes in quite young children. Students displaying anxiety and poor concentration and memory were common worries by teachers in this sample. For instance, one teacher stated that:

> *I have a real concern about the ability of young people today to socialise effectively, and the prevalence of "mental illness", mainly in the form of depression or anxiety, due to the pressure of trying to "measure up" in the cyber world, and lack of participation in the real world.*

A school principal noted:

> *There is increasing anxiety among students, some cases are severe. Twenty-five years ago, this was very rare, with one or two students in an entire school suffering anxiety. Now it is common to have several students with depression and anxiety in every year group.*

This was supported by yet another teacher, who said that:

> *As a teacher, I have certainly noticed the large number of students in my classes with diagnosed mental health issues. I have also noticed many students struggle to not be in constant contact with their phone.*

Similarly, a primary school teacher said that:

> *There are a significant number of students in our setting with additional complex needs. Students are more difficult to engage, lack self-regulation skills and are obsessed with gaming and social media.*

The increase of students with complex needs could be directly related to the increasing use of technology *("There are a handful of students each year who have attention difficulties, tiredness, and are motivationally challenged. These students often tend to be high users of technology also")*; it could be an indirect outcome *("Students are more aware of the worries of the world than previous generations"*; or unrelated (educators spoke of factors like domestic violence, family instability and parental separation, resettlement and language barriers, working parents, overcrowded lifestyles).

While less than 5% of this sample were drawn from early childhood services, it is well understood that this point in a child's development is a key time for shaping habits and the onset of screen time addiction is happening earlier than ever before. Many teachers in this sample commented on their concerns that children are entering school with fewer skills than they need to transition successfully, especially in regard to basic literacy skills and the ability to regulate their emotions, but also with additional health support needs. For example, one First Year of School (FYOS) teacher observed that:

> *The major change has been the number of students arriving in Kinder with speech issues. It feels as if no one is speaking with them or correcting their speech or pronunciation as they are spending too much time on digital devices. I often see kids in prams with their parent's phones. Another noticeable change is the number of young students wearing glasses.*

Teachers also noted that children are arriving at school with ingrained screen time habits already set and *"parents saying that they can't get their children off the iPads and expect us to do it".*

THE NEW DIGITAL DIVIDE

The belief that technology is not equally distributed amongst families from different social backgrounds is not a new one. In some studies, it has been shown that screen time is higher in families with lower income (Rhodes, 2017).

In GUD Australia, we were interested in finding out which children are caught up in the digital divide and whether family circumstances get in the way of children having the same opportunities with technology. Equity was measured in two ways: in regard to access issues, as well as differential impact. Using a three-point scale, teachers were asked to rate how the following groups were faring in regard to both access and impact:

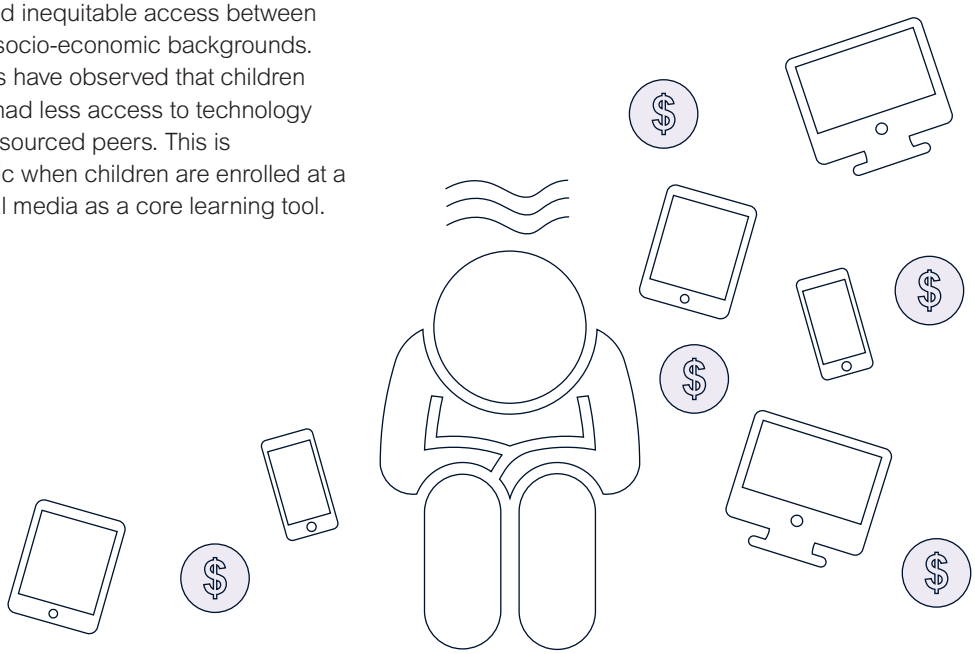
- Indigenous students
- Students living in poverty
- Students with English as a Second Language
- Students with disabilities
- Male students
- Female students
- Students in single parent homes

On most of these indicators, educators have not observed any significant changes in relation to how much access these children have to digital devices over time. Perhaps unsurprisingly though, Australian schools have witnessed inequitable access between children from diverse socio-economic backgrounds. One-third of educators have observed that children living in poverty have had less access to technology than their more well-resourced peers. This is particularly problematic when children are enrolled at a school that uses digital media as a core learning tool.

