



Introduction

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1 DIGITAL INCLUSION, DIGITAL LITERACIES, AND DIGITAL PARTICIPATION

This book developed from the “Digital Inclusion Policy and Research Conference 2021”. This was the third in a series of conferences that brought together, academic researchers, policy makers and practitioners. The chapters presented here represent the breadth of topics explored at the conference. The conference took place – online – at the height of the COVID-19 pandemic and as a result several the chapters here explore issues that arose or interventions that took place in response to COVID-19. This is not just a curiosity of timing but reflects a key shift in thinking, especially policy, thinking about digital exclusion and strategies for digital inclusion. COVID-19 lockdowns drove a range of responses. Many governments their agencies, health providers, community groups and businesses shifted “online”. There were many potential benefits with this shift – but it also left a lot of people behind. In fact, from our own

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experience and discussions with governments and civic stakeholders, we can confidently say that levels of digital inequality – not just absolute digital exclusion – caught many organisations off guard. Levels of digital access (e.g., broadband speeds), equipment, spaces in the home to use digital kit, distribution across families, as well as individual and household digital literacies were all found to be wanting or much lower than assumed. Suddenly one laptop and tablet were not enough for a single parent with two school age children under lock down. Only having an older smart phone was massively problematic for a young adult in lockdown. Medical services going online became hard to access for older adults dependent on relatives to access and use digital technologies.

In this volume we have a range of chapters focused on research, evaluation, and the description of digital inclusion interventions. They cover countries and communities across the globe. Many cover or reference responses in relation to COVID-19, others address broader policy issues or specific case studies. Given these cross-cutting themes across all the chapters giving the overall book a simple structure was a challenge. We have therefore placed chapters in three sections:

1. Policy and place: Policy interventions at a national scale
2. COVID-19: Responses to and the impact of COVID-19
3. Digital literacy: Creativity, civic participation, and capabilities

2 POLICY AND PLACE: POLICY INTERVENTIONS AT A NATIONAL SCALE

Part I presents three chapters that look at national digital inclusion policies at different scales – from comparison across different interventions in Australia, to comparisons across South American nations, on to an in-depth examination of a single national programme in Scotland. This section begins with Daniel Featherstone’s review of the impact of telecommunications infrastructure programs on internet access in Australia’s remote Indigenous communities. Though not focused on COVID-19 the review took place shortly after the start of the pandemic. Featherstone reviews five years and 155 million Australian Dollars (£90 million UK pounds; \$110 US dollars) of investments. Despite this investment Featherstone finds that significant gaps in access and usage of communications technologies remained for Australia’s remote Indigenous

communities. These gaps remain due to issues of affordability, lack of last mile delivery or community access facilities, service quality and congestion, and barriers to using online services. Featherstone finds that some communities have chosen to not accept infrastructure due to concerns around cyber-safety, potential impacts on cultural and social cohesion, and ongoing costs of services and maintenance. He therefore concludes that without a coordinated digital inclusion strategy in place to address these barriers, there is currently a patchwork of solutions. Featherstone concludes the chapter by noting subsequent policy efforts to address the growing digital divide for First Nations people in Australia, including the establishment of a target to close the digital inclusion gap.

Bernadette Califano and Martín Becerra analyse policy interventions to address digital inequalities in five different Latin American countries: Argentina, Brazil, Chile, Colombia, and Mexico. They focus on the first months after the outbreak of COVID-19 reached the region in March–June 2020. They argue that Latin American governments responded quickly to the spike in demand for connectivity posed by the pandemic. Califano and Becerra argue this response was possible because of two factors. First, these countries had learned from what had happened in other areas of the world as the pandemic took hold. Second, the response was partly based on the legacy of public policies resulting from previous experiences in the sector. Much like Featherstone, they note that the impact of the policy actions implemented during the pandemic were limited by digital divides that persisted from previous structural inequalities. As many chapters in this volume highlight, though such interventions are often welcome, despite them under COVID-19 inequalities tended to increase. The shift of services online meant that a digitally underserved segment of the population became more likely to be deprived of access to education, health information, entertainment, and work-from-home services.

