Digital Literacy and Young People

Key findings and Implications

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Allen + Clarke

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Digital Literacy and Young People

Executive Summary

Young people's computer skills

Multiple approaches used:

- It is often assumed young people are digitally literate.
- Many young people are comfortable with smartphone or touch screen devices.
- Skills associated with these devices do not automatically transfer to work ready skills.

- Multiple approaches were used to engage young people in developing their digital skills or to enable them to access services that supported their wellbeing.
- Initiatives focussed on enhancing digital literacy skills through engaging young people in problem solving, creativity and knowledge creation activities.
- Programmes were informal and encouraged young people to take leadership of their own learning.

Benefits of attending programmes:

- Young people gained digital literacy skills through attending programmes (i.e. coding skills, photoshop or PowerPoint).
- Interviewees noted an increase in young people's confidence in using computers and in their ability to solve their own problems.
- Initiatives created an opportunity for young people to develop communication, team-work, problem solving, creativity and critical thinking skills.
Programmes vulnerable to closure:

Most initiatives were reliant on one key person (usually a volunteer) to organise and run sessions.

It can be difficult to recruit and retain volunteers to run digital literacy programmes.

Difficulty in attracting volunteers meant that some digital literacy programmes were not sustainable in the long term.

Issues with access:

Some groups lacked access to technology and services on multiple levels.

Under-resourced communities were more likely to face barriers to obtaining their own device or having an internet connection at home.

Anecdotally, under-resourced and rural communities were more likely to be underserved by digital literacy services.

Young people faced barriers to attending programmes due to issues such as: lack of literacy skills, numeracy skills, other commitments and transport costs.

Developing young people's aspirations:

Initiatives had a strong emphasis on helping young people to develop aspirations beyond their immediate environments.

Some initiatives had a strong career focus.

Initiatives provided young people with role models who had technology/digital literacy skills.
1. INTRODUCTION

1.1. Purpose

Digital technology is reshaping how New Zealanders communicate, work and interact. However, we know some communities have difficulties accessing and using digital technology. This is partly because some communities do not have the skills to take advantage of digital technologies. Proficiency in digital literacy ensures that individuals and wider communities are not left behind.

While central government has a significant role to play in developing the digital literacy of New Zealanders, local and community organisations can also deliver services. Many local government and community organisations have developed programmes to lift digital literacy in their communities, including for young people.

Allen + Clarke was commissioned to undertake research into how programmes delivered by local government or community groups contribute to the development of young people’s digital literacy. The research also aims to contribute to understanding how digital literacy supports young people to get work, volunteer and access services that support improved wellbeing. The research may also enhance the investment decisions of funding providers and local authorities around digital services for young people in their communities.

1.2. Methodology

The research used a mixed-methods approach which included a document review and a semi-structured interview approach.

Document review

The project team reviewed 16 key documents. These documents were analysed for themes relating to the delivery of digital literacy to young people.

The findings of the document review were used to inform the development of the criteria to select community initiatives delivering digital literacy programmes and the interview questions.

A full list of the documents that were reviewed is set out in Appendix 1.

Semi-structured interviews

The following criteria were used to select potential organisations:

- organisations that either delivered digital literacy programmes for young people or delivered services with a young person focus, digitally,
- groups that were more likely to be digitally disadvantaged, including young people living in under-resourced communities,
- geographical location with a focus on urban areas, and
- different types of digital literacy initiatives.

The project team met with people from eight community initiatives or organisations that deliver digital literacy services to young people, and two organisations that deliver services with a young person focus, digitally. Ten interviews were carried out by the research team.
The interviews were semi-structured with written notes being taken during interviews. The interview guide is set out in Appendix 2. The interview notes were thematically coded using NVivo coding software. To add depth to the analysis of the interviews, two digital literacy sessions were observed. The research team were not able to observe more sessions as the fieldwork was conducted during school holidays due to the timeframe for the research to be conducted.