Teachers raised the following points:

"What is the impact for students who don't have their own technology or can't afford to hire it from school if tasks are set for electronic completion?". Teachers also told us that:

- *There is a disparity between the students with access - some students cannot afford the latest devices and internet access and this poses challenges when schools increasingly expect them to access online resources;*
- *Students from generational unemployment situations are more likely to spend hours playing games on computers for no real educational gain;*
- *Almost all students have a phone, but lower socio-economic groups often cannot afford a tablet or laptop. Having a home life that supports homework completion still has a greater impact than access to technology.*



> We use iPads to create a musical band, as we do not have access to musical instruments. I find online tutorials to teach students to play ukuleles. I also hold virtual reality excursion tours.

Teachers believe that students living in poverty, as well as male students, have been most severely negatively impacted by the explosion of technology, as can be seen in Figures 4 and 5.

Figure 4: Impact on students living in poverty

Figure 5: Impact on male students

To further explain this finding about male students, a teacher explains that:

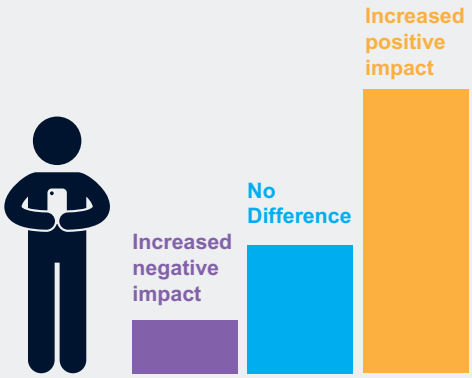
> *in my observations, male students to be more likely to be addicted to games, staying up late playing computer games and being tired. They tend to be the ones who cannot log out quickly when they are told to, as they feel the need to 'finish' or complete whatever task they are doing, even when it is educational.*

However, there are positives. In remote schools that have access to technology, the use of digital media in schools has provided their students with opportunities that they would not have otherwise had.

In particular for students with disabilities, the benefits are far reaching. Not only have 57% of teachers noted that they have greater access to technology than in the past, very positive impacts are also being felt. This can be seen in Figure 6. 60% of teachers believe technology has positively impacted the learning experience for students with disabilities. One teacher also stated that:

> *The students I work with have disabilities so often have little understanding. Technology helps keep them focused, as it interests them.*

Figure 6: Impact on students with disabilities



64% of educators believe that financial circumstances get in the way of families being able to meet the Bring Your Own Device (BYOD) Policy, where that policy is in place at the school. 83% of teachers think that students' socio-economic circumstances has at least some impact on their access to technology they need for learning in school, and 43% of these teachers believe the impact is considerable.

THE GOOD: HOW IS TECHNOLOGY BEING USED WELL IN CLASSROOMS?

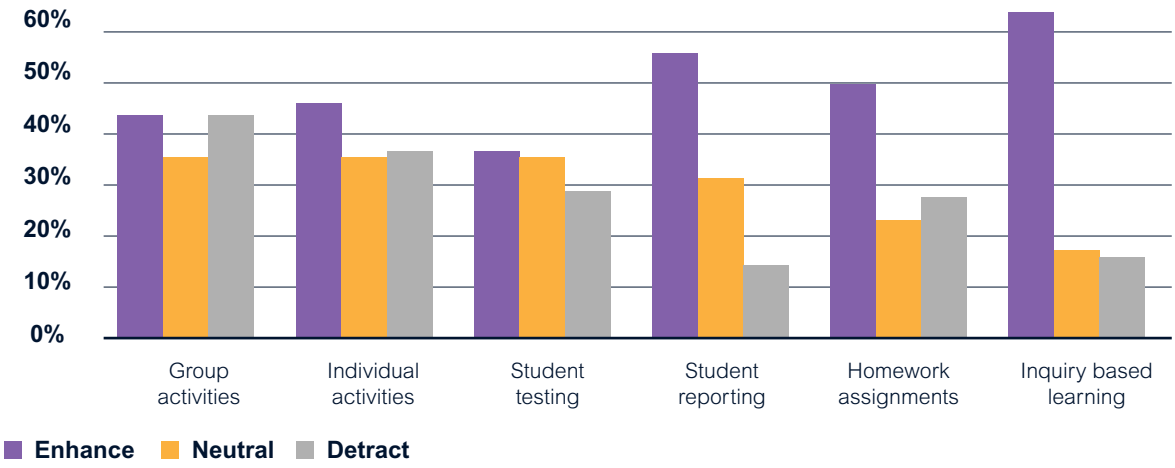
On the whole, digital technologies are useful in the classroom. 43% of Australian teachers and principals believe think that digital technologies enhance their teaching and learning activities, rather than detract. Mostly, teachers believe that opportunities to facilitate inquiry-based learning are enhanced by the use of technology (68%). The list of teaching and learning activities that teachers commented on is included in Figure 7.