Rory Brown, Aaron Slater, and Irene Warner-Mackintosh describe the Connecting Scotland programme. All three authors were involved extensively in the development and delivery of this significant programme. Brown, Salter, and Warner-Mackintosh use this case study of a national intervention to highlight the correlation between current research into digital inequality to identify those most in need of support and the practical application of work to address this at a national scale. Importantly, the Connecting Scotland model involved engagement through third sector (voluntary and charity) organisations working directly with those at greatest risk of digital exclusion. Brown, Salter, and Warner-Mackintosh

emphasise the vital role of the ‘trusted intermediaries’ – key individuals within communities – acting as ‘digital champions’ for device recipients. They also reflect on the importance of using data gathered via sessions with hundreds of frontline staff to explore immediate challenges and opportunities for engagement with individuals and communities. In the chapter Brown, Salter and Warner-Mackintosh also reflect on the application of research in the creation of training and resources to support the Connecting Scotland programme. Brown, Salter and Warner-Mackintosh conclude with reflections on the learning from the programme. They note the need for frontline staff working with the digitally excluded to be supported to develop the digital skills they need to then support others. They also note the importance of respecting lived experience of both those supporting communities and community members themselves. Very often frontline staff may also be experiencing digital exclusion or digital poverty. Finally, they point out the importance of organisational capacity. Though frontline third sector organisations may be one of the best routes to engagement and effective, they are often under pressure themselves. Programmes such as Connecting Scotland, therefore, need to support these organisations with both financial resources and digital leadership at all levels.

Looking across all three of these chapters we can identify several common themes. First, national programmes remain important. Though the chapter by Featherstone and that by Califano and Becerra point out the potential limits of national interventions all three chapters highlight how such programmes are key to keeping digital inclusion on national policy agendas. Second, all three chapters point out that national programmes can often be limited by the challenges of local, community and structural issues. For example, all three address the issues – on various geographic and infrastructure scales of remote access as well as structural socio-economic inequality. In Australia and South America are added issues of historical inequality and legacies of colonialism and experience of significant structural inequities for indigenous peoples. The Scottish and Australian cases highlight how local communities are key. They provide the locations, organisations, and key gatekeepers who can ensure the success of interventions. Not taking these local circumstances, concerns, and resources into account can significantly limit the effectiveness of interventions. Brown, Salter, and Warner-Mackintosh emphasise, supporting these local organisations, groups, and individuals financially, with digital skills and organisational capacity is key to successful delivery.

3 COVID-19: RESPONSES TO AND THE IMPACT OF COVID-19

This section explores four examples of interventions to support digital inclusion and digital literacies during COVID-19. The first three, Chaps. 5, 6, and 7, focus on educational interventions. Chapter 8 explores health communication and user content. In Chap. 5, Kim Osman, Amber Marshall, and Michael Dezuanni explore the impact of COVID-19 restrictions on digital access to education in Australia. They find, as we noted in section one of this chapter, that the sudden switch to digital learning at home revealed the extent of limited digital inclusion for many low-income and socially disadvantaged families in Australia. They highlight how many students and families struggled with access to, and the affordability of, devices and data, along with having the required digital skills. Osman, Marshall, and Dezuanni argue that this combination of digital and social disadvantage has far-reaching consequences for the educational outcomes of children from low-income families in Australia. They explore how policy, government, industry and community responses enabled children from low-income families in Australia to learn at home during the COVID-19 pandemic. The chapter concludes by discussing how such responses can be part of sustainable solutions to the digital inclusion challenges of families that enables all family members to fully participate in society now, and beyond the COVID-19 pandemic. There are clear overlaps here in the descriptions, reflections, and conclusions to the findings from Chaps. 2 and 4 in Part I.

In Chap. 6, Jenny Kennedy, Indigo Holcombe-James, Kate Mannell, and Estelle Boyle describe the Connected Students programme, a digital inclusion initiative delivered by Telstra Australia's largest telecommunications provider and the team at RMIT University. The programme directly addresses the issue of affordability of digital access for families with school age children. This lack of adequate access leading to a 'homework gap' and therefore lower educational attainment. The team highlight that this is a significant issue, citing US and Canadian work. The Connected Students programme aimed to measure the impacts of removing affordability barriers for low-income households and was delivered in partnership with a secondary college. The programme provided technology to low-income households with at least one student at the school between the ages of 15–18.