**Young person’s perspective**

To ensure a young person perspective was developed, the research team partnered with a youth services organisation to organise a young person sense-making session. This enabled the research team to check research findings from a young person’s perspective.

### 1.3. Outline of the initiatives

The initiatives included in this research study drew on different sources of funding and institutional support to deliver their services. Table 1 below provides a high-level overview of each initiative and their funding source.

**Table 1: High-level overview of initiatives**

<table>
<thead>
<tr>
<th>Case Study Name</th>
<th>Organisation Type</th>
<th>Description of Programme</th>
<th>Source of funding/resourcing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study A</td>
<td>Charitable Trust</td>
<td>National level organisation providing lesson and organisational support to providers</td>
<td>Received funding from multiple sources, including central government, community donations, and corporate sponsorship.</td>
</tr>
<tr>
<td>Case Study B</td>
<td>Local Government</td>
<td>Overseen by a library. Offer a few digital literacy programmes, including outreach into local schools. Received some support to find volunteers from Case Study A.</td>
<td>Local council. Volunteer support.</td>
</tr>
<tr>
<td>Case Study C</td>
<td>Company</td>
<td>Established by volunteer. Provides digital literacy programme in the classroom. Received some lesson plans developed by Case Study A.</td>
<td>Corporate sponsorship. Volunteer support.</td>
</tr>
<tr>
<td>Case Study D</td>
<td>Community Centre</td>
<td>Offers a few digital literacy programmes. Received support from Case Study A to setup one of the programmes.</td>
<td>Central government. Volunteer support.</td>
</tr>
<tr>
<td>Case Study E</td>
<td>NGO</td>
<td>Delivers educations services, including digital literacy programmes</td>
<td>Central government.</td>
</tr>
<tr>
<td>Case Study F</td>
<td>NGO</td>
<td>Delivers services focused on young people, digitally</td>
<td>Received funding from multiple sources, including: central government, local government,</td>
</tr>
<tr>
<td>Case Study Name</td>
<td>Organisation Type</td>
<td>Description of Programme</td>
<td>Source of funding/resourcing</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------</td>
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<td>-----------------------------</td>
</tr>
<tr>
<td>Case Study G</td>
<td>Local Government</td>
<td>Range of digital literacy programmes run out of a library. Networked with other organisations to draw on initiatives run by tertiary education providers, Ministry of Education, and from American-based organisation</td>
<td>community trusts and community donations.</td>
</tr>
<tr>
<td>Case Study H</td>
<td>Charitable Trust</td>
<td>Delivers services to young people through digital means</td>
<td>Local council.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Received funding from multiple sources, including: corporate sponsorship, community trusts, local government, and lottery grants.</td>
</tr>
</tbody>
</table>

1.4. **Structure of this report**

This report includes:

- contextual information about digital literacy and its importance in Section Two,
- findings about developing digital skills in young people, the benefits and vulnerability of some digital literacy programmes in Section Three,
- other findings about the multiple difficulties some young people face and supporting young people to broaden their horizons in Section Four, and
- conclusions from the research in Section Five.
2. **CONTEXT**

2.1. **What is digital literacy?**

There is not a consistent definition of digital literacy. Some definitions focus on the functional aspects of using computers and emphasise general ability to use computers and digital devices. Other definitions focus on the ability to access and evaluate online content (also known as information literacy). From this latter perspective, digital literacy involves knowing how to search for information online, critically evaluate the information and transform it into knowledge (Buckingham 2010).

Developing a consistent definition of who is 'digitally literate' is further complicated due to the different skills needed to use different technology depending on the task. For example, some people place importance on work-related activities such as knowing how to access a government department portal, use a spreadsheet or word processing. While for other people, digital technology is a primary tool for communicating with others socially. Each of these tasks requires different types and levels of digital literacy.