There are clear benefits reported, like enhancing the capacity for teachers to undertake assessment and reporting (over half [55%] of responding educators agreed that student reporting was enhanced by digital technologies).

Teachers are also using technology to bring content to life, and provide students' access to a variety of learning resources. examples provided by teachers were innovative, diverse, inspiring and collaborative. Some examples provided are detailed below:

- Team collaboration using google slides. Students in a group project were able to collaborate at home and during school and track who did what part of the work so individual accountability was clear;
- Recording reading sessions and watching them back to improve reading;
- Pre-primary students engaging and skilfully using the Bloxels app to build a game;
- Year One students' ability to use the Stop Motion app to create a simple movie after only one demonstration;
- The students made a podcast using multimedia technology. It was useful for students with learning disabilities.

Figure 7: Responses to the question "To what extent do digital technologies enhance or detract from the following teaching and learning activities?"



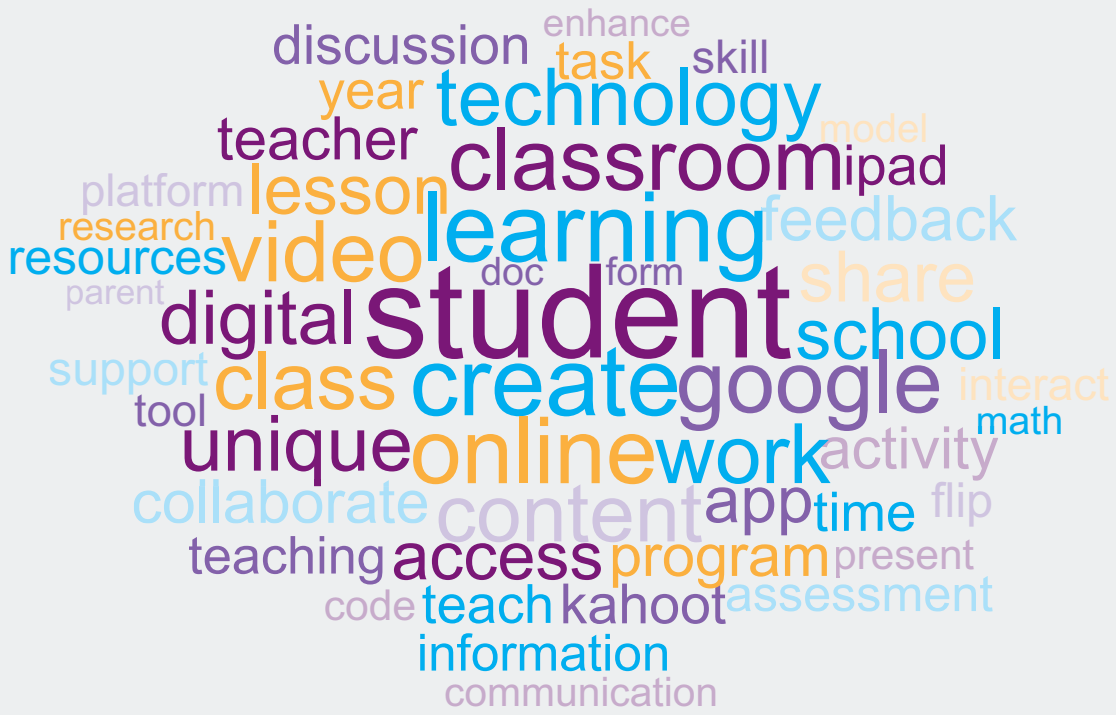
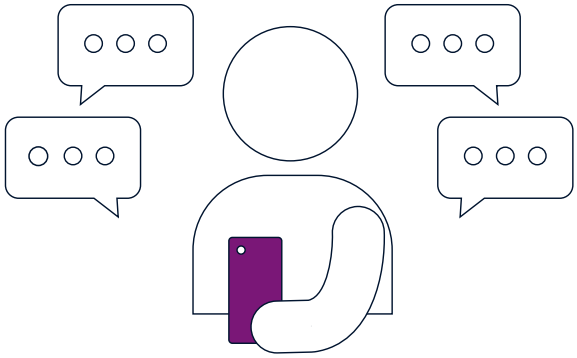


Figure 8: Word cloud depiction of responses to the question, "Please describe an example of a unique approach you have taken to integrate digital technology into your teaching"

Teachers are integrating digital technologies in diverse ways, but always with student learning at the centre of mind, as illustrated by the word cloud in Figure 8.

