Digital mentoring in Australian communities

A report prepared for Australia Post

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Executive Summary

Australia Post provides one of Australia's largest physical community infrastructure networks, and has focused its efforts to help Australians to connect online safely and with confidence since 2014. As a key player in the Australian digital inclusion effort, Australia Post is investing in research and programs that help people in diverse communities develop critical skills to participate in an increasingly digital society.

Australia Post identified a critical gap in valuing and understanding the role digital mentors play in helping learners to develop their digital skills and confidence. At the same time, many of Australia Post's community partners were also exploring how their digital mentors could better support learners in various environments, including group-based courses, peer-to-peer learning, and one-on-one sessions.

Australia Post consequently partnered with Queensland University of Technology's Digital Media Research Centre (DMRC) to investigate digital mentorship, in a variety of formats and community contexts. In particular, QUT was asked to explore the need for and develop relevant resources to assist digital mentors in the field. This report explains and justifies how these resources for digital mentors were developed.

In the course of the research we defined a *digital mentor* as someone who partners with a mentee in safe learning environments to develop digital ability by fostering confidence and competence in technological skills and making meaningful social, cultural and economic connections online.

Digital ability incorporates people's skills and knowledge and how they put these into practice, and is an important element of digital inclusion. *Digital inclusion* is a broader framework for enabling people and communities to use technology to improve social and economic well-being across society.

Our investigation included an extensive search of national and international academic literature on, and practical resources for, digital mentorship, as well as in-field data collection including workshops, interviews, focus groups and resource testing.

The resulting digital mentoring resource, *The Digital Mentor's Handbook*, is organised into eight 'principles of effective digital mentoring', which are based on common themes that arose from our research.

1. Your digital mentoring style
2. Motivating your mentees
3. Creating safe spaces
4. Defining learning goals
5. Overcoming challenges
6. Interest-driven learning
7. Making connections
8. Measuring impact

Each principle includes information for mentors and actions they can take to effectively support their mentees, whilst developing their own skills and managing their personal well-being. We hope that these resources for digital mentors, as well as this accompanying report, will contribute to a broader effort to improve digital inclusion in Australian communities.

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1. Introduction

Digital mentoring is a means to improve digital ability (comprised of skills, knowledge and connections), which is a key element of digital inclusion. Digital inclusion is a framework for enabling people and communities to use technology to improve social and economic well-being across society. It is based on the premise that everyone, regardless of circumstance, should be able to make full use of digital technologies (Thomas et al 2016, 2017, 2018).

The Australian Digital Inclusion Index (ADII) defines digital inclusion as having three interrelated components: *access* to internet and digital technologies, *affordability* of connections, and *digital ability* to put the internet to work. The 2018 report suggests that digital ability in particular is an area for improvement (Thomas et al., 2018, p 12).

Digital mentors are those who help others acquire digital ability, facilitating learning between end users and digital technologies. Digital mentoring takes many forms. It may involve people volunteering time and skills to help others, or community-based workers going 'above and beyond' to help customers in libraries and post offices, for example. Digital mentoring ranges from more formal and structured programs to less formal and everyday activities – from leading a group of people through a curriculum in a public place like a computer club, to a one-on-one Q&A or trouble shooting session in someone's home. Mentoring relationships also vary widely, from young people mentoring older people, peer-to-peer mentoring amongst seniors, and children mentoring their parents (or vice versa).

There is a growing sentiment in the community sector that mentors play a vital role in improving digital ability, and therefore contribute significantly to the broader digital inclusion effort. There is also recognition that while digital mentoring can be rewarding, it can also be challenging for both the mentor and the mentee. Mentors need specific skills to deal with the technical, social, cultural and ethical issues that can arise during digital mentoring interactions. Many of these skills can be acquired organically over time through experience. However, having a holistic approach to supporting mentors could enable mentees to reach their goals and learn digital skills more quickly, and improve overall outcomes for the community.

While there are many resources and programs available to end users (synonymous with learners, mentees, students, etc.) to help support their self-directed progression and learning, in practice these resources are not always accessible or useful without the guidance of a mentor. Furthermore, relatively few resources exist to support mentors and their development, when compared to mentee-focused training programs and initiatives.

This report outlines our investigation of community-based digital mentoring practices to inform the development of robust, evidence-based resources for digital mentors. First, the report examines national and international academic and practice-based literature about frameworks and resources for digital mentoring, alongside related concepts, such as digital inclusion and digital ability. We use this research to define 'digital mentor' and ascertain best practices. Second, we apply this knowledge to design of *The Digital Mentor's Handbook* to assist mentors in community contexts to develop and foster effective mentoring partnerships. Third, we make recommendations for additional resources to support digital mentoring in local community contexts, along with suggestions to further progress the practice of digital mentoring.

2. Aims and objectives of the project

This project aimed to develop evidenced-based resources for volunteer digital mentors in community contexts. The project's objectives were to:

1. Conduct a systemic review of national and international research and practical resources about digital mentoring.

2. Explore and develop relevant resources for digital mentors outlining how they can best support learners to develop their digital ability whilst developing their own mentoring skills, thereby contributing to the broader digital inclusion effort in Australia.

3. Undertake data collection in three sites across Victoria, New South Wales and Queensland, including digital mentor workshops and interviews, co-design of recommendations for the resources, and initial trialling and evaluation of *The Digital Mentor's Handbook*.

4. Make recommendations for additional resources, programs and training to support the development of digital mentors, as well as initiatives to improve our understanding and practice of digital mentoring in Australia.

3. Literature and contextual review

In preparing this report we surveyed national and international academic literature about digital inclusion (and associated concepts such as the digital divide); social inclusion; digital ability (including digital literacy, e-literacy, digital citizenship and others); and digital mentoring (as well as digital training and virtual mentoring). We also surveyed relevant national and international practical resources in relation to digital literacy, digital ability, digital self-assessment, digital program evaluation, and digital mentor tools and toolkits.

Here we present a summary of this research and describe how three critical concepts – namely *digital inclusion*, *digital ability* and *digital mentor* – are linked together to inform *The Digital Mentor's Handbook.*

3.1 What is digital inclusion?

In Australia, the most comprehensive account of digital inclusion is the Australian Digital Inclusion Index, which measures digital inclusion along three indices:

▶ *Access:* a measure of access to internet and digital technologies, as well as data allowance.
▶ *Affordability:* a measure of household expenditure relative to income, and value for money.
▶ *Digital ability:* a measure of attitudes, skills and the types of activities people undertake online.

The following section reviews other leading perspectives, highlighting the critical link between digital inclusion and social inclusion, which has informed our research approach. In particular, we show how we adopted a socio-technical understanding of digital inclusion in our development of *The Digital Mentor's Handbook*.

3.1.2 Perspectives on digital inclusion

Research into digital inclusion reflects a variety of positions in debates about the significance of technological skills versus social and personal skills in technology use.

The concept of digital inclusion first appeared in academic literature around 2003 (Warschauer, 2003). It was first defined in the UK in relation to its link to social inclusion on the basis of income, (dis)ability, age, culture, geography, gender, and education (Helsper, 2008). Other definitions of digital inclusion, focus on technological and digital skills. For example, in *Building Digitally Inclusive Communities: A Framework for Action*, the Institute of Museum and Library Services (US) et al. (2012) defines digital inclusion as "the ability of individuals and groups to access and use information and communication technologies. Digital inclusion encompasses not only

access to the Internet but also the availability of hardware and software; relevant content and services; and training for the digital literacy skills required for effective use of information and communication technologies" (p. 1).

In the Australian context, Walton et al. (2013) maintain that digital inclusion is "not just about access, but places particular emphasis on empowerment and participation, both social and economic" (p. 9). In support of this perspective, Ragnedda and Mutsvairo (2018) suggest that while advanced technical skills and abilities, as well as positive attitudes, are essential, they alone are not sufficient to be fully engaged with digital environments. They suggest that individuals should be able "to create meaning and feelings in it" (p. xiv) thereby embracing the cultural and creative manifestation of digital inclusion instead of focusing on technical skills per se.

> "Understanding digital inclusion requires thinking through the kinds of choices people face when deciding to access the internet, as well as contextual factors that influence whether they are able to pursue the opportunities on offer." (Horn, et al., 2018, p.14).

Increasingly, the research literature demonstrated that digital and social skills are intertwined, and that digital participation is embedded and fostered in community networks, support and activities. This sentiment is reflected in a systemic review of digital inclusion and health communication. Borg, Boulet, Smith and Bragge (2018, p. 6) found that digital ability and attitude affect digital inclusion. Further, lack of physical access can be a barrier to digital inclusion, but physical access alone does not mean that users are making best use of the social and economic opportunities afforded by digital connectivity. Additionally, Borg et al. (2018, p. 6) determined three key enablers of digital inclusion: (1) social support, (2) education via collaborative learning or direct experience, and (3) inclusive design (See Figure 1 below for a visualisation of the key enablers). The authors concluded that extending support to networks of healthcare providers, family, and friends connected with patients, further enabled digital inclusion.
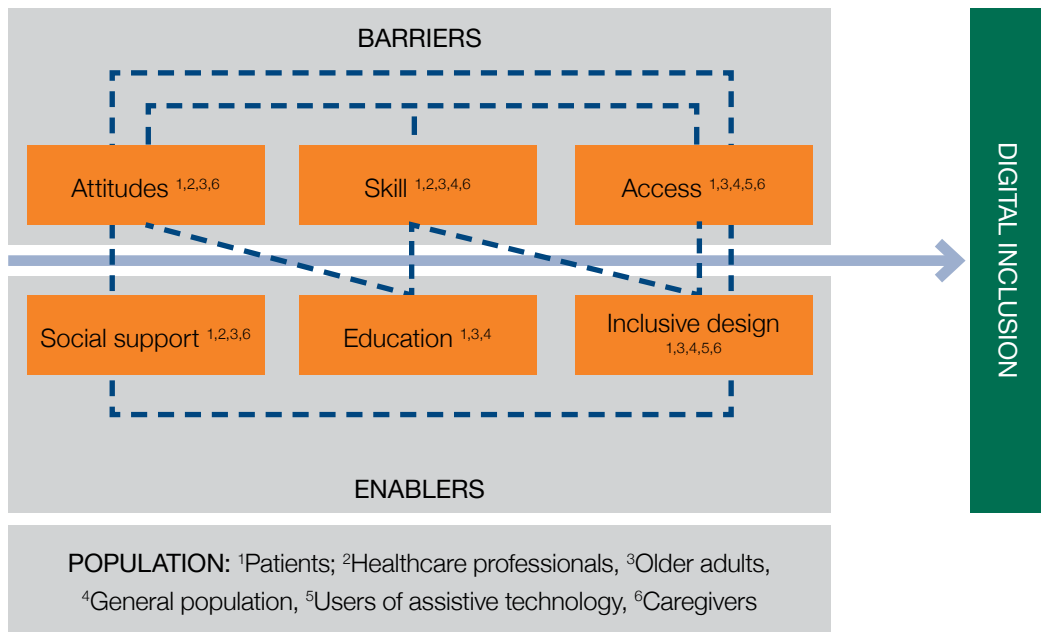
Figure 1. Relationships between barriers and enablers of digital inclusion with relevant population groups (Borg et al., 2018, p.7).

