

Digital Skills for Education & Training

A good practice guide

The purpose of this good practice guide is to inform the selection and implementation of learner digital skill support systems in education and training

Digital Skills for Education & Training: *A good practice guide*

INTRODUCTION

Adults of all ages around Australia have the right to access education. In the vocational education and workplace training spaces, digital skills have been identified as a barrier for many learners seeking to engage with learning opportunities. This isn't an online versus on-campus discussion. Regardless the format being delivered, digital skills are necessary for participation in education today.

Not only are aspiring learners impacted, by so are educators and trainers. The research behind this good practice guide found that up to 87% of teaching workload in some weeks is spent on providing remedial digital skill support. Educators reported that support provision is outside their job role, their expertise, and the scope of content assigned for them to deliver.

To address these learner and educator challenges, this good practice guide has been developed for vocational education and workplace training providers and other interested parties. It contains 10 guidelines to inform the selection and implementation of digital skills support systems. These insights are driven by research that we conducted within the Australian VET sector and workplace training contexts during 2021-23. This research included focus groups and interviews with educators and learners, field testing of intervention strategies, and a review of several leading digital testing and teaching tools in consultation with expert advisors.

Pages 2-3 of this document present a summary of our 10 guidelines. Then, additional detail is provided for each guideline, along with a quick-reference action list.

Your feedback is welcomed as you draw on these guidelines to select and implement support systems to address the challenges being experienced by learners for whom digital skills are a barrier to education.

CONTACT

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- VET practitioner and foundation skills advocate, **Chemène Sinson** from Blackwater Projects.
- Education literacy expert, **Debra Lunt** from North Metropolitan TAFE.
- Literacy specialist, **Sara Venuto** from South Regional TAFE and Western Australia Adult Literacy Council.

Heartfelt thanks also to the many, many educators, trainers, and learners who shared their stories and experiences throughout this journey. You are the inspiration for this project - we hope we did you proud, and we hope you and many others experience a difference in how digital skills barriers are navigated by education providers.

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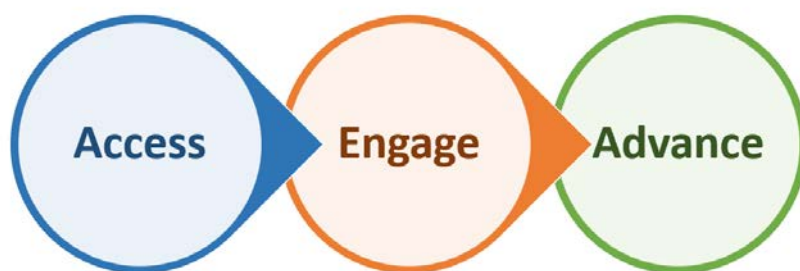
Summary

This guide has been developed to inform the selection and implementation of systems to support learners for whom digital skills are a barrier to vocational education and workplace training. These first pages present a summary of 10 guidelines, with more detail provided for each guideline from page 4. To keep things simple, the terms *educators* and *education* are used here to represent both vocational education and workplace training.

1

PURPOSE AND SCOPE OF TARGET DIGITAL SKILLS

Our research found that an informative way of categorising digital skills is by stage of education; *access*, *engage*, and *advance*. This first guideline for providers and practitioners is to know what stage of digital skills you are seeking to identify or address, and ensuring the resources you select and implement align with those target skills. ([See more...](#))



We recommend categorising digital skills by stage of education

2

1-2-3 ELEMENTS

The recommended 1-2-3 steps to address digital skill barriers in VET and workplace training are:



A simple *screening* of all enrolling students is intended to identify at-risk learners who can then be supported through targeted *testing*. Those test results will inform what *upskilling* interventions are required, and enable providers to create a plan for that learner. ([See more...](#))

3

FLEXIBLE, TARGETED TESTING AND UPSKILLING

The ideal digital skills support systems offer each affected learner an opportunity to engage with short, targeted learnings that are derived from their own test results. This represents a *need-driven* approach to upskilling. ([See more...](#))

4

LEARNER ACCESS TO TESTING AND UPSKILLING

Providers should consider how learners will receive access to, or be expected to engage with, digital skill screening, testing, and upskilling resources. We found that it is important not to inadvertently embed a digital skills barrier for the learners who need to access and benefit from those resources. ([See more...](#))

5

NON-ADVANCED LANGUAGE SKILLS

While language literacy is not the target of digital literacy testing and upskilling, the complexity of language being used should be a major consideration in the selection and implementation of support systems. In particular, *access* and *engage* screening, testing, and upskilling resources should not require advanced language or reading skills. ([See more...](#))

6

POSITIVE COMMUNICATION

During our trials, learners reported the importance of not being given the impression that digital skill screening or testing systems are being used to deny them access to education. Quite the opposite! Our guideline here is to therefore frame your initiatives as proactive support for learners, and to thoughtfully communicate the timing and type of upskilling support that will be offered. ([See more...](#))

7

SUPPORTIVE LANGUAGE

Within testing tools, it's important to always avoid 'pass-fail' language. Instead, look for tools that present test results to learners in a positive way. Terms such as **mastered skills** and **skills to improve** were found to be well received by learners. ([See more...](#))

8

IMPLEMENTATION

We suggest that supporting learners to overcome digital skills barriers is not only a moral imperative but is a commercially sound practice that improves the rates of learners successfully completing their subsequent courses.