Some specific examples of the approaches being taken by Australian teachers include:

- I encourage ethical and meaningful online content creation with students;
- I use technology to enhance student work, not generate it;
- I model to students - how to research online and provide graphic organisers that support students use of technology in the classroom;
- We use Minecraft for education;
- I use like Kahoot and Socratrive to engage students in the learning process and review classroom content;
- We use iPads to enhance pedagogical practice, starting with the pedagogy;
- I use an online blog to collaborate with my class;
- I incorporate digital technologies as part of my art and literacy programmes. I teach students to use clay modelling and photography to create claymation movies that have a literacy focus. I find that story mapping and thinking through each shot and how to create the models for each shot, enhances student understanding of text structure.



Four out of five Australian teachers frequently or very frequently find students multi-tasking with technology (compared to three out of four, or 76% in Alberta).

THE BAD: DISTRACTION AND TEACHER CONCERNS

The vast majority (84%) of teachers in Australia believe that digital technologies are a growing distraction in the learning environment (n = 1076). Most of this distraction is due to the constant presence of phones and handheld screens, whether that be in or out of the school gate. The lines are blurred:

> *"Students seem to spend a large portion of the day thinking about the game/s they play at home during their classroom learning time, which impacts the focus they have on their learning. Students also expect every lesson to be exciting, and are less able to cope with the "mundane" activities (including handwriting) that are still a vital part of their development."*

Qualitatively, teachers used terms such as "distractibility", "time wasting", "obsessive", "compulsive", "addiction", absent-minded", "oppositional and violent", "anger" when describing their observations of students and reactions to having devices removed. The words of one teacher, "my students are obsessive with technology and cannot use it for learning", were echoed by hundreds of others.

We have already seen that teachers across the board have noted a steady decline in students' overall readiness to learn. When further pressed on the particular attributes they have observed in the last 3-5 years, it is overwhelmingly evident that on all indicators, that children's learning is suffering. For example, 78% of students' ability to focus on educational tasks has decreased, according to Australian educators.

Furthermore student empathy has also declined (78% of teachers have noticed a decrease in student empathy), as well as student physical activity (60% have noted declining levels). In addition, 67% of teachers have observed decreases in students' completion of homework on time, while it is also evident that 67% of Australian teachers think the number of children arriving at school tired has increased.

Worryingly, 29% of teachers have noticed an increase in the number of students coming to school hungry. It is possible that this could be an indicator of growing financial strain on families, perhaps in an effort to keep in step with the technological advances and expense of devices.

> Despite the growth in the number of apps that can be used to create online content, many students are just passive content users.

Some teachers expressed concern with the technological abilities of students and that in spite of increasing time spent on devices, this is not resulting in increased sophistication in skills. For example, one teacher said that, "students are not as tech savvy as people imagine. They can access apps but cannot perform basic search functions or basic computing functions". Another stated that "despite the growth in the number of apps that can be used to create online content, many students are just passive content users". Similarly, yet another teacher said that she was "still surprised at students' lack of in-depth understanding of the digital technologies they use".

The use of media and digital technologies in the classroom poses management issues for teachers. As one teacher stated, "one negative is students flipping between screens to try and hide what other things they may be doing other than classwork. It makes it much harder for the teacher to see who is off task with digital technologies".

It was suggested by one teacher that learning is potentially not as rich when using devices, as is evident in this example:

> *Our high school students bring a Chromebook to class. We might use if for 15 minutes in a lesson, but once they are open I have to constantly watch the students because they will be trying to use it instead of listening to instruction. I am constantly watching them. Even when using them legitimately they will go to a different site and lose focus. I did a test once. I taught one topic without using the laptops then I did a second topic using an on-line interactive site. The tests showed markedly that the topic learnt with the interactive work was less well learnt. It's as if their minds switched off when they were on the Chromebook. Sure, their behaviour was easier, but the learning didn't take place.*

Qualitatively, some teachers raised the impact of technology on the literacy abilities of students, with one commenting that "all students have reduced quality of spelling, punctuation, grammar and reading comprehension of texts displayed on a screen or processed with a device".