In community contexts, these barriers and enablers take slightly different form. When viewed through the lens of Leep's digital inclusion framework, for example, we gain insight into how Borg et al.'s model of digital inclusion may relate specifically to this project. Leep is leader in the Australian digital inclusion sector, having undertaken its own community-based research (Leep 2017a, 2017b) presented at local, interstate and international conferences; and participated in several digital inclusion planning forums and run their own forums. Leep grounds its research in a model of digital inclusion informed by the Australian Bureau of Statistics' 2015 'Household Use of Information Technology' survey (HUIT) and the UK Government's Digital Inclusion Strategy. As shown in Figure 2, the foundations of digital inclusion are access, skills, motivation and trust.

Access	The availability and affordability of ICTs and the internet
Skills	The ability to use ICTs and the internet, also known as digital literacy
Motivation	The awareness of the benefits of being online
Trust	The knowledge of e-safety, e-security and feeling confident being online

Figure 2: Leep's model of digital inclusion.

If we consider the models side-by-side, several insights are foregrounded as to how Leep's model can help us apply Borg et al.'s model to community-based digital inclusion in Australia. Firstly, regarding the barriers to digital inclusion, skills and access are common to both models. However, Leep encourages us to consider how lack of motivation to use, and lack of trust in, digital technologies can inhibit digital inclusion. Furthermore, regarding enablers, motivation and trust could be used as mechanisms for enabling social support, education and inclusive design. These factors and how they can be applied in community contexts are further explored in section 5.2.2.

To conclude, broadly speaking, definitions of digital inclusion have evolved to recognise that digital inclusion is not just about access, but also about social and economic empowerment and participation (Walton et al. 2013). Warschauer's (2003) table below (see Table 1) summarises this point of view by illustrating the narrowness of technical approaches when compared to socio-technical models for teaching and learning about information and communication technologies. It is this socio-technical understanding of digital inclusion – which contextualises digital inclusion initiatives – that is applied in our development of *The Digital Mentor's Handbook*.

ICT is a tool.	ITC is a sociotechnical network.
A business model is sufficient.	An ecological view is also needed.
One-shot ICT implementations are made.	ICT implementations are an ongoing social process.
Technological effects are direct and immediate.	Technological effects are indirect and involve different time scales.
Politics are bad or irrelevant.	Politics are central and even enabling.
Incentives to change are unproblematic.	Incentives may require restructuring (and may be in conflict).
Relationships are easily reformed.	Relationships are complex, negotiated, multivalent (including trust).
Social effects of ICT are big but isolated and benign.	Potentially enormous social repercussions from ICT (not just quality of work life but overall quality of life).
Context are simple (a few key terms or demographics).	Context are complex (e.g. matrices of business, services, people, technology, history, location).
Knowledge and expertise are easily made explicit.	Knowledge and expertise are inherently tactit/implicit.
ICT Infrastructures are fully supportive.	Additonal skill and effort needed to make ICT work.

Table 1. Standard models vs sociotechnical models of ICT (Warschauer, 2003, p.207).
Source: Adapted from Kling (2000) with permission of The Information Society.

3.1.2 The link between social inclusion and digital inclusion

"Digital inclusion is not just about computers, the internet or even technology. It is about using technology as a channel to improve skills, to enhance quality of life, to drive education and to promote economic well-being across all elements of society. Digital inclusion is really about social inclusion", (Australian Digital Inclusion Index, 2019).

In technologically advanced societies, full social and political participation has become inextricably tied to digital participation. While the social requirement for citizens to be digitally literate in order to go about their everyday lives has fed into so called 'digital divides', digital participation can also increase social connections. Dezuanni et al.'s (2018) research shows digital inclusion has been tied to social inclusion since the early 2000s. While initially the connection between digital and social inclusion was evidenced primarily through government programs and policies, this has gradually filtered through to community contexts and informal, interest-driven learning environments.

Warschauer (2003, citing Castells, 1997) suggests "the concept of social inclusion reflects particularly well the imperatives of the current information era, in which issues of identity, language, social participation, community, and civil society have come to the fore" (p. 9). Warschauer further argues that focussing technologies on social inclusion is critical to overcoming the dated notion of the 'digital divide' in the global conversation about technology and social inclusion. Given that digital participation can increase social participation (and vice versa), it is important to explain what we mean by social inclusion, thereby more fully articulating the depth of impact digital inclusion (and digital exclusion) has in the community.

The United Nations Department of Economic and Social Affairs (DESA, 2009) defines social inclusion as "a process by which efforts are made to ensure equal opportunities for all, regardless of their background, so that they can achieve their full potential in life. It is a multi-dimensional process aimed at creating conditions which enable full and active participation of every member of the society in all aspects of life, including civic, social, economic, and political activities, as well as participation in decision-making processes" (p. 5).

Gidley et al. (2010) further capture the multifaceted nature of social inclusion by suggesting it "can be understood as pertaining to a nested schema regarding degrees of inclusion. The narrowest interpretation pertains to the neoliberal notion of social inclusion as access; a broader interpretation regards the social justice idea of social inclusion as participation; whilst the widest interpretation involves the human potential lens of social inclusion as empowerment" (pp. 6–7). Supporting the latter interpretation, and in the Australian digital inclusion context, Warburton et al. (2014) state that social inclusion is "foundational to wellbeing, generated through active and effective participation in economic, social, political and cultural life" (p. 480).

An Australian study of technology in low-income families demonstrates the inextricable link between social inclusion and digital inclusion. Yelland and Neal (2013) collected data on the participation of disadvantaged students and families in digital activities via the Smith Family's Tech Packs program over a period of three years. This program provided low income families with a reconditioned computer, some basic training and an internet connection. Contextualised in the theory of social inclusion, the study holds up social inclusion as evidence of success in such programs. The study identified three ways that participation increased through social activities via technology, namely connecting with society, increased social opportunities, and using technology in new ways. Participants in the Tech Packs program reported feeling less socially isolated, more positive about communicating digitally both locally and globally, and an improvement in their family relations (Yelland & Neal, 2003, p. 146).

3.1.3 Digital inclusion in Australia

Digital inclusion in Australia has been defined as "the capability of individuals or groups to enjoy the benefits of being online and use technology confidently to improve their day-to-day lives" (Good Things Foundation, 2018). This definition emphasises the entwinement of technology with everyday life; indeed, it is almost impossible to participate in modern society without being online. In line with the established link between digital inclusion and social inclusion, the Australian Government argues "digital inclusion has the potential to support and improve the quality of life for some of the most disadvantaged and excluded in our community" (Dept. Industry, 2018, p.18). Finally, the Australian Digital Inclusion Index (ADII) – the most comprehensive snapshot of digital inclusion in Australia - concludes that while access, affordability and digital ability in Australia are improving, progress is slow and digital inclusion in Australia continues to be impacted by geographical and socio-demographic factors.

The ADII (2016, 2017, 2018) is a census-like survey of digital inclusion in Australia, and positions social and economic participation at the heart of digital inclusion (Thomas et al., 2018, p. 7). The ADII considers *Access* (internet access, internet technology, internet data allowance), *Affordability* (relative expenditure, value of expenditure), and *Digital Ability* (attitudes, basic skills, activities) to be the three pillars of digital inclusion. These pillars, or measurements, provide data that determine Australia's national, state and territory digital inclusion scores.

Australia's socially and economically disadvantaged populations are also the most digitally excluded. Table 2 below summarises some results from the 2018 study. It shows that low-income earners, older people, people with a disability, the unemployed or under-employed, Indigenous Australians and those with low levels of education have an ADII score below the national average, even though there has been improvement over the past 12 months (Thomas et al., 2018, p. 15).

Rank	Select Demographic	ADII Score	Points change since 2017
1	Household Income Q5 (Under $35k)	41.3	+1.3
2	Mobile Only	42.7	+1.2
3	Aged 65+	46.0	+2.3
4	Less than secondary education	47.4	+2.0
5	Disability	49.2	+1.2
6	Household Income Q4 ($35k-$60k)	51.3	+1.6
7	Not in labour force	52.0	+2.1
8	Indigenous Australians	54.4	+3.4
9	Age 50-64 years	58.1	+2.7
10	Completed Secondary	58.3	+2.9
	Australia	**60.2**	**+2.2**

Table 2. ADII Ranked scores for groups with low digital inclusion (Thomas et al., 2018, p.15)
Source: Roy Morgan, April 2017 – March 2018

Furthermore, ADII data suggests while there is "increasing interest in having continuous internet access, [Australians] struggle to keep up with new technologies, and relatively few users engage in more advanced activities. This suggests scope to further improve Digital Ability" (Thomas, et al., 2018, p. 12). Accordingly, there is a need to understand how digital ability can be improved in communities. We explore this concept in the next section, then investigate the important role digital mentors play in helping people to improve their digital ability.

3.2 What is digital ability?

Digital ability, which incorporates people's digital skills and knowledge and how they put these into practice, is an important element of digital inclusion. The term 'digital ability' has been used interchangeably with, and has evolved from, concepts such as information literacy (Jackman & Jones, 2002), eLiteracy (Martin, 2003), and digital literacy (Katz, 2005; Lankshear & Knobel, 2006, 2008, 2011). It has also been informed by digital competence (Calvani et al., 2008; Ilomäki et al., 2016) and digital participation (Mossberger, Tolbert & McNeal, 2007; Dezuanni, Foth, Mallan & Hughes, 2018).

Digital literacy is perhaps most closely aligned to digital ability. However, the term 'digital literacy' can prioritise users' ability to process information and perform digital tasks per se (Gilster, 1997; Castilla et al., 2018) over specifying what these tasks enable people to do in real life. Accordingly, digital ability programs that focus primarily on digital skills often neglect social aspects of digital engagement, and gloss over the interconnectivity that digital capabilities can enable. Often, there is emphasis on technical skills at the expense of a more holistic approach to understanding and assessing digital ability.