The team conclude that providing basic connections is not enough and that an holistic and integrated approach to digital inclusion is needed. They argue that providing a basic connection is not enough and that adequate devices and support for the broader network within and beyond the family is needed. Importantly, they note that successful interventions can therefore have effects beyond the school child to the other household members and the wider community. The work also highlights the importance of longer term, longitudinal, engagement in such programmes. Not only does this appear to provide time for benefits to developed and embed in households and communities but it also allows research to identify and document this longer-term impact. As noted elsewhere in this volume, engagement beyond just short-term support (e.g. limited provision of a device/service) is key for effective sustainable digital inclusion.

Çiğdem Bozdağ describes in Chap. 7 an education intervention during the COVID-19 pandemic. Bozdağ focuses on the distribution of iPads for all students in primary and secondary schools in the state of Bremen during the COVID-19 pandemic. More broadly the chapter examines if and how such hardware distribution projects can be successful for mitigating the digital inequalities among the young people. The case study described by Bozdağ was a participatory action research project conducted in a secondary school based in a socioeconomically disadvantaged and culturally diverse school in Bremen, Germany. The chapter presents participatory observations from January 2020 to April 2021 and three rounds of focus groups with the students. Bozdağ argues that the project was successful for mitigating the immediate effects of school closures due to COVID-19 restrictions. The iPads helped the students to interact more with their teachers and structure their days better by following the school's online classes. However, students raised longer term serious concerns about the maintenance of the devices as well as the risks of surveillance by the school. These longer-term sustainability issues parallel those from Chap. 6. In many respects this chapter also provides the local detail around interventions similar to that supported by Connecting Scotland as described in Chap. 4, though under a different programme in Germany.

In Chap. 8, Anna Feigenbaum, Julian McDougall, and Ozlem Demirkol Tonnesen explore the use of user created digital content to support health communication during COVID-19. These citizen-created artistic representations of public health messages covering everything from the significance of R numbers, to being on guard for misinformation, were shared across social media to thousands of followers. Unlike the prior chapters

that explored policy interventions on national and regional scales, this chapter explores citizens own responses and the use of digital media to support health and wellbeing inclusion. Feigenbaum, McDougall, and Demirkol Tonnesen present findings from their UK Arts and Humanities Research Council funded project ‘Comics in the time of COVID-19’. In this project they analysed a sample of over 15,000 web-comics distributed on Instagram between March 2020 and March 2021. They argue that, at their best, these comics amplified official public health messages, increased data comprehension, and led to more informed approaches to consuming and sharing digital media. This chapter also highlights that digital inclusion is not just about access or practical skills. As more of our social, cultural, political, and economic life moves online, citizens need the ability to contribute to that life and public debate. Though focused on COVID-19 this chapter has many overlaps and parallels to Chaps. 9 and 10 that follow it in Part III. These explore the role of creativity in supporting digital inclusion, the development of digital skills, and civic participation.

4 DIGITAL LITERACY: CREATIVITY, CIVIC PARTICIPATION, AND CAPABILITIES

Part III explores creativity, digital literacy, and citizens capabilities. Chapter 9 by Josie Barnard focuses on the importance of creative as a key digital skill. Drawing on work undertaken before COVID-19, Barnard argues that creativity is key to the acquisition of ‘future-proof’ digital skills. She asks: what exactly is ‘creativity’ in this context, and how can it be enabled with measurable effectiveness?. The chapter makes three main contributions to the understanding of how digital skills are acquired and developed. First, Barnard presents her findings from a small-scale longitudinal study that was conducted during COVID-19 lockdowns. This study provides evidence that creativity can be deployed to enable ‘future-proof’, that is sustainable and resilient, digital skills acquisition. Second, Barnard argues that the findings also improve our understanding of the role of creativity in digital skills acquisition and retention. Third, Barnard presents a new theoretical position on the role of creativity in developing resilience in the digital sphere. The chapter concludes with a discussion of the associated policy implications.

Lucie Römer in Chap. 10 explores how media literacy has increasingly become a prerequisite of full citizen participation. With media consumption, especially among youth, shifting away from the traditional media

forms and more and more towards digital or ‘non-conventional’ forms, media literacy training needs to address this. Römer argues that the possibility for and abilities to get involved in the public debate are not distributed equally and that Media Literacy Education (MLE) may narrow that gap. She presents a participatory action research project exploring the possibilities of the MLE for the development of citizen participation of disadvantaged youth in the Czech Republic in 2019. Römer notes that there have been fewer such studies in central Europe. Römer finds that the intervention developed the media competence of the students. However, their citizen participation activities’ enhancement remained ambiguous. Like Barnard in Chap. 9, Römer makes a strong case for the importance of MLE, especially digital literacies, in relation to engaging citizens and developing citizenship. Yet, like all the prior chapters, it is clear that other social, economic, and cultural factors beyond digital media use have an impact on the ways in which these young people (citizens) translate the skills they have developed into active participation.