THE UGLY: BULLYING, HARASSMENT AND IMPACTS ON CHILDREN BEYOND THE SCHOOL GATE

Almost all teachers noted increases in the prevalence of online harassment and bullying (81%) among their students. Over one-third of teachers have dealt with more than ten incidents of cyberbullying and online harassment involving their students in the last 3-5 years. As one teacher discussed, "the bullying through social media and having to deal with it when it comes to school the next day after kids have copped it until midnight the night before" poses significant problems both in and out the classroom. The mental health of students is a concern of teachers. One teacher gave the example of "a student with a flat phone battery having a panic attack".

Some teachers expressed concerns about the use of digital devices outside of school, and the lack of parental control being exercised, even with very young children. Some teachers expressed frustration that the use of devices is regulated at school, but one teacher stated that she was "surprised at the tolerance of parents in regard to how much time the students spend on devices, regardless of the activity". One teacher commented that even her "year 1/2 students sneaking out of bed to play games during the night and their parents aren't even aware".

Some teachers raised concerns about the distribution of illicit material and the proliferation of 'sexting' incidents. The suitability of content was also raised, in relation to the use of social media and gaming apps and the ability to look up inappropriate content, including pornography, with children as young as ten. Even at school, students have the "ability to bypass school web filtering to get to unauthorised/unrelated content".

In one case:

> *"A student that was not handing in assessment tasks and was very behind. I was trying to help by breaking the work up into smaller chunks and asking her to 'Just complete this part' because I thought that she may have been overwhelmed by the amount of work she needed to catch up on. Each class I would ask her to show me the work and she had not done it. Eventually, a meeting was held with the student, parents and school admin where she admitted to on-line gaming for extended periods each night and the weekends. I guess, I was surprised because she didn't fit the stereotypical gamer of my imagination."*

TEACHERS' OWN USE OF DEVICES- PERSONALLY AND PROFESSIONALLY

In response to the question, "Do you believe that digital technologies are a growing distraction in your life?", 66% of teachers and principals responded with 'yes'. Of the total respondents, 89% of those aged 25 or younger agreed that digital technology poses an ncreasing distraction. Furthermore, while 24% of teachers and principals felt that they were addicted to digital technology, this number increased to 61% of teachers aged 25 or younger. These results indicate that younger teachers are most at risk of the negative effects of technology overuse.

One teacher, who was also a parent, recognised the double-edged sword that is technology, saying:

> *"I have a love/hate relationship with iPads. As a parent, I hate the iPad. As a teacher, I love using them as a learning tool in the classroom. So, I offer parents if they want to leave the iPads at school, they can. This helps them manage their child's usage at home."*

Most respondents spoke positively about the increased communication and collaboration that technology has facilitated with parents and colleagues, and the improvements they have had with organisational systems and storage of work. According to teachers, the use of platforms such as Seesaw and a Facebook page has assisted communication with parents, the sharing of learning and improved the ability to obtain consent and feedback quickly and easily. Furthermore, online tools have helped teachers to share documentation of learning in staff meetings or present new ideas to parents and other staff. However, as with other professions, teachers and school leaders find that the constant connectivity can distort the boundaries of work and home.

One school principal said that:

> *"In my leadership role, technology has provided a greater means of communication and accessibility to work related resources. This has advantages and disadvantages as the accessibility has the potential to blur working and home time. Another difficulty is the tendency to send and receive work communication after hours. This is a wellbeing issue and requires discipline so as to ensure that one is resting and not working 24/7. Many of my colleagues say that they need to get better at this issue."*

CURRENT POLICY CONTEXT

The policy context in relation to managing the use of devices by students in Australian schools is diverse, and inconsistent. There is no consensus amongst educators with how to best manage the creep of technology into schools. Sometimes, this discrepancy was even evident within schools, suggesting that there is little agreement even in the same school.