Lankshear and Knobel (2006, 2008) problematise digital literacy by suggesting a more socio-cultural lens be applied to the concept. They propose that digital literacy should *not* be considered finite (or a set of) skills and competencies, but rather,

> "as shorthand for the myriad of social practices and conceptions of engaging in meaning making [moreover] these vary according to how people identify themselves: that is, according to the values they have, the social groups they relate to, the affinities they invest in and attach themselves to, the purposes they see themselves pursuing, the kinds of images they seek to project, and so on." (Lankshear and Knobel, 2006, p. 17)

While this view of digital literacy is similar to the concept of digital ability, Dezuanni et al. (2018, p.1) note it is increasingly recognised that technical skills in singular aspects of life do not automatically result in increased or expanded social mobility.

The ADII describes digital ability as "our skill levels, what we do online, our attitudes towards technology, and our confidence using it" (Thomas et al. 2018 p.11). According to the ADII, digital ability has three components:

- ▶ *Attitudes,* including notions of control, enthusiasm, learning, and confidence
- ▶ *Basic Skills,* including mobile phone, banking, shopping, community, and information skills
- ▶ *Activities,* including accessing content, communication, transactions, commerce, media, and information. (Thomas et al., 2016, p. 7)

How different people score on these sub-indexes (i.e. attitudes, basic skills, activities) differ according to specific criteria. For example, the 2016 ADII revealed gender differences regarding attitudes towards learning about new technologies (Thomas et al., 2016, p. 9); whereas the 2017 ADII demonstrates significant gaps between low- and high-income households (Thomas et al., 2017, p.13). Such broad variations reflect the spectrum of differences in Australians' digital abilities, suggesting the capacity to be flexible and open to interest-driven learning within digital ability mentoring programs is essential. In addition, the effectiveness of digital ability programs could be bolstered by mentors and their organisations adopting a socio-technical understanding of digital ability. Here, the mentor's role in supporting people to develop digital ability is viewed as a partnership that addresses individual social and cultural needs, along with relevant technical skills.

In sum, digital ability should be viewed as a variable range of capabilities (skills, knowledge and connections) constituting what it means to be literate in particular social and technological contexts. Accordingly, it is the mentor's role to guide mentees to acquire digital skills that matter to them and make a difference to their lives at home, at work and in the community.

3.3 What is digital mentoring?

In our search we have found the term digital mentor to be conflated with virtual mentor or e-mentor, i.e. people who provide mentorship of any kind (e.g. personal development, writing, musicianship, and so on), via information and communication technologies. This is significantly different to digital mentor, which we define as a role that focuses on assisting others to improve their digital ability. Accordingly, we concentrated our literature review on general mentorship theory and its applicability to digital contexts.

3.3.1 A theoretical overview of mentoring

Literature about mentoring covers a multitude of definitions and types of mentoring, including formal mentoring, to sponsorship, coaching, peer mentoring, collaborative mentoring and more (see SAGE Handbook of Mentoring, 2017). Furthermore, we found various synonyms for mentee such as trainee, protégé, learner and student.

Mentoring is stereotypically understood as a relationship between an older, experienced person mentoring a younger, less experienced person. Furthermore, it is often understood to involve a knowledge- or skill-holder providing guidance to a person wanting to acquire knowledge or skills. In both cases, there is an implied hierarchical relationship between mentor and mentee. Megginson et al. (2005) consider this kind of hierarchical approach as 'sponsorship mentoring', and compare it to 'developmental mentoring' as shown in Table 3 below.

The mentor is more influential and hierarchically senior.	The mentor is more experienced in issues relevant to the mentee's learning needs (perhaps life in general).
'The mentor gives, the protégé receives and the organization benefits' (Scandura et al, 1996).	A process of mutual growth.
The mentor actively champions and promotes the cause of the protégé.	The mentor helps the mentee do things for him or herself.
The mentor gives the protégé the benefit of his or her wisdom.	The mentor helps the mentee develop his or her own wisdom.
The mentor steers the protégé through the acquisition of experience and personal resources.	The mentor helps the mentee towards personal insights from which he or she can steer his or her own development.
The primary outcome or objective is career success.	The primary outcome or objective is personal development, from which career success may flow.

SPONSORSHIP	DEVELOPMENTAL
Good advice is central to the success of the relationship.	Good questions are central to the success of the relationship.
The social exchange emphasises loyalty.	The social exchange emphasises learning.

Table 3. Sponsorship versus developmental mentoring (Megginson et al., 2005, p. 17)

Developmental mentoring places emphasis on "personal development and collaborative enquiry as a route to empowering people to achieve their own career and other goals" (Megginson et al, 2005, p. 253). Developmental mentoring tends to rely on trust and openness between mentor and mentee, and is non-directive (Clutterbuck, 2004; Manning & Hobson, 2017, p. 575-6). That is, the mentee sets goals and aims rather than being reliant on instructions from the mentor.

In Manning and Hobson's (2017) comparative study of judgmental and developmental mentoring in student-teacher and teacher-mentor relationships, it was evidenced that mentors preferred a developmental (and therefore open and empowering) approach, but weren't necessarily implementing this approach in practice. Mentees provided mixed preferences for both judgmental and developmental mentoring, or felt they received judgmental mentoring when the mentor stated they were providing developmental mentoring. Manning and Hobson conclude (2017, p. 590) "whilst mentoring is often dichotomised as developmental or judgmental, in practice mentors might take advantage of the benefits of each approach, suitably adapted to the individual development needs and dispositions of particular mentees." Such research presents a clear need for adaptable approaches to mentoring, as well as effective communication between mentor and mentee regarding goals, expectations and methods.

Studies in mentoring have also considered the significance of diversity in mentoring relationships. For example, Ragins (2002, p. 24) defines 'diversified mentoring relationships' as "comprising mentors and protégés who differ on the basis of race, ethnicity, gender, sexual orientation, class, religion, disability or other", and suggests that power relations can sometimes come into play and impact mentor-mentee relationships. Other models of mentoring recognise reciprocal processes between mentor and mentee (see Savic et al., 2016; Eby et al., 2010; Ambrosetti & Dekkers, 2010). What is particularly important for our purposes is mentoring that democratises the relationship between mentor and mentees, considers social and emotional aspects of the relationship; and how these attributes shape goals and attitudes to learning.

An increasing number of researchers are considering social aspects of mentoring (Opengart & Bierema, 2017). For example, Wu, Turban, and Cheung (2012) determine that the social skills of both mentors and mentees affect the success of the mentoring relationship. Opengart and Bierema (2017) propose 'productive mentoring': a mentoring approach that integrates emotional intelligence. The authors note "that many aspects related to emotional intelligence, including mutual respect, trust, social awareness, self-awareness, social skills, confidentiality, common expectations, honesty, equality, and political astuteness (Clutterbuck, 2004; Hansman, 2002; Murphy and Kram, 2014), are critical to interpersonal functioning and a successful mentoring relationship" (Opengart & Bierema, 2017, p. 280).

In addition, productive mentoring provides a "mutually beneficial relationship that results in learning and development for both protégé and mentor… [this] experience improved emotional and social skills as a result of the relationship, and the mentoring becomes a powerful influencer of thought and action" (Opengart & Bierema, 2017, p. 285). The model includes skills such as perceptiveness, understanding, emotional management, role modelling, and trust building. While this type of mentoring, and many others, are imagined to be enacted in a workplace for career advancement, the social aspects of productive and developmental mentoring are connected to digital mentoring in community contexts, particularly as it is situated within digital inclusion.

3.3.2 Digital mentors and digital mentorship

In light of these perspectives, we propose the following more comprehensive conception of a digital mentor before reviewing the concept in more detail.

A digital mentor is someone who *partners* with a mentee in *safe* learning environments to develop digital ability by fostering *confidence* and competence in technological skills and making meaningful social, cultural and economic *connections* online.

Our literature review revealed that most uses of the term digital mentor exist within grey literature or training guides.

The Digital Skills Observatory (de Raynal & Richtor, 2016) asserts that mentor-mentee informal conversations about devices lead to more organic and positive learning experiences. Unlike a "formal teaching setting, where the curriculum is heavily structured and driven by an authority figure" as is often found in tradition digital literacy skills programs (de Raynal & Richtor, 2016, p.118), informal mentoring is more likely to expose digital contexts relevant to learners. Effective digital mentors understand that digital inclusion and social connection are two sides of the same coin; they help others to build their own social networks and participate in civic life through digital skills development.

Castilla et al.'s (2018, p. 25) report on the use of Information Comm.inication Technologies (ICTs) and social networks by elderly persons in rural Spain suggests that online activities offer ways of consuming information that require "the involvement of different cognitive processes from those involved in linearly reading traditional media (e.g. textbooks, journals, etc.)." (p.25). Therefore, in the typical experience of elderly persons, a more nuanced and tailored approach to digital literacy training is required. The study further suggests that open and flexible training methods result in an increased:

Sense of ability and interest in ICTs in general, and how the use of ICTs extended beyond the limits of the social network, […] producing a social impact on the physical reality of the [training] center, improving functioning between participants and breaking down existing social barriers (cultural and economic) (Castilla et al., 2018, p. 34).

Other digital mentoring programs also emphasise social networks and connections. In the UK, a study on digital leader initiatives in schools reported that students who shared their digital technology expertise with other students, as well as teachers and school managers, became active contributors to their community and their educational systems (Passey, 2014). While both mentors and mentees benefitted from the programs, Passey emphasises that this form of intergenerational mentoring requires "clear project intentions and aims, a monitoring and feedback process, and accepted intentions and aims managed through project leaders" (2014, p. 476).

Managing both physical and digital resources, and communicating both online and interpersonally, also complicates the digital mentor-mentee relationship. Savic et al. suggest digital environments, particularly in social media, provide opportunities for more complex mentor-mentee relationships. They argue, for example, young peoples' familiarity with social media often results in family members, parents and children "involved in ongoing, complex conversations and negotiations about expertise […] challenging traditional roles and suggesting the need for cooperative processes" (Savic et al., 2016). Digital mentorship is similarly complex and cooperative processes are needed.

A unique example of cooperative processes is *'What's ya story?'*, a workshop held in 2014 that designed and tested a digital storytelling app in collaboration with Aboriginal youth and their personal mentors from Korin Gamadji Institute (Edmonds, et al., 2014). The app was anticipated to be used by Aboriginal youth, and by working with communities with culturally appropriate digital resources, the program illustrated the importance of socially and culturally relevant contexts for enabling digital inclusion. Furthermore, the co-creative and collaborative approach with trusted mentors allowed the participants to create digital content and gain skills in a meaningful way.