At its most general, being 'digitally capable' has been defined in Digital New Zealanders (2017) as New Zealanders having the necessary skills to live and work in a digital economy. Based on work undertaken in the United Kingdom, the report has suggested a Core Digital Framework that sets out five key skill areas that are essential for digital literacy. These skill areas are managing information, communicating, transacting, problem solving and creating. Within this framework, the types of activities people need to be able to complete varies with age. The types of tasks young people are expected to be able to complete, include:

- using a search engine effectively,
- consulting authoritative online resources,
- using internet and common digital devices to connect with other users,
- carrying out internet banking or booking travel,
- using online tutorials to extend learning and solve problems, and
- presenting information using multiple formats.

While participants in this research study referred to digital literacy in a variety of ways, a more nuanced approach treated digital literacy as a combination of computer skills and information gathering skills. One suggestion was that there were three parts to digital literacy:

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1 The report Digital New Zealanders: The Pulse of our Nation was commissioned by the Ministry of Business, Innovation and Employment (MBIE) and the Department of Internal Affairs (DIA) to improve their understanding of the ways in which digital capability and digital inclusion affected New Zealanders' social and economic outcomes.

1. familiarity with the hardware, such as knowing how to turn a computer on and the basics of how it worked,
2. having the confidence to use commonly used applications such as word processing, and
3. critical evaluation skills and using the information gathered to generate knowledge.

For the purposes of this research, developing digital literacy has included activities that young people engage in, or resources they are provided with, to develop a better understanding and increased confidence in the use of digital technology.

2.2. Importance of digital literacy

Increasingly, digital literacy skills are considered essential for being able to fully participate in society. Digital technology is seen to be transforming how New Zealanders live (Building a Digital Nation 2017, Digital New Zealanders 2017). The literature highlights that people are increasingly reliant on digital technology for their everyday life and therefore the types of skills that people need to be able to participate in society is changing. Technology is playing an increasingly more important role in how people connect with each other.

Three organisations included in this research relied on digital technology to deliver their services. These organisations provided either services that focused on young people, including improving wellbeing, or acted as an umbrella organisation\(^3\) that supported improving digital literacy in young people. The use of digital technology enabled them to reach more people and to operate at a national level with very small staff teams. Two of these organisations attempted to cater for groups which were not digitally literate, by providing services through other mediums such as text and phone calls. However, there was a risk that such groups would miss out on accessing services as digital technology was the main communication channel.

In keeping with findings in other countries, Digital New Zealanders (2017) found that there is growing inequality between those who are digitally literate and those that are not, creating a potential digital divide. Key factors affecting who is or is not digitally literate includes household income, age, geographic location - especially living in rural areas, and ethnicity. Māori and Pasifika people are less likely to have access to the internet at home than other ethnic groups in New Zealand. Digital New Zealanders (2017) also notes that overseas studies indicated that an inability to access and use digital technologies leads to diminished wellbeing and opportunity, as well as other forms of disadvantage. Gaps in digital skills carries broader costs for New Zealand, as services need to be offered using other communication channels.

Interviewees considered young people from under-resourced communities faced multiple difficulties, which made developing digital skills more challenging. This is consistent with research conducted in the United Kingdom (Digital Skills in the UK 2017). Multiple difficulties for developing digital skills is discussed in more detail in Section 4.1.

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Modern technology is really important for everyday life. Once young people can use computers well, those skills can be used to meet multiple needs and goals.

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\(^3\) This organisation provided support services to enable people to set-up digital literacy programmes. These services included finding and checking volunteers and providing lesson plans.
3. DEVELOPING DIGITAL SKILLS

3.1. Promoting digital initiatives and engaging young people

In a review of international digital inclusion initiatives, Digital New Zealanders (2017) found using education or social sector intermediaries was an effective way of engaging with people living in under-resourced communities. Within New Zealand, the report noted that local authorities, especially libraries, had an important role in promoting and supporting digital literacy. As a result, libraries are re-inventing themselves for the digital world. This change included libraries establishing themselves as community digital hubs and providing technology workshops to support children and adults to develop their digital skills.