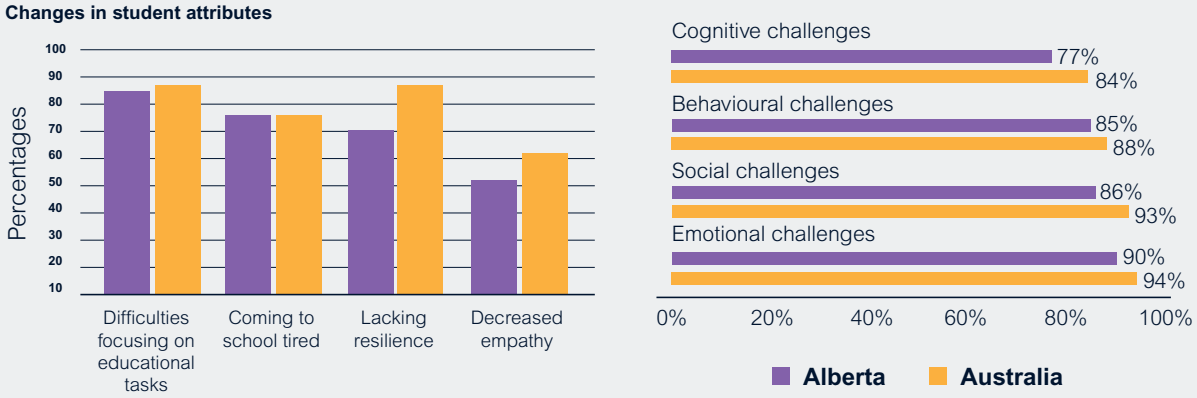
53% of schools within this sample have BYOD policies.

95% of educators that we surveyed told us that their schools have policies governing smartphone use, and these mostly restrict the use of smartphones while at school. Some schools require phones to be handed in to the office or teachers, while others allow students to keep them in their bags but not to be taken out. Some schools allow students their phones to assist with specific tasks, such as filming, while others answered that students are allowed to use them at break times such as recess and lunch, but not in class. It is clear however that there are definite challenges with enforcing this policy with all students. 82% of respondents found it difficult to manage phone use by students. Even when phones are banned, teachers find it difficult to monitor what students are doing on iPads and computers.

Many teachers commented that students use phones and screen-based devices in the classroom for off-task behaviour in the classroom, including for texting, gaming, online chats, listening to music, browsing content that is not relevant to the task, and even being in contact with parents which is according to one educator, "decreasing student independence and potentially undermining teacher/school authority".

Some schools have more technological connectivity than others, so enforcing anything across the board is likely to be fraught with challenges. For instance, one school in this sample allows EFTPOS to be used by students at the school canteen.

Figure 9: Comparison of student attributes between GUD Alberta (2016) and Australia (2019)



INTERNATIONAL COMPARISONS

Overall, consistency is evident with those results found in GUD Alberta. In both Alberta and Australia, there is evidence that access to digital devices can be both a useful tool, but that they also lead to greater distraction and declining readiness to learn. In Alberta, the overall perception of teachers is that technology enhances their teaching and learning activities, and this view is shared by teachers in Australia. Both support the idea that technology enables the capacity for inquiry-based learning (more than 70% in Alberta; 68% than in Australia). Figure 9 shows that while there are similarities in the observations of teachers in both Alberta and Australia, nuanced differences are evident in some attributes, especially in the emotional area of Australian students (resilience and empathy).

Likewise, the student body presents educators with great, and increasing challenges. While the GUD Alberta researchers expressed concern about the changes in student populations in 2016, this appears to be an even greater concern for Australian teachers in 2019.

Of particular note is the "somewhat" and "significant" increase in number of students who come to school with cognitive, behavioural, social and emotional challenges.

In Alberta and Australia, the vast majority of educators report that there are more children coming to school with some and often all of these challenges. Figure 9 shows comparative rates of these challenged children in Alberta and Australia. It is evident, as have been noted in a number of countries around the world, that when children's wellbeing and health are in decline, their learning in school is at risk.

Similar proportions of teachers in Alberta and Australia reflected that they were negatively distracted by their personal use of digital technologies.

The biggest point of difference that is evident between Australia and Alberta is the perception of school teachers and leaders that digital technologies are a growing distraction in the learning environment. While 67% of Alberta school staff believed this, this proportion rose to 84% of Australian teachers and principals that are concerned about the distraction of digital device usage. With all comparisons made between the two studies, it must be noted that three years lapsed between data collection periods so in the case of this increased concern about distraction, it could be a trend that is on the rise.

Implications going forward

When tackling this omnipresent force of media and digital technologies, there is an impetus for solutions that are policy capturing and balanced.

The Australian findings will help policy makers, education system leaders, teachers and parents ensure that the most vulnerable children are shielded from the problematic effects of digital technologies. It will also help to understand how digital technologies can be best leveraged to promote equity, enhance learning and to build a picture of who is at greatest risk of the negative consequences that can result from overuse of digital devices.

The first notion that can be contributed based on this study is that while media and digital technologies enhance capabilities to process information and knowledge, at the same time they also disrupt deeper learning and understanding. Students' ability to connect themselves to one another and the rest of the world, or connectivity, offers great potential to learn and create new ideas. But, the alternative to that connectedness are loneliness and isolation that have become more common realities among young people than before. Rather than debating whether digital technologies are good or bad for young people, we should try to understand better this dual nature of them on children's learning, identity, wellbeing and growing up.