In another Australian study, Lankester, Hughes and Foth (2018) applied a connected learning ecology framework to study various digital participation activities designed to increase knowledge, skill and use of digital technologies in Townsville, Queensland. They suggest:

As ecology, connected learning links people, places and resources across the community (Bilandzic, 2016). It fosters social, self-directed and collaborative learning. It is 'diversified and spread across digital and physical spaces' (Caldwell et al., 2012, p. 15) that include homes, schools, neighbourhoods and digital spaces. Intrinsically motivated communities of social learners, who share diverse capabilities for purposeful outcomes, populate the ecology (Lankester, Hughes & Foth, 2018, p. 144).

Using this approach to encourage digital participation and learning, the authors revealed the importance and impact of social interaction in technical arenas – that is, conversation, sharing ideas, trust building, and collaboration – on confidence, participation and motivation.

Taking our point of departure from the above-outlined understandings of (digital) mentoring as being embedded in socio-cultural contexts, processes, relationships and content, we propose digital mentorship is a unique relationship between mentor and mentee. It requires empathy, active listening, patience, and a tailored approach by the mentor to create a safe environment for the mentee to develop trust and take risks. To be successful, digital mentoring relationships also need to consider contextual environments, individual needs, and the meaningfulness of the digital media and technologies. As such, digital mentorship is most fruitful when facilitated by programs in well-resourced and supportive organisations that collaborate with each other, and participants, across the community. *The Digital Mentor's Handbook* emphasise these aspects, drawing on a broad range of resources that span across disciplines, making it relevant and useful to many people in the community.

3.3.3 Impact of digital mentoring

As with any digital inclusion intervention, it is important to assess the effectiveness of digital mentoring in the community. We know that mentors can make key contributions to the uptake of digital technologies, expanding digital ability, and thus improving digital inclusion. However, there are few resources available for evaluating effectiveness of digital ability programs, and even fewer for measuring impact of digital mentoring.

A notable exception is *The Global Kids Online Research Toolkit* (2018), which offers a useful understanding of *impact*. Suggesting that societal and economic impact can be unpredictable, often with substantial time-lag, the authors "believe that it is possible to capture 'intermediate outcomes' or 'pathways to impact' that signpost plausible longer-term impacts." This is relevant to digital mentoring in that mentors, with support from their organisations, can actively gather and implement feedback to incrementally improve their practice over time.

Broadening the review of evaluation tools for digital ability programs revealed a particularly helpful framework from the discipline of digital health intervention. The Collaborative Adaptive Interactive Technology framework (O'Grady et al., 2009; White, 2016) proposes formative, summative, and outcome evaluation indicators for five themes:

- ▶ People – the users and stakeholders
- ▶ Content – information and content
- ▶ Technology – the technology used to develop and maintain the program
- ▶ Computer-mediated interaction – the interaction between the user and the technology, and how the technology supports interaction between users
- ▶ Integration – how the program interacts with and impacts the broader health system.

In the context of community-based digital mentoring, this framework could be adapted to lead mentors and their organisations to evaluate the digital mentoring practice from several perspectives:

- ▶ People – the participants, facilitators and organisations
- ▶ Content – learning goals, program plans or curriculum
- ▶ Technology – devices, software, platforms and internet connection
- ▶ Community – how programs interact with and impact the community.

3.4 Digital mentoring in Australia

There are several organisations driving digital mentoring programs in Australia, ranging from government-funded organisations to local community groups.

Be Connected is an Australian Government initiative that aims to develop digital skills, confidence and to promote online safety of older Australians in digital environments. It provides a broad range of resources for individuals hoping to increase their knowledge and skills online, as well as materials for mentors and organisations hoping to develop digital ability in their local communities. Organisations interested in mentoring digital ability are linked through the Be Connected Network, which is coordinated by *Good Things Foundation*. Mentoring opportunities are made available via this network of Be Connected Partners, who "all share a passion for digital inclusion".

Leep is an Non-Government Organisation (NGO) focused on digital inclusion programs for the "one in five" Australians who are not online. They contend that "competence-based mentoring programs underpinned by social inclusion is crucial for developing successful mentor-mentee relationships, as well as increasing motivation and confidence in mentees to acquire digital skills" (Leep, 2018). They offer free, BYOD (Bring Your Own Device), one-on-one digital mentoring sessions through their Sydney-based network.

GoDigi, an initiative of Infoxchange and Australia Post, is also heavily contextualised within digital inclusion, stating one of its main aims is to "make digital inclusion part of the national conversation". Go Digi defines becoming a mentor as "taking a pledge to help others". Its programs are aimed at developing digital literacy, particularly in the following communities: ageing community members, regional and remote communities, culturally and linguistically diverse communities, Indigenous communities, and small businesses (Go Digi, 2018).

Australian Seniors Computer Clubs Association (ASCCA) is an Australian representative body for seniors and technology. ASCCA's mission is to "assist clubs to educate seniors in using computer technology to enrich their lives and make them more self-reliant". While they are based in Sydney, ASCCA has over 140 computer clubs across Australia. ASCCA have three 'development kits' available to assist digital mentors (called 'trainers') set up their own computer clubs. These kits include suggested policies for members and trainers, appropriate teaching methods, and characteristics of adult learners and learning environments. ASCCA computer club trainers (digital mentors) are well-supported by governance structures, resources, and opportunities to connect with each other (e.g. monthly newsletter and annual national conference).

Lively in a not-for-profit organisation that matches young people with older Australians so they can learn from each other. Based in Melbourne and now expanding into Queensland, Lively's aim is to "create meaningful work opportunities for young job seekers, spending time with older people and helping them learn how to use technology to stay connected". Lively's young digital mentors (called 'helpers') visit older people and help them to access technology and learn 'basic' skills; they also build friendships with older people and learn from their life experiences. In this way, Lively positions digital mentoring as a two-way partnership between young and old for mutual benefit.

The Smith Family is a national, independent children's charity helping disadvantaged Australians to get the most out of their education, so they can create better futures for themselves. They have several technology and mentoring programs, including taking Tech Packs into low income households and peer digital mentoring for school aged students. The Smith Family takes a research and evidence-based approach to their work, and fosters mentoring relationships between peers (e.g. the *student2student* program), within families, and between children and volunteers.

Queensland Government, Department of Housing and Public Works has several digital inclusion initiatives. As part of its program of work to build a Queensland Digital Inclusion Network, Queensland Government is delivering the GetOnlineQld program. This program recruits volunteer digital mentors to provide face-to-face support, either one-on-one or in small groups, to help others learn how to use digital technologies such as smartphones, tablets, computers or laptops. Through Volunteering Queensland, Queensland Government has made resources available to digital mentors, including strategies for coaching and mentoring, and volunteer management.

Finally, the *Australian Government Office of the eSafety Commissioner* provides mentoring resources to individuals, businesses and institutions involved with digital inclusion. This office "is committed to empowering all Australians to have safer, more positive experiences online. The Office was established in 2015 with a mandate to coordinate and lead the online safety efforts across government, industry and the not-for profit community" (eSafety, c2018). Resources available on the eSafety website pertain to parents, educators, business leaders and community workers, all of whom take on mentoring roles in their communities. For example, the iParent portal has a guide to online safety for pre-school children suggesting that parents explore and learn alongside their children, thereby promoting an equitable mentoring relationship (eSafety, c2018).

Other programs which contribute to digital inclusion in Australia include *Digital Springboard* (a joint initiative of Google and Infoxchange) and *Tech Savvy Seniors* (a partnership between Telstra and state governments of New South Wales, Queensland and South Australia). Both offer online courses, focusing mainly on job seekers and older Australians, respectively. Both these programs involve engagement of local partners to deliver course materials. Accordingly, the role of digital mentors involved in these programs is recognised as being critical to the success of these programs, however we did not find any freely available resources for digital mentors available online.

Having established the main organisations in Australia who are contributing to the national effort to improve digital ability through digital mentoring, we now review the specific online resources available to digital mentors. Comprehensive mentoring resources that are situated within digital inclusion and focus on digital ability are an essential part of successful mentor-mentee programs.

3.5 Review of digital mentoring resources

Our review of existing digital mentoring resources included national and international programs. We expanded our search beyond digital mentoring programs to include programs for teaching digital skills, training in technology, digital learning, and digital literacy. Many programs were identified, but not all the associated resources were publicly available online; some programs provided resources for mentors for in-class use but no explicit training for becoming a mentor. Other limitations to our review included: eligibility assessments (often based on location and/or organisation affiliation), and registration and logins. For example, Digital Springboard requires organisational registration as a 'delivery partner' before access is provided to training and curriculum materials.

Additionally, few digital mentoring resources incorporate the concept of digital inclusion, and fewer still use the concept digital ability. Primarily they focus on developing digital equity, digital skills, and digital literacy. While all agree that technology is a necessity in modern life, the use of the word technology is used broadly, and the resources rarely distinguish or recognise the different skills (and challenges) attached to mobile vs desktop devices, for example. In their research, the San Francisco Digital Equity Group (SFDEG) found that:

> "Smartphones do not bridge digital literacy gaps: While smartphones are now nearly ubiquitous, many participants who own smartphones continue to lack the digital skills to fully utilize them. Owning the device is not enough – digital literacy is still required." (SFDEG 2018, p.18)

Bearing this in mind, SFDEG's *Digital Equity Playbook* suggests options for teaching the different skills needed for these devices.

A commonality among the resources is an identification of challenges faced by many learners - affordability and access most frequently sighted. Be Connected's *What is a digital mentor?*, for example, cites: access, expense, safety concerns, low confidence, and lack of interest and motivation as common barriers to getting online. A further, unique insight offered by the Digital Equity Playbook is that digital skills require organisational skills:

> "Learning to use technology requires the ability to organize information, which some participants seemed to lack. Many workforce clients had trouble keeping track of login information and the various technology tips they received from job coaches. This was especially difficult for a workforce client who had a learning disability. Without the ability to keep track of information, technology skill acquisition becomes more difficult and frustrating." (SFDEG, 2018, p. 19)

These examples of digital mentoring resources, along with others reviewed above, engage with personal and social aspects of the mentor-mentee relationship, touching on the importance of social inclusion and its place in digital ability mentoring programs.