Different approaches were used by service providers to promote services and engage young people in initiatives. Often this reflected how the initiative was setup and the approach to promoting the digital literacy programme. For example, library and community centre driven initiatives drew on established networks and ways of publicising what they did. Underpinning these initiatives were broader objectives from funders such as a local authority or the Ministry of Youth Development. This meant that one library had a small team of people who organised a range of digitally-based activities that young people could choose from. The central role these organisations played in their community meant parents felt empowered at one library to request that coding be included in the digital programmes offered.

Schools also provide a useful connection point for starting up a programme. One initiative built relationships with key people at a school whose students predominantly came from under-resourced communities. Running initiatives at the school decreased barriers to access by removing the need for the students to travel. The initiative reported that the most effective way to deliver the programme was to build on the Ministry of Education’s digital literacy curriculum and volunteer to run a session once a week during the school day in the classroom.

Another initiative recruited people from within the community. This was critical for engaging young people and delivering programmes. Building rapport with key people, in their community was crucial to service delivery. Emphasis was placed on employing people who were known and trusted by the local community, and who had relationships with people outside of the initiative who could help obtain resources.

Organisations that delivered services digitally to young people also used multiple approaches. This included multiple communication channels and digital platforms to deliver their services in a variety of forms, such as social media platforms, email, online newsletters, websites, text, phone calls and, if necessary, meeting face-to-face. Using a range of approaches enabled these organisations to communicate with different groups at different times in different ways and to

Strong community links, such as organisational linkages or personal relationships, were very important in helping to promote programmes. Organisations such as libraries or schools, which play a central role in the community, were recognised as a source of information for digital literacy programmes. In some communities, personal relationships played a critical role with programmes promoted largely through ‘word-of-mouth’. It was perceived that it was who you knew not what you knew that was crucial in getting young people to engage in programmes.
increase the number of young people they were able to reach. This meant that a young person could choose which communication type best met their preferences.

3.2. Tailoring approach to engage young people

In a summary of literature, the New Zealand Computer Society (2010) suggested that programmes designed to support people from under-resourced communities to engage with digital technology needed to address the specific requirements of the group. More recently, the Broadband Commission for Sustainable Development (2017) recommended that digital skill providers deliver flexible face-to-face programmes in well-established community spaces. All the initiatives reported using a young person-centred approach, tailoring programmes to meet the skill level and needs of the group. Often this involved taking a holistic approach, incorporating the young person's view of the world into the programme. Initiatives delivering digital literacy programmes emphasised the importance of being flexible in their approach, as well as supporting the young people at a level which met where they were at in their learning and not necessarily sticking to a prescribed lesson plan. Approaches included changing the content of the programme or the speed it was delivered at to meet individual skill levels.

A commonality in approach was to encourage young people to take leadership over their own learning. Initiatives encouraged young people to identify what they were interested in exploring, what they wanted to achieve, and what problem they wanted to solve. Initiatives varied in their approach to doing this. For example, one initiative offered a wide range of activities that young people could engage in. This programme started by discovering what interested the young person, then the use of digital technology was interwoven into their area of interest. Another initiative designed lesson plans to encourage young people to push themselves and to extend their understanding of programming. This initiative placed importance on young people identifying and solving problems using technology.

Many of the initiatives talked about how having a practical element to the programme improved young people's engagement. The research found that young people preferred a "hands-on" approach to learning, as opposed to more traditional teaching styles where the student would watch and listen. One initiative used hardware, such as raspberry pi, combined with lights and sensors. They considered raspberry pi was more engaging as it provided the users with a more hands-on experience and young people enjoyed these sessions more. A key aspect of the approach was to let young people know that they were flexible in their teaching approach, and that they were there to support the young people in their learning. Volunteers did not follow the lesson plan if it was not working.