Secondly, the best way to help young people to live safe, responsible and healthy lives with media and digital technologies is to create and maintain conversations about this issue in our schools between teachers, students and parents. To this end, engaging in blame and finger-pointing about whose responsibility it is offers little to help our shared goal, which is to help children to develop skills and knowledge in navigating the digital world in which they now live. Supporting children to grow up in digital world must be a shared responsibility for us all and acknowledging that we all have something to learn is the first step. Children are different. Their families are different, and they live in diverse communities. Therefore, it is difficult to have universal solutions to local challenges. Moreover, binary solutions (such as a system-level ban on smartphones in schools) to complex problems rarely lead to sustainable improvements or generate deeper understandings.

Finally, it is important to accept that it is not just media and digital technologies that should be considered when we try to enhance children's wellbeing and health. Our behaviours in general are changing regarding how we spend time in our lives. More time goes to work and study, and less time to rest and to be together. Although it may well be that use of media and digital technologies explain big part of these changing behaviours, blaming devices is not the smartest strategy. Anxiety disorders, depression, and other mental health issues among young people are growing concerns in many societies today. Creativity is declining at the same time when children spend less time playing and outdoor activities.

We hope that this study and its findings that reflect the realities as seen by our teachers and school principals help to have deeper and more evidence-based conversations about the role of digital technologies in our schools, families and society. The insights of educators into the complex world of our children and young people are critically important in understanding how we should react to, and better yet prevent, negative realities for the younger generation.

Limitations

GUD Australia is not a causal study: in fact, causal studies in this space are rare. It is hard to imagine a parent signing away their son or daughter's childhood in the name of researching whether device usage is causing him or her significant harm. However, we can make a number of notable observations concurrently. Academic results have been declining across all the main school assessment points in Australia over recent years. Children are playing less. At an even higher rate, children are using devices everywhere they go, even in bedrooms.

GUD Australia aims to better understand these relationships. This is essential if we wish to find effective and sustainable solutions to help our children in their lives.

Next steps- phases two and three

The findings from phase one will inform the development of a survey for parents, grandparents and caregivers that focuses on connectedness and home use of digital devices by young people. Phase three is the final stage and will involve capturing the views of young people themselves and their use of digital technology.

Some of the interesting questions raised by educators in phase one are:

- *My questions would be about the number of hours spent by students on online gaming and the specific effect that has on their tiredness and engagement at school. I would also be interested in students whose parents set boundaries around the use specifically of gaming and if these are enforced, or let slide, and the effects of this on their children at school.*
- *How does role modelling by parents' impact on their child's use of devices and what is the impact on children?*
- *How can we balance the needs of students to be physically active and to be able to self-regulate using technologies for learning but also for leisure?*
- *What is the rate of screen addiction in students and how does this impact attendance and engagement at school?*
- *What can we do to reduce student addiction and help them realise that being a child in their natural environment is better? My own children have limited access to devices yet, they beg for PS4, portable ear buds and things that are unnecessary for them.*
- *Does the use of digital technologies impact a student's ability to think deeply and broadly and a student's ability to remember learning long term?*
- *I wonder how it stimulates the brain and affects sleep as I think that most students use digital devices in their rooms, unmonitored by their parents. Is there research around the health impacts on extended device use?*
- *Are digital technologies contributing to cognitive overload and are teachers and school using technology just for the sake of it rather than for a clear pedagogical purpose?*
- *I am concerned that smartphones in particular are having a negative effect on the physical and mental health of our young people - I would like to know if there is any credible research to support this? I believe that the extensive use of these devices is causing reduced literacy levels and also reduced academic engagement. It would be great to hear about effective strategies to combat this.*
- *Is the decline in the mental health of an increasing percentage of students due to their use and impact of digital technologies or is the use of digital technology by their family members also contributing significantly to the problem?*
- *Where to next? WA Public schools have a ban from 2020. What is best practice when it comes to digital technologies in the classroom?*
- *Does using a computer/iPad at an early age (2-5) cause issues with attention span and literacy (reading, writing)?*
- *Is the use of social media through digital technologies contributing to the erosion of a moral compass for children and youth?*

Where possible, these questions will be integrated into subsequent phases of this project. Other big picture questions, however, are suitable for new research in this area.

Conclusion

What is presented in this report are the key findings of Phase 1 of the Growing Up Digital Australia study. Using a large-scale community survey, our intention has been to shed more light on how Australian educators experience student-related changes in their schools and classrooms over a short period of time. According to the more recent statistics in Australia almost all high school aged children own smartphone, two thirds of primary school children and third of pre-schoolers own their own mobile screen-based device (Rhodes, 2017). When children get a hold of these fancy devices, they also use them. It is safe to assume that these digital devices and media overall have a notable impact on children's lives as they grow up, across a broad range of domains.