How to Be a Digital Mentor (Be Connected, 2018)

This website has two components: 1) an online introduction titled 'What is a digital mentor', which identifies the benefits of becoming a digital mentor, common barriers to getting online, and importantly, emphasises how language and terminology heavily impact mentees' confidence and skill development. It further discusses different ways of learning, and the examples of mentor-mentee relationships demonstrate the significance of interest-based learning. 2) a 'How to be a digital mentor' quiz – which offers seven different learner scenarios and require mentors to select the most appropriate response. This broaches ethical and sensitive issues related to disability, mental health, and general literacy.

Being a Digital Mentor: Resource Pack (Be Connected, 2018)

This Digital Mentor Handbook provides an overview of the core qualities needed by digital mentors in order to support people building digital skills. It emphasises empathy and compassion, as well as diversity, and boundaries. Its definitions and overview provide a succinct and inclusive introduction to digital mentors.

Mentor Training – Go Digi

Go Digi resources for mentors accentuate the social aspect of mentoring. Their guides (videos and transcripts) for mentor training are described at four levels, each determined by social skills required to be an effective mentor. The Level One guide for example, states "A good mentor is a good listener." The four levels are:

Level 1. Inspire: Learn how to inspire someone to jump online and try something new.
Level 2. Support: Learn how to support someone to learn digital skills.
Level 3. Direct: Learn how to direct someone to other learning opportunities.
Level 4. Lead: Learn how to lead in your community to help others learn digital skills.

Leep Digital Inclusion: Digital Mentoring (Leep 2018)

This program is situated under Leep's Digital Inclusion umbrella, and is based on the premise that "digital inclusion isn't about technology, it's about people." Leep, and their volunteer digital mentors

support community organisations and businesses to set digital inclusion mentoring programs; as well as offer face-to-face and remote learning. Their Digital Mentoring Toolkit (2017) (see Table 4), includes a webinar and extensive resources for defining digital mentoring, expectations of digital mentors, as well as in-session forms and training materials. Furthermore, their Digital Mentoring: An Introduction (2018) is a 9-page is an induction resource for the position of Outreach Digital Mentor. It describes mentors' core qualities as basic digital literacy, empathy, and patience; it also provides tips and hints on starting a conversation, boundaries and privacy, and mentors responsibilities.

Digital Equity Playbook v.1 (San Francisco Digital Equity Group, 2018)

The Digital Equity Playbook was designed around socio-economic data specific to the San Francisco area, which has resulted in targeted resources for agencies issuing digital mentoring programs. The Playbook is based on San Francisco residents' engagement with technology, and access needs, and is informed by digital literacy experts. The toolkit is extensive, and identifies free internet access points throughout the city (such as libraries); low-cost digital equipment and internet service providers; and includes information on digital assistive technology. It emphasises the basics, leveraging free resources, and provides worksheets, assessment tools, and maps of available resources in San Francisco. The Playbook project was led by the Committee on Information Technology's *Digital Inclusion Officer*.

Helping Rural Business Thrive: A Toolkit for Supporting Rural Business with Digital Skills – Good Things Foundation UK

This guide introduces the concept of Rural Enterprise Champions (REC) who support rural businesses to develop digital skills and transition to digital platforms. It focusses on the role of RECs, what works and what to be aware of, as well as what programme delivery partners wish they had known at the beginning of the project. The toolkit emphasises patience; communication; and, networking, particularly with local authorities and organisations to deliver programs. It directs RECs to existing online tools that they may walk learners through (i.e. small business owners), including Learn My Way, Ninite, Buffer, Hootsuite and Facebook. It is a unique toolkit that targets the needs of a specific group of users. Its recommended resources are complex, require a high level of skill, and assume knowledge and skills in social networking and general website use.

Cyber Seniors Start-Up Manual – Cyber Seniors, UK

This manual is aimed at organisations who are implementing programs for seniors to develop digital skills and bridge the digital divide. It is intended to be flexible and able to be used in large group situations or in one-on-one mentoring sessions. Joining the Cyber Seniors program provides access to a mentor training program, as well as a mentor 'handbook' and confidentiality agreements. It outlines how to seek out learners and potential partners for mentoring programs, how to conduct information sessions for mentees, and detailed schedules for classes. There is also a participant's handbook that provides detailed schedules and plans for establishing programs.

See Table 4 below for a sample of practical tools found online.

AUSTRALIA				
Tool name	**Mode of Delivery**	**Organisation/Creator**	**Social context for delivery**	**URL**
How to Be a Digital Mentor	Online (requires login)	Be Connected	Individuals, 'at risk' people, seniors	https://beconnected.esafety.gov.au/topic-library/network-members/digital-mentor
Being a Digital Mentor: Resource Kit	PDF	Be Connected (for: Leep and Good Things Foundation)	Local communities	https://leep.ngo/wp-content/uploads/2018/03/Resource-Kit-Being-a-Digital-Mentor.pdf
Digital Discovery: Guide for Mentors	PDF/Online	Australia Post / Deakin University	Local communities	https://auspost.com.au/content/dam/auspost_corp/media/documents/digital-discovery-mentors-guide.pdf
Digital Mentoring: An introduction	PDF/Online	Leep (2018)	Local communities	https://leep.ngo/wp-content/uploads/2018/12/Digital-Mentoring-Information-Pack.pdf
Digital Mentoring: A Toolkit	PDF/Online/Video	Leep in Network (Raj, 2017)	Local communities	https://leep.ngo/wp-content/uploads/2017/08/Digital-Mentoring-Toolkit.pdf https://leep.ngo/digital-mentor-whats-involved/ (webinar)
Trainer Guides	PDF	Telstra	Seniors (available in some states)	https://www.telstra.com.au/tech-savvy-seniors
Mentor Training	Online/Video	Go Digi	Family, friend, workmate	https://www.godigi.org.au/mentorstraining
iParent	Portal	eSafety Commission	Parents, families, educators	https://www.esafety.gov.au/education-resources/iparent

INTERNATIONAL				
Tool name	**Mode of Delivery**	**Organisation/Creator**	**Social context for delivery**	**URL**
Digital Equity Playbook v.1	PDF	San Francisco Digital Equity Group	Local organisations who serve vulnerable populations (USA)	https://sfcoit.org/sites/default/files/2018-04/Digital%20Equity%20Playbook%20v1.pdf
Guidance on Becoming a Digital Technology Role Model or Mentor for Girls	PDF	Digital Scotland	Secondary-school female students (Scotland)	https://www.ourskillsforce.co.uk/media/2367/guidance-mentoring.pdf
Helping Rural Business Thrive: A Toolkit for Supporting Rural Business with Digital Skills	PDF	Good Things Foundation	Local businesses (UK)	https://www.goodthingsfoundation.org/sites/default/files/research-publications/princes_countryside_fund_toolkit_0.pdf
Cyber Seniors Start-Up Manual	PDF	Cyber Seniors	Seniors (UK)	https://my.cyberseniors.org/pdfs/Cyber-Seniors-Start-Up-Manual.pdf

Table 4. *Sample of online national and international digital mentoring resources*

3.6 The future of digital mentoring

It is well documented in the literature that digital technology has the potential to reduce social and economic disadvantage in vulnerable cohorts by facilitating social connection (Michaels, 2016). However, the positive impact digital ability (comprised of skills, knowledge and connections) can have on social, cultural and economic connections is not always clear to mentees or mentors. Accordingly, it is important that social inclusion be inherent in community digital mentoring programs. Digital mentors should be encouraged to take a socio-technical approach to support skill development in their mentees that are relevant and useful in everyday life.

To summarise, our research shows that digital mentors can effectively foster digital ability in community contexts by:

- ▶ Creating welcoming spaces for learning
- ▶ Motivating people to learn about technology
- ▶ Building confidence in participants
- ▶ Helping people to set meaningful goals for themselves
- ▶ Making technology fun and accessible to individuals and groups
- ▶ Teaching digital skills with relevance to everyday activities
- ▶ Practising and fostering ethical and safe digital activity
- ▶ Catering to people with diverse backgrounds, identities and abilities.

4. Co-Design methodology

Our approach to developing further understandings of effective digital mentoring was informed by a co-design methodology. While co-design originated as a methodology for product design, it has been applied to social contexts. See, for example, Dezuanni, Foth, Mallan and Hughes' (2018) publication *Digital participation through social living labs: Valuing local knowledge, enhancing engagement*.

For this project, we adopted Ingrid Burkett's 'co-design for social good' methodology (2016), which has five key principles:

1. Person-centred
2. Starts with a desired end
3. Draws on many perspectives, people, disciplines and sectors
4. Makes ideas, experiences and possibilities visible and tangible
5. Focused on practical real-world solutions.

These principles were applied to our data collection in community contexts. For example, during mentor workshops we put the mentor-mentee relationship at the centre of discussions with a wide range of participants from various sectors. The co-design philosophy is also present in the main outputs of this research: *The Digital Mentor's Handbook*.

4.1 Data collection

Our data collection took place across three locations (Melbourne, Sydney and Brisbane) between July 2018 and March 2019. Workshop participants and discussion groups were comprised of community organisation members and volunteer digital mentors.

Key stakeholders and participants

Key stakeholders were drawn from the networks of Australia Post and QUT, both of which are founding members of the Australian Digital Inclusion Alliance (ADIA). We partnered with various organisations with diverse membership, including older Australians, young people, people living with a disability, low income households, and regional Australians. To recruit participants for the workshops and interviews, leaders from the partner organisations nominated front line digital mentors. Mentors were principally recruited from the following organisations:

- ▶ Australian Library and Information Association (ALIA)
- ▶ Australian Seniors Computer Clubs Association (ASCCA)
- ▶ Infoxchange
- ▶ Lively
- ▶ Neighbourhood Houses Victoria
- ▶ Queensland Government, Department of Housing and Public Works
- ▶ Tatura Community House.
- ▶ The Smith Family
- ▶ Yarra Libraries

We collected data through a variety of activities, including workshops, discussion groups and conferences. The full list includes:

1. Participation in Australia Post's Digital Discovery Debrief and Review session, Melbourne (August 2018)
2. Facilitation of Digital Mentor Workshop 1 at Sydney Mechanics School of Arts, Sydney (September 2018)
3. Facilitation of Digital Mentor Workshop 2 at Fitzroy Library, Melbourne (October 2018)
4. Presentation/stall at Australian Seniors Computer Clubs Association (ASCCA) Conference at Rydges World Square, Sydney (October 2018)
5. Interview with representative of Tatura Community House (October 2018)
6. Interview with representative of LifeTec (February 2019)
7. Facilitation of Digital Mentor Workshop 3 at QUT Kelvin Grove, Brisbane (March 2019)
8. Various face-to-face and online feedback sessions with Australia Post throughout the project.