In Chap. 11, Rituparna Banerjee, Josef Trappel, and Leo Van Audenhove explore a digital skills and literacies intervention in India focused on developing digital skills for women. They ask: do such initiatives provide advantages to citizens at grassroots levels in smaller cities or villages?. They seek to explore how to effectively gauge the benefits of these interventions from the perspective of their recipients. The chapter foregrounds voices of the beneficiaries of Internet-Saathi—a countrywide programme in India supported by Google and the Tata Trusts. Drawing from in-depth semi-structured interviews with 17 designated ‘Internet Saathis’ between 2016 and 2019, the chapter explores how technological access impacts everyday lives of women in a predominantly rural, district of India. The chapter employs a combination of the Capability Approach (CA) and Choice Framework (CF) (see Nussbaum, 2002; Sen, 2009). An approach we have used in our work (Carmi & Yates, 2023) as have others in this volume. They argue that this approach privileges processes that nurture substantive freedoms and conscious actions towards women-subjects’ own and others’ empowerment, and their eventual attainment of ‘mattering’. Banerjee, Trappel, and Van Audenhove conclude by noting a range of benefits for the women participating in the programme over and above digital skills and inclusion. They note a range of benefits that matter to the participants. Beyond the personal benefits, these included being able to help the community members with similar tasks and the valuing of the soft skills that they had acquired through the programme. They also recognise an

increase in social capital and recognition was accorded to them in their community. Though these were positive changes the participants also encountered new forms of inequality in the online sphere such as online abuse and harassment. Banerjee, Trappel, and Van Audenhove also pointed out that despite family and community support the new skills and abilities of the participants did not necessarily allow them to move beyond existing gendered social constraints. Again, as with nearly all the chapters, and in fact going back to the first Australian case study in Chap. 2, we find that digital inclusion in the form of access, skills and motivation may not be enough to transcend local or national socio-economic or cultural constraints.

In Chap. 12, we present our own work on developing the idea of Data Literacy and reflect on the potential to develop *democratic education for data citizenship*. In our work we link ideas from Dewey (1930) and Freire (1970/1996), with ideas from Nussbaum (2002) and Sen (2009), to consider how we move towards a more just datafied society (see Carmi & Yates, 2023). We argue that Data Literacy and data citizenship interventions need to build on a deep understanding of their audience and their journey towards greater data citizenship and awareness of issues in our datafied society. The chapter sets out seven principles for the development of Data Literacy and data citizenship support interventions and explores approaches to their development.

5 LINKING THREADS

We see eight threads linking these chapters together. First, all the chapters highlight that access is “not enough”. Digital inclusion, especially digital inclusion that delivers more than passive digital consumers, requires many other elements. Second, the standard triptych for minimum digital inclusion – access, skills and, motivation – are validated and discussed across all these examples. However, third, triptych falls short where local and national socio-economic, policy or cultural contexts present additional barriers (see Chap. 3). Fourth, all the chapters emphasise the need for local engagement to help ensure success (see Chaps. 4 and 6), and also how local context can cut across, challenge, or limit delivery (see Chaps. 1 and 2). Fifth, it is notable in Chaps. 1, 5, 9, and 10 how programmes and interventions bring benefits – but not all that is hoped. History, culture, and local context beyond the digital cannot be overcome just because of the transcendental possibility of greater freedom, opportunity or benefit

that digital could bring. Sixth, throughout the chapters are examples of both citizen agency but also of how to tap into that agency and creativity, especially Chaps. 7, 8 and 9. Seventh, in one way or another each of the chapters address the link between policy, by local or national government or major organisations, with methods of delivery, interventions or outcomes. Last, of course, as noted above, the shadow of COVID-19 lies across the volume as a whole – especially the role the pandemic played in highlighting issues of digital inequality and the need for digital inclusion interventions.

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