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4 The Broadband Commission for Sustainable Development is a joint initiative between the International Telecommunications Union and UNESCO (United Nations Educational, Scientific and Cultural Organization.
5 A raspberry pi is a compact computer board that can be plugged in a TV, keyboard, mouse and power supply to operate as a computer.
with instant feedback which created feedback loops between user and device. It was perceived that this increased interest in the task and contributed to the young people becoming excited about technology.

The informal or self-paced learning approach used by most initiatives that participated in this research enabled young people to build their digital literacy skills within a wider sphere, which promoted the development of problem solving skills, creativity, and knowledge creation, while being in control of their own learning.

3.3. Improving computer skills

It is often assumed that young people are digitally literate. Those born after 1984 have been referred to as Digital Natives as they grew up with digital technologies. However, the level of digital competency of Digital Natives has been questioned with suggestions that while they are typically competent with social media, they may not have more practical work-ready or tertiary education-ready digital skills (Digital New Zealanders 2017, House of Lords Library Briefing 2017). Those born since the mid-1990’s have been referred to as Neo-Digital Natives. These young people have used the internet from a young age and are considered to be very comfortable with technology and social media.

However, this research found that while many young people may have confidence using smartphones or touchpad screen devices, their confidence does not necessarily transfer to the broader digital stage. For example, young people who had used these devices needed to be taught how to use a keyboard and a mouse. This was the case regardless of whether they came from more affluent backgrounds or from under-resourced communities. The reasons for needing to be taught differed. This reflected the differences in exposure to digital technology. Many young people were also considered to lack the knowledge to explore and probe on the internet.

Over time, by attending the digital literacy programmes young people were considered to gain a range of broader computer skills. Some programmes looked to engage young people in learning how to use a suite of ‘foundational’ tools, such as photoshop, PowerPoint or search engines to access trustworthy information online effectively. Some initiatives reported that often young people from under-resourced communities were less aware of the resources available digitally. For example, pen and

Many young people were aware of a suite of basic software programmes. But, this does not mean that they understood their functionality. For example, one young person who wanted to find the total for a list of numbers, entered them in a spreadsheet and used a calculator to calculate the total. They were unaware that Excel had a wide range of functions that could be used, including the SUM function.

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6 This term was defined by Marc Prensky, see Prensky, M (2005). Listen to the natives. Educational Leadership 63(4), pp. 8-13.
7 House of Lords Library Briefing on Digital Skills in the United Kingdom (2017) was prepared to support a debate in the House of Lords for improved digital understanding at all levels of UK society. Questioning of the existence of digital natives was based on the work of Paul Kirschner and Pedro De Bruyckere (The Myths of the Digital Native and the Multitasker, Teaching and Teacher Education, October 2017, (67), p.135)
paper were initially used to create a poster. However, once shown how to use PowerPoint, posters were then created directly on the computer.

Initiatives participating in this research study reported that young people's confidence in using computers and their ability to solve their own problems improved. Development of such skills as problem solving and creativity were seen as a core component of many digitally-based activities, particularly those focused on computer coding or learning through design. These findings are in keeping with such reports as the Working Group on Education (2017), which noted learning to code had been linked with the development of higher-order skills including problem solving, computational thinking and teamwork.

3.4. Broader benefits from attending initiatives

It is widely recognised that a range of social, cultural, and economic benefits are gained through becoming digitally literate (Digital New Zealanders 2017, NZCS 2010). Identified benefits include overcoming social isolation, establishing better connections with family, building confidence, improved self-esteem, increased willingness to undertake further training, and creating volunteer and employment opportunities.

Initiatives reported a range of broader benefits they perceived young people gained through attending their course. One person described being digitally literate as a life skill, which helped teach young people resilience and patience. Many of the programmes promoted young people working in teams on projects. This was considered to support the development of ‘soft’ skills that were beneficial for joining the workforce. Such skills included learning how to communicate, how to work in a team, solve problems and how to think critically.