The key conclusions can be arranged under four themes.

Children are not who they used to be

Teachers in Australian schools spend long hours with children in schools. Therefore, teachers have a good understanding of what young people are like today. Most teachers also have the privilege to witness how young people change over time. Teachers' insights into these changes is important when we construct a more accurate picture of who those children are that we are educating in our schools and at homes today.

Australian educators send us a clear message in this study: classrooms have become emotionally, psychologically and behaviourally more complex places for teachers to teach and for students to learn. Our data show that roughly nine of ten educators think that the number of children with cognitive, behavioural, emotional and social challenges in school has increased during the past 3 – 5 years.

The dual power of technology on children

Not so long ago, educators believed that technology will be the great saviour to the grand challenges in education. Inquiry-based learning, access to global information, and possibilities to share and receive knowledge in real-time are some of the benefits that teachers and students today have in schools. According to this study, teachers see multiple benefits that technology brings to students. Two-thirds of teachers think that opportunities to facilitate inquiry-based learning are enhanced by the use of technology. Interestingly, 43% of teachers and principals claim that digital technologies enhance teaching and learning in school than detract from it. Teachers think that technology can be particularly helpful to students with special educational needs, with 60% of teachers believing that technology has potential to positively contribute to learning of these children.

Children come to school with their devices, they are constantly online and connected, and do an increasing share of learning using digital tools in school and at home. The vast majority (84%) of educators see digital technologies and media as a growing distraction in student learning. Four of five teachers believe that students cannot focus on learning tasks compared to 3 – 5 years ago, and three of five say that student's overall readiness to learn has declined.

Smarter solutions to address the problem

One thing is obvious based on our data: We all have a problem. The problem is not technology and media that comes through it. It is our own inability to be able to understand the benefits and the perils of using digital devices safely and responsibly. Lack of proper understanding the scope and depth of this issue has led to trying quick fixes to complex problems by simply banning digital (internet) technologies in schools and at homes, hoping that the problem would just go away. There is a great risk that it won't and that actually, things will only get worse.

The key response to these observed problems and changes in children's behaviours with media and technologies should be to help children to learn responsible, safe and healthy ways of living in the digital world around them. This is not achieved by blaming the devices or banning them. Instead, a more sustainable way would be purposeful education about how to use and live with digital technologies responsibly. This is not only a challenge that schools should take on. Families, parents and caregivers have a critically important role in supporting our children to grow up in digital world.

Understanding the changing issue

This Phase 1 study offers one perspective to understand the changing nature of children today as seen by teachers and principals in schools. Although the reality that is made visible by observations and insights by the educators enriches our understanding of the issues young people face today, it is not a complete picture. This dynamic issue of living with and using digital media and technologies by young people must be better understood by parents, teachers and young people themselves.

One aspect that GUD Australia is putting a particular focus on is whether children from different socio-economic backgrounds experience media and digital technologies in the same ways, or not.

According to this study, 4 of 5 teachers think that students' socio-economic circumstances has some impact on their access to technology they need for learning in school, while one third directly observed that children living in poverty have had less access to technology than their more well-resourced peers. Teachers also believe that students living in poverty, as well as male students, have been most severely negatively impacted by the explosion of technology. These beliefs are in line with the other recent findings in Australia. For example, the LSAC found that higher levels of television viewing were related to parental education levels.

Furthermore, the Murdoch Children's Research Institute Child Health CheckPoint Study (Cunningham, 2019) found that children from lower socio-economic families spend about 60 minutes more time daily on digital screens than those from wealthier families. That study also found that children in lower-socio economic families watch more TV and play video games compared to their more affluent peers, who spend an hour a day on school-related activities, including homework and reading. Globally, data also supports substantial differences in the use of screen-based media used by young people from diverse socio-economic backgrounds. A nationally representative survey was undertaken in the United States and reports that young people from high-income households use screens almost two hours less than those from lower-income households. Children from poorer families are also less likely to use a computer for homework, perhaps as a result of gaps in device ownership (Rideout & Robb, 2019).

This report contributes to the gap that exists in that a more systematic knowledge pool is required to understand how the widespread use of technology is impacting Australian children. The findings from this phase of GUD Australia will add to the developing evidence base on the impact of digital technologies on young people. The aim of this report is to inform politicians, parents, practitioners and policymakers to come up with smart solutions to help all our children to live healthier and better lives. Phase 2 of the GUD Australia will commence in May 2020 and will focus on parents and grandparents. The findings will be reported in November 2020.

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