

Digital Skills in the Workplace

Digital skills are essential for people to be able to participate fully in 21st century life in the community, at work and in their personal lives. As the nature of work changes to encompass technology, as government services shift to online platforms, and as everyday activities such as banking, booking appointments and personal communication move to online, every citizen needs to be equipped with the skills to do this.

In November 2017 the Skills Highway commissioned work on digital literacy in workplace literacy and numeracy programmes. This work included:

- a rapid review of literature related to digital literacy
- a draft definition of digital literacy
- a draft framework that describes digital literacy practices
- a review of 70 employer-led reports as an early test of the efficacy of the framework.

The purpose of this work was to inform a discussion about digital literacy in foundation level programmes, with a particular focus on what this means for learners in workplace literacy and numeracy programmes funded through the Tertiary Education Commission's (TEC) Workplace Literacy and Numeracy (WLN) fund. The findings were workshopped with a Reference Group in February 2018 where there was general agreement about the findings and the draft framework.

Key findings from the report

- In the international Survey of Adult Skills (PIAAC) New Zealand has the largest proportion (45 percent) of people with high problem-solving skills across the 32 countries and 55 percent with low skills.
- New Zealand, unlike some other countries has not fully articulated the importance of digital literacy as a core skill for full participation in 21st century life.
- Digital literacy is about a person's access to, willingness, motivation, preparedness and skills to use technology. It needs to be described as a practice or behaviour - it is about what people do with their knowledge or proficiency, rather than their knowledge per se.
- These practices can be described on a continuum from foundation (getting familiar with technology), to emergent (getting started and using technology with support and guidance) through to advanced (actively seeking out solutions and ability to use multiple platforms).
- Digital literacy has been included in 21 of the 70 employer-led programmes completed between 2014 and 2017. The final reports from employers shows employees' practices are at the foundation end of the continuum.
- The definitions found in the review all encompass aspects related to locating, understanding, presenting, creating, evaluating and analysing information using digital technology.

Definition of digital skills

The Reference Group considered a range of definitions related to digital literacy and determined that for the purposes of this work 'Digital Skills' was the preferred term. The advantage of taking this approach is that it focuses on digital behaviours and practices. As such the definition of a person who is digitally skilled at work is someone who can, *"Confidently and competently use digital technology in the workplace."*

A draft framework to describe digital skills

A high-level definition of digital skills, as above, needs to be broken down into a useable framework so that employers and employees are able to understand what being digitally skilled looks like in practice. One of the challenges in doing this for employees in foundation level programmes is whether it should describe the skills / competencies / *proficiencies* employees have, or describe what they are able to do - their *practices*. For this draft framework, developed by The Learning Wave, the latter approach is taken. This means looking at what employees are doing, while taking into consideration the complexity of what they are doing (technology and task), the frequency with which they do it, and the level of support/independence they require to do this.

There is a continuum of practice whereby users require support and guidance as they start out, but grow to be independent users, adopters and adapters of digital technology over time. Therefore, it is important to find a way to explain this variation and show the development employees potentially go through. A way to do this is to break digital skills descriptors into four levels: Foundation, Emergent, Competent, and Advanced. Taking this 'maturity' approach means users of the framework can differentiate at a broad level what employees are doing and then make judgments about their digital skills.

The original framework had three levels, but the Reference Group determined that for employees in workplace literacy and numeracy programmes a foundation level was required given that many of these employees are encountering digital technology for the first time. Analysis of workplace literacy and numeracy reports shows that these employees are being introduced to technology and applications and require support as they develop the skills to use them.

Draft Digital Skills Framework

Level	ACCESS		CORE SKILLS			Examples of CONTEXTUAL COMPETENCIES				
	Willing	Able	Learn by Experimentation	Think Critically and Problem Solve	Evaluative Consumption	Safety & Security	Communication	Operating System	Workplace Specific (Retail Example)	Workplace Specific (Accounting Example)
Foundation	Is willing to try with guidance if required.	Is learning about the very basics	Starting to get comfortable accessing and exploring digital platforms with guidance	Learning how to handle changing technology and platforms	With support can find and understand information using digital interfaces	With support can follow basic instructions on using passwords	With support is able to communicate using common digital platforms	With support can access the operating system to find programs and documents		
Emergent	Is willing to try with guidance if required. Understands the importance of technology	Can locate and use the very basics: e.g. Power Switch Mouse Interface/UI	Comfortable accessing and exploring digital platforms with guidance and without fear	Able to handle changing technology and platforms when supported. Able to identify and communicate problems	Able to find and understand information using digital interfaces, but has limited understanding of its application	Able to follow basic instructions on using passwords. Aware of internet risks	Able to communicate using common digital platforms	Able to navigate the operating system to find programs and documents	Can operate the Point of Sale system, taking a customer through a transaction	Can use accounting software at a functional level
Competent	Comfortable accessing and exploring digital platforms		Comfortable accessing and exploring digital platforms with no guidance	Able to handle changing technology and platforms without support	Able to understand the value and limitations of online information	Understands the risks and protocols to be safe in the digital world	Able to understand limitations of digital communication, and select appropriate platforms for communication	Working knowledge of multiple operating systems & devices	Can investigate abnormalities with pricing and product information	Can use a range of accounting software, and understands the limitations of each.
Advanced	Understands the importance of DL and embraces change and growth in this area		Actively seeks to practice unfamiliar technology	Embraces new technology, changes, and breakages and can figure out elegant solutions	Able to find and interpret the information required. While understanding the limits of digital information	Has several strategies for maintaining security, passwords, and using encryption	Able to understand how to communicate effectively through different channels, and operate within the nuance of these channels	In depth understanding of multiple operating systems and their potential	Fully understands the uses and limitations of the platforms	Able to make informed recommendations for which system is most effective for different accounting set ups

Where to next?

Firstly, the Skills Highway would like to get feedback from those who use the framework in their workplace literacy and numeracy programmes. This feedback can be sent to Anne Alkema on anne@itf.org.nz

Secondly, the framework describes digital skills at a high level and further work is required on how to measure these skills. This does not mean a fine-grained assessment tool. Rather it could take a self-reporting approach such as the UK Digital Capability Monitor which uses Ipsos MORI's Tech Tracker.¹ This revolves around asking interviewees questions about five digital skills and eleven digital tasks. They are asked what tasks they can do and what tasks they have done in the last three months. Participants having all five skills are recognized as having basic digital skills levels.

Digital Skills	Digital Tasks
Managing information	<ul style="list-style-type: none">• Use a search engine to look for information online• Find a website I have visited before• Download/save a photo I found online
Communication	<ul style="list-style-type: none">• Send a personal message via email or online messaging service• Carefully make comments and share information online
Transacting	<ul style="list-style-type: none">• Buy items or services from a website• Buy and install apps on a device
Creating	<ul style="list-style-type: none">• Complete online application forms which include personal details• Create something new from existing online images, music or video
Problem solving	<ul style="list-style-type: none">• Verify sources of information I found online• Solve a problem with a device/digital service using online help

¹ Accessed at <https://www.ipsos.com/ipsos-mori/en-uk/basic-digital-skills-uk-report-2017>