Across the initiatives, a key concept was encouraging young people to engage with technology not just as users of devices but as creators. Other broader benefits included exposure to learning skills such as project management. This was taught through helping them break tasks down into their different parts, work out who is going to do what and agreeing on what needs to be done and by when.

Two initiatives promoted civic participation. In these initiatives, emphasis was placed on being a good digital citizen and understanding that there was another person at the other end when engaging with social media that did not involve their friends. Some young people were encouraged to take volunteering or leadership opportunities, to make posters for community events, or to be the film crew for a community event. These initiatives reported that young people’s confidence and self-esteem grew as a result of these broader opportunities. Interviewees considered that

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focusing on increasing civic participation gave young people a sense of pride in what they had achieved.

3.5. Vulnerability of programmes

Both the UK and Australia have used the concept of volunteer ‘digital champions’ to support and inspire others in their community to go online (Digital New Zealanders 2017). Becoming a volunteer was supported by an umbrella organisation that invited people with digital skills to become digital champions and provided some training. An underpinning assumption was that using volunteer digital champions was a highly effective and sustainable way of delivering digital skills training.

In contrast, this research found many of the initiatives were vulnerable to closing down despite there still being a need in the community for their services. The key reason for this was that the delivery model for many initiatives were reliant on a key person who held the vision and setup the programme independently. Collaborating with other organisations, including umbrella organisations, were only loose arrangements. This created a reliance on the person who set up the initiative continuing to actually run the initiative, if they left, the initiative was vulnerable to closing.

A more robust model was observed amongst initiatives which had a team of people organising the digital literacy programmes. One person interviewed, was in the process of creating a team of drivers, enlisting their help to organise and run the programme. They found this made running the programme both easier and more sustainable. Their experience of running digital literacy programmes in the past had taught them the importance of enlisting drivers to sustain an initiative.

Initiatives that had a combination of a team approach to organising the programmes, a group of volunteers or staff to run sessions and had access to support from other organisations had a more sustainable model. While programmes which relied on a single person to organise the programme and run sessions were vulnerable to closure. These programmes did not present a sustainable model in the long-term.

Programmes that are dependent on one person to organise and deliver the programme are susceptible to closure. These programmes did not present a sustainable model. In contrast, well-resourced programmes which had a team approach, were imbedded in the local community and had access to broader support presented a more sustainable model. Often these programmes delivered multiple services and received long-term funding that made their position in the community more secure.
4. OTHER FINDINGS

4.1. Multiple difficulties to develop digital skills

Drawing on findings from the Nominet Trust\(^9\), the House of Lords Library Briefing (2017) reported that young people from under-resourced communities experienced a range of barriers, which prevented them developing digital literacy skills. These barriers included poor literacy and numeracy, as well as a lack of access to the internet at home. Such groups were also likely to face multiple forms of disadvantage.

Likewise, this research found young people from under-resourced communities encountered difficulties with accessing and using digital tools on multiple levels. Many of these young people had limited opportunities to practice digital literacy skills at home due to a lack of access to digital devices and the internet. This hindered the development of new skills, such as coding, as the young people were unable to practice these skills outside of the programme. In such instances, learning new digital literacy skills was slower than for those who were able to practice at home.

This issue was mitigated against in part by young people who were resourceful in finding ways to access technology. This included identifying where free Wi-Fi was available and using services such as libraries as free access points. Increasingly young people visited libraries to use their computers. Initiatives reported that there was an increasing number of online apps that enabled a smartphone or table to be used in ways that were similar to a desktop device. For example, some young people were using a tablet-based app to build a website. However, these options were not readily available for young people living in rural communities due to more limited options.

Another difficulty young people from under-resourced communities faced was that family members did not have the necessary knowledge or understanding to be able to help when problems with using the computer were encountered. Moreover, these families did not model using digital technologies, beyond the use of smartphones, on a daily basis. Initiatives suggested that the use of digital technologies was at the lower end of the digital spectrum, such as using a smartphone to access social media and play games. In this environment, broader digital literacy issues such as addressing social media bullying or internet safety may not be discussed.