We now provide further details of the most significant data collection activities, including key findings from each.

4.1.1 Workshop 1

Workshop 1 took place in Sydney in September 2018. ASCCA trainers, representatives of The Smith Family, and representatives from libraries engaged through the Australian Library and Information Association (ALIA), attended the workshop. It focused on gaining insight into the motivations and needs of digital mentors who, in this group, were mostly seniors who volunteer in local computer clubs. We explored contextual factors that impact mentors' capacity to train others, including technology, funding, organisational resources and broader community support. Finally, we asked digital mentors about the process of mentoring and what mentors do at each stage of planning, implementing, culminating and reviewing.

Key findings

1. There are several characteristics and approaches that are common to effective mentors. Effective mentors:

  ▶ Are empathetic, patient, kind, enthusiastic, generous, positive and curious
  ▶ Expect that understanding the learner's needs is an ongoing process
  ▶ Commit to ongoing learning themselves, including keeping up to date with technology
  ▶ Try to ensure people leave sessions happier than when they arrived
  ▶ Seek feedback and receive it graciously, and actively work at improving their digital mentoring approach.

2. Creating a safe, non-threatening space for learning is critical. This can be achieved by:

  ▶ Supplying tea/coffee
  ▶ Running ice-breaker activities
  ▶ Taking a relaxed and flexible approach to the curriculum (where there is one)
  ▶ Fostering well-being and self-esteem through digital participation.

3. Effective mentoring occurs within strong mentor/mentee relationships, which can be fostered by:

  ▶ Matching skills and interests of mentor and mentee
  ▶ Recognising the mentor/mentee relationship as a two-way street, with both parties learning from each other during the digital mentoring interaction
  ▶ Making learning and volunteering fun
  ▶ Organisations 'looking after' mentors so that they can support mentees.

4. Learning needs to be driven by interests and needs, not by technology. This can be achieved by:

- ▶ Talking to people about their hobbies
- ▶ Helping people to identify things they already do using technology (that they might not be aware of) and how the skill might be applied elsewhere
- ▶ Helping mentees set goals to do something useful with technology (e.g. accessing bus timetables)
- ▶ Presenting learning objectives in scenarios, rather than a tick box list of competencies.

4.1.2 Workshop 2

Workshop 2 took place in Melbourne in October 2018. It was attended by Lively trainers and representatives from Yarra Libraries, Neighbourhood Houses Victoria, Infoxchange and The Smith Family. It focused on diving deeper into insights garnered from Workshop 1. Specifically, we workshopped how digital mentors can:

- ▶ Best understand mentee's motivations and existing skills
- ▶ Empower learners to feel confident with technology
- ▶ Track mentee progress
- ▶ Leverage connections and resources in their organisations and local community.

We concluded with a 'kite-flying' exercise asking mentors what they would love to see in the digital inclusion space if resources were not an obstacle.

Key findings

1. Mentoring can be enormously gratifying. Digital mentors enjoy seeing their mentees experience a 'lightbulb' or 'eureka' moment when they see how technology could help them, and feel enabled and capable. Equally, mentoring is challenging. The tough work that mentors do needs to be recognised, with tools provided to support them.

2. Mentors need to empower their mentees to take control of, rather than fear, technology. This can be achieved by:

- ▶ Helping mentees to select appropriate technology
- ▶ Showing mentees that they can't 'break the internet' or device in use
- ▶ Taking an exploratory approach, for example starting with an interest area for the mentee (e.g. landscape photography) and exploring various websites, apps and forums online to expand their knowledge further (e.g. YouTube tutorials, online books, Facebook groups, etc).
- ▶ Sharing handy tips for getting by online (e.g. Googling the words in a suspected scam email to see if it has been reported as such).

3. Mentees and mentors with good support networks have better learning outcomes and enjoy the process more. This can be achieved through mentors:

▶ Seeking to involve the people in the mentee's life (family/friends) who are most likely to support them at home
▶ Identifying ways mentors and mentees can link in with existing community services and resources to apply and extend learning
▶ Sharing ideas and resources across their organisation.

4. Keeping track of mentee progress need not be a formal process. It can be achieved through relatively simple means such as:

▶ Asking mentees to demonstrate what they have learned
▶ Celebrating successes, which further motivates mentees
▶ Asking people how they think they are progressing
▶ Encouraging people to practice at home and checking in with them
▶ Casually observing people, and then asking relevant questions
▶ Recapping skills learnt in previous sessions in current sessions.

5. Mentors could greatly benefit from support and resources that give more strategic direction to their mentoring practice. For example:

▶ Conceptual frameworks for mentoring
▶ Ways to holistically assess and service mentees' digital ability
▶ Centralised and searchable repository of freely available and relevant contacts and education materials – local (e.g. library programs), state (e.g. funding/grants) and national (e.g. course content, like Be Connected or Digital Springboard)
▶ Learning how to confidently navigate safety and ethical issues as they arise
▶ Having means to help mentees gain formal or informal accreditation for their learning.

4.1.3 ASCCA Conference

Australia Post representatives and QUT researchers attended the Australian Senior Computer Clubs Association annual conference in Sydney in October 2018. This conference brought together ASCCA members from across Australia to hear stories from their peers and learn about technology from industry experts and thought leaders.

We presented preliminary findings of our research, including themes that were emerging from the workshop data:

▶ Understanding mentee motivation
▶ Defined learning goals
▶ Open process for learning

- ▶ A responsive and connected program
- ▶ Mentor attributes and motivation
- ▶ Challenges faced by mentors.

These emerging themes informed the 'foundations of digital mentoring' within *The Digital Mentor's Handbook.*

QUT and Australia Post also resourced a stall at the conference to gain insights from other digital mentors. Using iPads to capture data, we talked participants through preliminary findings of our research to gather their feedback (see Figure 3).
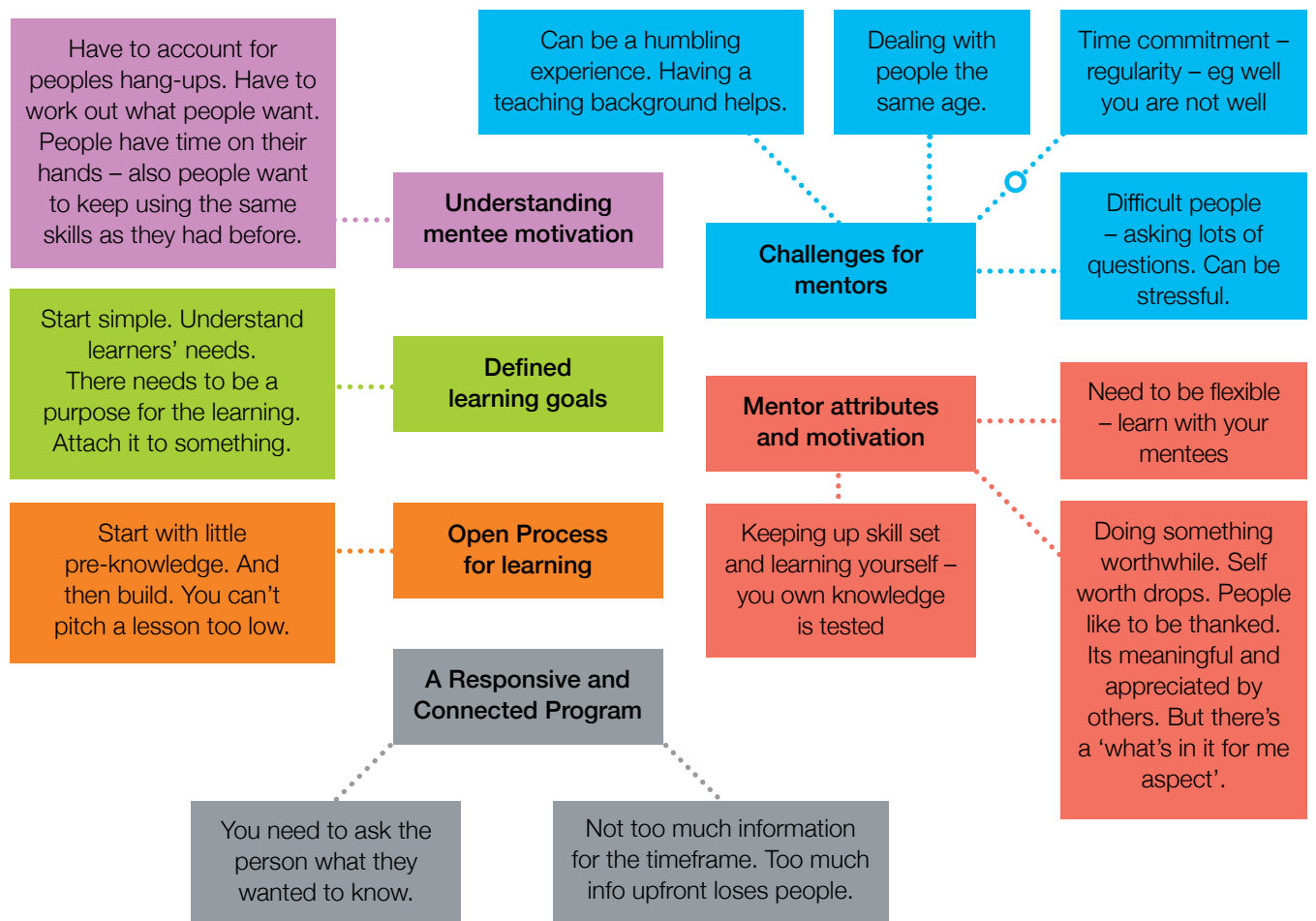

Figure 3. Mentor insights based on preliminary themes collected during a Mentor Interview using the Popplet app on an iPad at the ASCCA Conference.

Key findings

1. Mentors emphasised the importance of empowering learners, to make them feel they have control where they previously have felt helpless, scared or intimidated. To empower learners, mentors should:

   ▶ Emphasise there are no silly questions
   ▶ Refrain from typing on their learner's keyboard (i.e. not becoming impatient and completing a task for them)
   ▶ Help mentees set 'SMART' (specific, measurable, achievable, realistic, timely) goals that are progressively more challenging over time as they build their confidence
   ▶ Encourage learners to identify the options and choices they have as technology users and to own their journeys
   ▶ Acknowledge that many mentees 'don't know what they don't know' and find ways to gently educate without being condescending.