Further, using digital technology to the full relies on good literacy and numeracy skills. Initiatives reported that many young people living in under-resourced communities lacked these skills. This could be for a range of reasons including English being the young person’s second language. When this was the case, often the initiatives worked on improving these essential skills as part of their broader digital literacy programme.

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\(^9\) The Nominet Trust is the UK’s leading social tech fund. The Trust believes that when technology is inspired by social need, it reaches its life changing potential.
For many young people to be able to take advantage of these opportunities initiatives needed to be both local, and at a time that did not clash with other commitments that the young person had. This group were highly dependent on digital programmes being run locally as the cost of public transport could be a barrier to accessing services. However, establishing and sustaining volunteer-based digital literacy programmes in these communities was challenging. This was partly due to people with digital skills wanting to volunteer either near their home or place of work, neither of which was in an under-resourced community. For example, one programme that was organised by a library stopped running for a period of time after a volunteer left. Dependency on a single volunteer to run the sessions had created a risk of burnout. It took several months before a replacement volunteer was found. An umbrella organisation played an important role by helping find potential volunteers in the area.

4.2. Developing young people’s employment aspirations

Many of the initiatives actively sought to broaden young people’s horizons and develop aspirations beyond the young person’s immediate environment. Importance was placed on creating an environment in which opportunities were created for the young people to try things without telling them how to live their lives. A central component of this approach involved the use of role models.

Both the UK and Scottish governments have developed a strategic approach which involves encouraging people already known and trusted in local communities to encourage those around them to engage more with technology (Digital New Zealanders 2017). Seeing ‘others like me’ can motivate people to develop their digital literacy skills, including considering a career in the technology or engineering sector. Across the initiatives, a role modelling approach occurred in a range of forms.

Some leaders of the initiatives placed importance on having a mixture of people represented. For example, one person deliberately tried to ensure the team of volunteers running a session included both women and men, different ethnicities, and people from a range of career paths. This helped create an environment in which stereotypes, such as the idea that engineers and computer programmers lacked social skills, could be challenged. This approach was thought to generate opportunities for young people to make connections with fields that they may not have considered and this could lead to further training in a more formal setting in the future.

Another approach was based on building meaningful relationships with young people. This approach involved exploring young people’s aspirations more directly and creating a safe space for conversations to occur that might not otherwise happen. This enabled the initiative to reach beyond developing digital literacy skills and to support engagement in education more broadly. For example, this included helping young people who had stopped attending school to identify other learning options which might work for them better, such as attending an alternative education programme. One initiative had helped some young people access tertiary education by supporting them through the application process and getting another young person to provide mentorship.
5. CONCLUSION

A variety of approaches were used by initiatives to promote and engage young people in their digital literacy programmes. Libraries and community-centre based initiatives drew on pre-existing networks and ways of publicising activities to promote their digital literacy programmes. Meanwhile, a school provided a useful contact point for establishing a digital literacy programme in an under-resourced community where relationships within the community were not held by the person leading the initiative. While for another initiative recruiting people from within the community who already had strong ties was crucial for finding and engaging young people in their programmes.

Organisations that delivered services for young people, digitally, also used multiple approaches to promote their services. This involved using multiple communication channels and digital platforms to increase their reach, and to enable communication to be initiated by different people at different times in different ways. This enabled young people to choose which type of communication best met their needs.

In delivering the programmes, initiatives used a young person-centred approach, tailoring the delivery of programmes to meet the skills level and needs of the group of young people attending. Importance was placed on being flexible, including changing the content of the programme or the speed with which it was delivered to meet individual skill levels. A common approach across initiatives was to encourage young people to take leadership over their own learning. The informal approach adopted enabled young people to develop their digital literacy skills within a wider sphere, which encouraged the development of problem solving skills, creativity, and knowledge creation.

Attending the digital literacy programmes brought young people a range of benefits. First and foremost was the development of a range of computer skills, including how to use software for design purposes and search engines to access trustworthy sources of information online. Young people’s confidence in using computers and their ability to solve their own problems improved as a result. Other broader benefits included a range of ‘soft’ skills, particularly how to communicate, teamwork, and critical thinking. Some initiatives also promoted civic participation within the local community. This contributed to improved self-esteem and confidence more generally.

However, many of the initiatives were vulnerable to closure. This was primarily due to the delivery model for many initiatives were reliant on a key person who acted as the driver. This person had setup the programme and held the vision. Relationships with other organisations were typically loose arrangements. This created a reliance on this person to continue driving the initiative, and if they left, the initiative was vulnerable to closing. Initiatives which had a team of people organising and delivering the sessions, were imbedded in the community, and had access to support from other organisations presented a more robust and sustainable delivery model.

Some young people faced barriers to using technology on multiple levels. This included difficulties with accessing and using computer devices and the internet at home, family having insufficient knowledge to help young people with digitally related problems, and issues with general literacy and numeracy. Young people living in under-resourced communities were more likely to experience these types of difficulties. They were also more likely to be underserved by volunteer-based digital literacy initiatives due to the challenges of establishing and sustaining digital literacy programmes in these communities.
Despite these challenges, many initiatives sought to broaden young people from under-resourced communities’ horizons and support the development of aspirations beyond the young person’s immediate environment. Role modelling and building meaningful relationships played a central role in achieving this. This approach enabled these initiatives to reach beyond developing digital literacy skills to supporting young people to engage in education more broadly or to consider a wider variety of employment options.
APPENDIX 1: BIBLIOGRAPHY OF DIGITAL LITERACY DOCUMENTS

The documents were provided by the Department of Internal Affairs or sourced by the research team through an internet search.

http://unesdoc.unesco.org/images/0025/002590/259013e.pdf

https://elearn.sdu.dk/bbcswebdav/users/paedsekr/TP14/Workshops/Workshop%204/Program%20og%20litteratur%20W4/David%20Buckingham%20Defining%20digital%20literacy%20What%20do%20young%20people%20need%20to%20know.pdf


https://internetnz.nz/sites/default/files/Final%20Report%20Internet%20NZ%20Research%20June%202017%20From%20UMR.pdf

https://internetnz.nz/sites/default/files/SOTI%20FINAL.pdf

http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.469.1923&rep=rep1&type=pdf


https://d3n8a8pro7vhmx.cloudfront.net/nzl Labour/pages/2371/attachments/original/1478147232/43229 LoO_Future_of_Work_Full_Document_FINAL_2_LR.pdf

https://www.benton.org/sites/default/files/broadbandinclusion.pdf

APPENDIX 2: INTERVIEW GUIDE

Providers of digital literacy programmes

- Tell us about your initiative? What sorts of things do you do?
  - Activities
  - Approach?
  - Tailoring approach?
  - Aim of programme?
- What do you think people get out of attending your course?
  - Skills
  - Certificate/qualification
  - Readiness for work?
  - Broader – wellbeing, personal
  - Next steps – where it leads to
- What sorts of factors or things do you think help young people become digitally literate?
- What are the challenges?
  - Recruiting participants
- Do you work with others? If so, what types of organisations/initiatives and how does it work?

Young People

- Tell us about what you do here [being the initiative the delivers a digital literacy programme]
- What do you get out of the course? Or what sorts of things have you learned?
- What do you enjoy doing?
- What do you think stops you or makes it difficult to get better at using a computer?

Services that use digital technology as part of delivering their services

- What ways do you use digital technologies to deliver your services?
- What do you think have been the benefits of investing in digital technology?
- What have been some of the challenges?
- If there was one skill your staff or volunteers are lacking in using digital technology – what would it be?
- When recruiting staff or volunteers what computer skills do you need? What do you see?
- What do you think needs to happen to ensure better digital literacy among young people in your community?