2. Challenges for mentors in large, structured, group mentoring sessions may include:

   ▶ Mentors fear talking to large groups
   ▶ Mentees may not have the same device to practice on at home
   ▶ Mentees may be working with dated technology or have been upsold on technology they don't need
   ▶ It can be hard to keep people on track and cater for different paces of learning
   ▶ It can be difficult to empathise and effectively communicate with diverse groups (age, gender, time of life, culture, income, education, employment, family situation, etc.)
   ▶ Encouraging and managing peer-to-peer mentoring in sessions
   ▶ Aggressive or rude behaviours of learners, including people who 'take over' the session

3. Mentors can be better supported by their organisations through:

   ▶ Respecting the time and contributions of mentors who are busy people, and being flexible where possible – recognising and thanking them
   ▶ Taking measures to keep mentors interested and engaged (e.g. when delivering the same course over and over)
   ▶ Establishing prerequisite qualifications or experience levels for mentees for more advanced technology courses can kerb frustration for mentors and others in the session
   ▶ Acknowledging that mentors have their own fears and challenges (e.g. if they have been retired for a while, they may need more support to learn new skills relevant to digital mentoring)
   ▶ Defining their role to overcome pre-conceived ideas about what a digital mentor is (e.g. not always a younger person helping an older person)

- ▶ Embracing opportunities for further learning and upskilling of mentors
- ▶ Backing up the mentor in tough situations (e.g. aggressive mentees)
- ▶ Providing user-friendly resources for mentors and mentees (e.g. technical terms quick list) could be developed for use in sessions to pre-empt and overcome some challenges.

4.1.4 Workshop 3

Workshop 3 in Brisbane, in March 2019 was attended by Lively trainers and representatives from Queensland Government, LifeTec and The Smith Family. The workshop focused on sharing a draft of *The Digital Mentor's Handbook* with mentors and participants. In pairs, participants went through each topic in turn and together we made detailed notes about how to improve the explanations and activities. Guiding questions included:

- ▶ Is the topic appropriate for the target audience?
- ▶ Is it helpful to you and other mentors?
- ▶ Is the pitch/language appropriate?
- ▶ Is the objective clear?
- ▶ Do the activities promote understanding of the specifics of digital mentoring?
- ▶ What improvements can you suggest?

5. The Digital Mentor's Handbook

5.1 Handbook structure and design

The introductory pages of the Handbook explain the intended audience, the important role of digital mentors in the community, and why people become digital mentors.

The rest of the handbook is structured around the following eight principles of effective digital mentoring:

Principle 1. Your digital mentoring style
Principle 2. Motivating your mentees
Principle 3. Creating safe spaces
Principle 4. Defining learning goals
Principle 5. Overcoming challenges
Principle 6. Interest-driven learning
Principle 7. Making connections
Principle 8. Measuring impact

Each principle contains a learning objective, summary of the principle, insights from a real mentor, and two activities to complete.

We now describe the foundations and frameworks that inform the content and activities of *The Digital Mentor's Handbook*.

5.2 Foundations and frameworks

The Digital Mentor's Handbook is founded on a combination of theoretical frameworks (reviewed in Section 3) and empirically based insights (gathered through methods described in Section 4).

5.2.1 Evidence-based principles

We demonstrate how theoretical and practical insights were applied in the development of the content for each of the eight principles. Some frameworks have been applied across several principles to inform the objectives and summary sections, and specific practical tools underpin many of the activities. There is also some overlap across the principles. For each principle we emphasise and explain two or three main areas in which theory and practice have been applied.

Principle 1: Your digital mentoring style

This first principle places the mentor 'front and centre', encouraging them to recognise their strengths and the value they bring to their communities. The principle also recognises that while mentoring is rewarding, it is also challenging.

The topic objective and summary are informed by Opengart and Bierema's (2017) model of 'productive mentoring', which emphasises mutually beneficial relationships between mentor and mentee. The model includes mentor skills such as perceptiveness, understanding, emotional management, role modelling, and trust building. Other complementary mentor skills identified during data collection include:

- ▶ **Kindness** – being warm, accepting and caring towards mentees (e.g. not judging them for their level of knowledge or for how quickly they learn).
- ▶ **Patience** – being willing to stick to something no matter how long it takes, even if it means repeating the same small steps dozens of times.
- ▶ **Empathy** – being willing to try to imagine what the mentoring experience is like for the mentee, including their fears and frustrations.
- ▶ **Generosity** – being open and honest with mentees and giving them your full attention for the duration of the mentoring session.
- ▶ **Flexibility** – being open to changes in learning directions as a mentee's needs change (e.g. switching between topics, activities and devices).

Foregrounding the mentor in the digital mentor partnership is justified by the literature and contextual review which revealed that there are many more resources to support learners in developing digital ability than there are to support digital mentors.

Principle 1 activities are informed by Manning and Hobson's (2017) suggestion that there is a place for both flexible and prescriptive mentoring styles depending on the mentor-mentee relationships, and the key is to be open and flexible. Activity 1 asks mentors to broadly consider their mentoring practice. Specifically, this activity is underpinned by the SOAR frameworks (strengths, opportunities, aspirations, results) and asks mentors to consider their mentoring practice more broadly, including what *they* want to achieve and how they could better their experience. Activity 2 focuses on helping mentors cultivate empathy for the mentee, which was a strong theme in both the academic literature and practical insights. In particular, the activity challenges mentors to think of a time they were helped by a digital mentor and consider ways the experience could have been improved.

Principle 2: Motivating your mentees

This principle is about helping mentors 'get to know' their mentee including attitudes to, and past experiences with, technology. People come to digital mentoring for many reasons; some are excited to learn new skills, while others may have been told to come by a family member. These motivations should be discussed in the broader context of the learner's life because, as shown by the research, digital skills are socially and culturally embedded.

Mentors can help put mentees at ease and build trust and rapport with them by actively listening and encouraging them through positive reinforcement. Our research (Australian Government, 2018; Go Digi, 2018) suggests other critical skills include:

▶ Open-ended questioning: asking questions that cannot be answered by 'yes' or 'no
▶ Asking qualifying questions: asking for more details to deepen understanding
▶ Repeating back to check understanding: paraphrasing what the mentee said
▶ Showing, not doing: not taking over the task in order to complete it quicker
▶ Displaying open body language: having an attentive but relaxed manner
▶ Showing sensitivity to emotions: keeping an eye on mentees to make sure they are ok.

Activity 1 focuses on helping mentors 'get to know' their mentees, which is critical to be able to tailor one's approach (content, pace, goals, technology etc.) to the learners, which was said to be critical by mentors in the field. Activity 2 focuses more directly on digital skills, assisting mentors and mentees to identify skills they already have and how they might be transferable to other situations. This can help to (a) establish a baseline for learning and (b) bolster confidence by highlighting skills people already possess. This approach is informed by Communities of Practice theory (Wenger, 1998), which emphasises social learning and an approach that aims to build on participants' existing knowledge.

Principle 3: Creating safe spaces

This principle addresses two aspects of creating safe spaces for learning: (1) the physical and technical requirements for the space, and (2) the social and ethical boundaries for the mentor-mentee partnership.

First, mentors in the field had several suggestions about how to make a learning space inviting, comfortable and conducive to learning. These included having stable internet connection, selecting appropriate technologies for the target audience (e.g. device, software, platforms), ensuring the room is wheelchair accessible, and providing tea/coffee to encourage conversation.

Further research (Castilla et al., 2018; Passey, 2014; Lankester, Foth & Hughes, 2018) suggested that digital mentoring spaces should facilitate democratic and collaborative relationships between mentor and mentee (as opposed to the traditional classroom set up with the teacher at the front) that is safe for both parties.

Second, ethical considerations featured heavily in the reviewed practical resources and data collection in community contexts. Common ethical issues arising in mentoring situations include mentees divulging personal information (e.g. bank account balances), sharing sensitive information (e.g. email login details), and asking mentors to compete online activities on their behalf (e.g. buying products or gambling online).

Principle 3 activities help mentors to pre-empt and address issues as they arise, and to establish clear boundaries for their practice. Activity 1 encourages mentors to consider the physical, technical and social spaces where the initial (and subsequent) mentoring sessions take place. For example, a safe physical and social space encourages conversations and promotes a relaxed, collaborative atmosphere (Castilla et al., 2018, p. 34; Opengart & Bierema, 2017; Lankester, Foth & Hughes, 2018). Activity 2 helps mentors to consider how they can set boundaries for their practice to help mitigate ethical risks, which digital mentor said frequently arise in the field, such as disclosure of personal information.

Principle 4: Interest-driven learning

Our research illustrated that while there are common needs across groups of mentees, it is equally important to respond to specific needs, both of individuals and of groups (Warburton et al., 2014). Accordingly, this topic is informed by interest-driven learning (Castilla et al., 2018; Borg et al., 2018; Be Connected, 2018), which was a recurring theme in the literature and contextual review. This means that the mentee's acquired digital skills should serve their specific needs and/ or interests to engage them in learning (UK Online Centre, 2008). Therefore an individual is not only able to "access and move in the digital arena", but also "create meaning and feelings in it." (Ragnedda & Mutsvairo, 2018, p. xiv)

Activity 1 encourages mentors to help mentees to identify their specific needs and hobbies that they do/could complete online, and then to identify the technology that facilitates this activity. This activity is about building into digital mentoring sessions an understanding what is important in the life of the mentee and understanding the role technology plays. In Activity 2, a mind map is used to help mentors and mentees explore how they can use digital technologies to connect needs and interests identified in Activity 1.

Principle 5: Defining learning goals

This principle is about mentors helping mentees to establish meaningful and relevant goals for themselves that are situated in real life circumstances. Digital skills and experiences need to be connected to the lives of learners (Yelland & Neal, 2013), and goals for learning should be directed at making life easier for the mentee.

The objective and summary of this principle are informed by the developmental mentoring framework (Clutterbuck 2004), which places emphasis on personal development and collaborative enquiry to empower people to achieve their own goals. This approach relies on trust and openness between mentor and mentee, which should ideally be cultivated through previous principles (e.g. motivating mentees and creating safe spaces).

The activities provide practical scaffolding for mentors and mentees to define goals and means to achieve them. Activity 1 is underpinned by the well-known and accessible SMART goals framework to help people set specific, measurable, achievable, realistic and timely goals. Activity 2 asks readers to visualise how they could guide mentees to an end goal using a road, river, path, boardgame or other process-oriented metaphor.

Principle 6: Overcoming challenges

This principle is focused on common challenges faced by both mentors and mentees as identified by real-life mentors and several authors (e.g. Selwyn et al., 2016; van Deursen & Helsper, 2015). These challenges – spanning technical, physical and social domains – include but are not limited to:

- ▶ Handling large amounts of complex information
- ▶ Lack of interest in technology
- ▶ Distrust or fear of technology
- ▶ Keeping up to date with technological advances
- ▶ Disclosure of personal information such as passwords
- ▶ Miscommunication owing to cultural/language barriers
- ▶ Incompatible/outdated devices and software
- ▶ Mismatched/different skill levels and interests
- ▶ Lack of mentee support at home
- ▶ Limited access to appropriate resources (e.g. assistive technologies)
- ▶ Low self-efficacy
- ▶ Lack of confidence
- ▶ Negative past experiences
- ▶ Challenges with dexterity, such as using touchscreens.

It is not possible to address all of these issues in one topic. In Activity 1 mentors are asked to identify the challenges most pertinent to their mentoring relationship, to prioritise them and develop ways of tackling them. In Activity 2 we emphasised identifying and overcoming fears – of both mentees and mentors – in establishing effective digital mentoring relationships. This activity aims to democratise the mentor-mentee relationship, which mentors told us leads to mutual benefits.

Principle 7: Making connections

This principle is informed by research that shows that digital participation and learning with others can reduce social isolation (Warburton et al., 2014), benefitting both mentors and mentees. Furthermore, linking digital skills and activities to broader social infrastructure – such as libraries, community groups, friends and family – can further motivate people to learn, enable people to apply their digital skills more broadly, and bolster confidence as they branch out into the world.

Activity 1 helps mentors and mentees identify ways that technology is already integrated into their lives by asking them to map weekly activities and any digital 'touch points' associated with them. For example, going to the library on Monday could involve the digital loan machines. Activity 2, asks mentors to consider how they and their organisation fit into the broader learning ecosystem for digital inclusion, including existing partners, potential partners and new connections (Lankester, Hughes & Foth, 2018).

Principle 8: Measuring impact

This topic highlights the need to reflect on digital mentoring and to measure its effectiveness. Passey (2014) further stresses the need for mentors to set clear intentions and have monitoring and feedback processes. Mentors can measure their own impact by seeking feedback from mentees. Activity 1 provides a feedback loop framework for mentors to ascertain and receive feedback from mentees, incorporate feedback into their practice, and report back to mentees and their organisations the changes they have made.

Organisations can measure impact of their digital mentoring programs by applying broader evaluation tools from digital ability programs. Activity 2 adapts O'Grady et. al.'s (2009) Collaborative Adaptive Interactive Technology framework to focus evaluation of mentoring on four areas:

- ▶ People: the participants, facilitators and organisations
- ▶ Content: learning goals, program plans or curriculum
- ▶ Technology: devices, software, platforms and internet connection
- ▶ Community: how programs interact with and impact the community.

This is a holistic approach that helps mentors and their organisations evaluate their contribution within the digital inclusion ecosystem.

5.2.2 Underpinning digital inclusion framework

While the above principles are informed by specific theories and findings, the overall Handbook draws on Borg et al.'s (2018) digital inclusion framework (as mentioned in section 3.1). Namely, Borg et al.'s (2018) key barriers to, and enablers of, digital inclusion underpin the themes of the Handbook and how they are arranged. As explained in section 3.1.2, we view this framework through the lens of Leep's four foundations of digital inclusion: access, skills, motivation and trust.

More specifically, the Handbook assists mentors to identify leverage to *enablers* of digital inclusion (social support, education and inclusive design), and also overcome *barriers* to learning (attitudes, skill, access), for themselves and their mentors. How these elements may be best applied in community contexts was formed by mentors' insights into their practice.

Table 5 (see below) shows how Borg's enablers of and barriers to digital inclusion relate to the eight themes of the Digital Mentor Handbook. There are six enablers and barriers that underlie the eight principles, as described below.

Enablers

Social support networks. When mentors leverage their own and their mentee's social support networks, it can assist mentors in:

- ▶ *Creating safe spaces*, through gathering helpful resources from family, friends or their organisation to arrange a welcoming and comfortable learning space
- ▶ *Making connections,* through linking learned digital skills with comminute-based interests
- ▶ *Measuring impact*, through gathering feedback from peers, supervisors and participants.

Education and awareness. When mentees know 'why' they are learning to get online, the mentors can ethically and safely guide them to do so, contributing to:

- ▶ *Your digital mentoring style*, through understanding how to show patience and discretion in dealing with sensitive information
- ▶ *Motivating your mentees*, through helping them identify good reasons to learn and persevere
- ▶ *Overcoming challenges*, through being familiar with likely challenges (e.g. fear of technology).

Inclusive and interest-driven design. When mentors can help mentees identify their interests and use them to prioritise which digital skills to focus on, it can contribute to:

- ▶ *Defining leaning goals* that are meaningful and helpful to mentees
- ▶ *Interest-driven learning,* to inform or practice digital skills
- ▶ *Making connections*, through knowing what other relevant resources are available to mentors and mentees.

Barriers

Poor attitudes and motivation. Understanding how to address lack of motivation, or poor attributes to technology, of both mentor and mentees will assist in:

▶ *Your digital mentoring style,* such as patience, kindness and enthusiasm
▶ *Motivating your mentees*, by working through their reservations
▶ *Overcoming challenges*, by working together to find common objectives
▶ *Interest-driven learning*, to identify meaningful ways to engage with digital technologies
▶ *Measuring impact*, through observing the mentoring relationship as it develops.

Low skills and ability. When mentors and mentees recognise strengths and weaknesses, and are well matched in partnership, it can assist in:

▶ *Your digital mentoring style,* such as empathy and relating through common experiences
▶ *Defining learning goals*, to fill skills gaps
▶ *Measuring impact,* through observing improved confidence and competence of mentees.

Limited access and resources. Identifying and gathering critical physical, technical and social infrastructure for successful mentoring can assist in:

▶ *Creating safe spaces*, through ensuring mentees have adequate and complementary resources in mentoring sessions and at home (where possible)
▶ *Defining learning goals,* such as teaching mentees where and how to access necessary resources
▶ *Making connections,* through identifying further relevant support in the mentee's network.

Enablers	Description	1. Your digital mentoring style	2. Motivating your mentees	3. Creating safe spaces	4. Defining learning goals	5. Overcoming challenges	6. Interest-driven learning	7. Making connections	8. Measuring impact
Social support networks	Mentors should seek to understand whether mentees have family and friends who can help them at home. Mentors also need support from their peers, organisation and wider community.			✓				✓	✓
Education and awareness	Mentees need to know the 'why' of what they are learning (e.g. how it will help them in everyday life). Mentors need to be aware of ethical considerations (e.g. disclosures, passwords, consumer choice). Mentees and mentors need to know how to stay safe online to feel confident about continued learning.	✓	✓			✓			
Inclusive and interest-driven design	Mentors should involve mentees in the process of deciding what to teach and learn. Allowing mentee interests to drive learning directions will help ensure continued learning and confidence building.				✓		✓	✓	✓
Barriers									
Poor attitudes and motivation	Both mentor and mentee attitudes matter: the mentor's approach (demeanour) sets the tone for learning; mentees may have fears about technology (e.g. they will break it, it's beyond them, they will be exposed) that can affect learning sessions. Mentees may also lack motivation for various reasons (e.g. someone else told them to come).	✓	✓			✓	✓		✓
Low skills and ability	Mentors need to identify their own skill levels and gaps, particularly as managing various skill levels is challenging for mentors. Equally, mentors need to help mentees assess their skill and ability levels and areas for improvement.	✓			✓				✓
Limited access and resources	Effective mentors teach technologies they know how to use and enjoy but should be aware that mentees may not have necessary access to the same technologies at home to practice learned skills.			✓	✓			✓	

Table 5. Table of enablers and barriers mapped with The Digital Mentor Handbook Topics

6. Recommendations

We now provide recommendations for additional resources to support digital mentoring in local community contexts to support the broader digital inclusion effort in Australia.

1. Explore the development of a freely-available e-learning digital mentoring course in consultation with existing digital mentoring experts, to bring consistency and recognition to the skills of digital mentors. This course could include:

   ▶ Video materials featuring existing digital mentors, which are a rich, personable way to relate digital mentoring concepts to a broad audience
   ▶ Activities for mentors to complete individually and/or with mentees, with corresponding assessments to progress their learning, and
   ▶ Links to other relevant national and international resources.

2. Further investigate the benefits of a digital mentoring micro-accreditation, including exploration of:

   ▶ National and international best practice
   ▶ Benefits and drawbacks to learners, their organisations and the accrediting body
   ▶ Suitable platforms, governance and pricing structures.

3. Foster opportunities for collaboration between the various digital mentoring stakeholder groups across Australia to share best practice, build on each other's successes, and learn from shared challenges of attracting and developing digital mentors.

4. Support ongoing research to understand how social infrastructure, including digital mentoring organisations and practices, can best support Australians to develop their digital ability. Such research could investigate the processes and practices that support a strong digital inclusion ecosystem in communities.

5. Help raise the profile of digital mentoring as an important and valued volunteer (and paid, where relevant) activity that contributes social inclusion and plays a critical role in bridging the digital divide. Furthermore, consider activities to raise the profile and understanding of the importance of digital ability and digital mentoring across various sectors.

7. Conclusion

In this project Australia Post partnered with QUT's Digital Media Research Centre to investigate the emerging discipline of 'digital mentoring' in Australian community contexts. A broad national and international review of academic literature and best practice revealed that, to date, digital mentoring has not been well-defined or understood.

We defined a digital mentor as *someone who partners with a mentee in safe learning environments to develop digital ability by fostering confidence and competence in technological skills and making meaningful social, cultural and economic connections online*. The components of this definition – and its applicability in practice – were further explored through seeking the insights of digital mentors from across community sectors. Through three workshops in the three states (in conjunction with theory and other data collection activities) we derived eight principles of effective digital mentoring, which became the basis for *The Digital Mentor's Handbook*.

During an extensive feedback process involving QUT, Australia Post, digital mentors and digital inclusion program experts, the Handbook's content and activities were refined to deliver an accessible, practical and rigorous resource for digital mentors, which will be made freely available and distributed online. We hope these resources will be widely used by digital mentors across Australia, and that they will contribute to better outcomes for mentees, mentors and their organisations. Ultimately, we hope this project helps to bolster the broader effort to increase digital ability in Australia, and therefore improve overall digital inclusion.

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