Digital skills screening, testing, and upskilling is ideally a purposefully implemented initiative, specific to each training provider's target education context. For larger organisations, the consideration of providing *digital skills hubs* is encouraged. These hubs would be a boon for learners, while also providing educators with a specialist support resource to direct affected learners to. ([See more...](#))

9

MAPPING

It is anticipated that many organisations will be concerned with mapping their digital skills initiatives and resources to a framework. Our guideline here is to instead prioritise identifying the digital skills required to *access*, *engage*, and *advance* through each of *your* learning contexts, and align your support systems to those. ([See more...](#))

10

COMMERCIAL CONSIDERATIONS

When selecting and engaging with digital skills resource providers, normal commercial considerations should be observed. Key elements to also consider might include:

- licencing arrangements, setup costs, and ongoing costs
- training and support
- inclusion of both testing and upskilling resources
- the option for both digital and paper-based resources
- the availability and formats of complementary teaching resources
- proven, established resources developed by experts.

([See more...](#))

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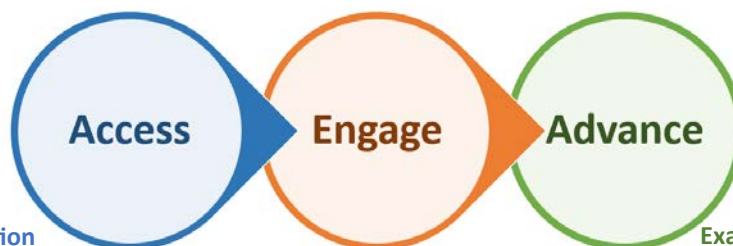
Supplementary Detail

1

PURPOSE AND SCOPE OF TARGET DIGITAL SKILLS

Our research found that an informative way of categorising digital skills is by stage of education; **access**, **engage**, and **advance**. This first guideline for providers and practitioners is to know what stage of digital skills you are seeking to identify or address, and ensuring the resources you select and implement align with those target skills.

3 stages of digital skills for education



Example ACCESSING education digital skills include:

- Log into, and engage with, basic email function
- Complete an online form
- Access the internet
- Navigate basic website interactions
- Utilise keyboard and mouse functionality

Example ENGAGING with education digital skills include:

- Digitally contact their educator
- Identify icons and functions of core apps and software
- Open, close, and switch between windows or apps
- Utilise common screen controls (e.g. check-boxes, drop-downs, drag-and-drop, scrolling, etc)
- Conduct basic internet searches
- Access, save, and move documents
- Access support tools and help options
- Understand eSafety and digital footprints
- Potentially includes navigating moderately complex web pages

Example ADVANCING through education digital skills include:

- Create and use moderately complex Microsoft Office documents
- Install or modify apps and software
- Manage computer and app settings
- Search for, and discriminate between, information sources
- Manage multiple usernames, passwords, and online identification protocols
- Implement a document filing system
- Upload created files (e.g. documents, videos) to a cloud-based portal such as when submitting assessments

This means explicitly identifying what digital skills your learners need to readily

- (a) **access** education by enrolling in your course,
- (b) **engage** with their learning, and
- (c) **advance** through their target program.

A review we conducted revealed that many of the resources provided by providers target the **advance** stage of education and associated digital skills (from the model above), rather than more basic **access** and **engage** digital skills. Furthermore, learners experiencing digital skills barriers were observed not to have the proficiency to identify, access, or engage with support which targets the **advance** stage of their education participation.

Therefore, the guideline here recommends ensuring your digital skills interventions are timely and aligned to a clear purpose. That is, know what skills are needed (in your context), when they will be needed (by your learners), and whether these skills are assumed pre-existing knowledge or will be actively taught.

As suggested above, the digital skills required to navigate enrolment are different from being able to progress through a complex unit that might require, for example, higher-level skills with one more Microsoft Office programs. Those *advance* digital skills may never be required within the target program or may not be required just yet. If they will be required in the future, consider whether and how targeted upskilling support will be made available, or if your intent is to explicitly teach those digital skills along the way as embedded curriculum.

The example digital skills provided adjacent to the model above are not intended to represent a comprehensive list; they are simply shared as indicators of the types of digital skills that might be required at those stages. As reiterated in guideline 9, we encourage providers to identify the skills relevant to their organisation and each of their programs or cohorts.

Note 1: This project was concerned with digital skills as a **barrier to education** participation.

We found those barriers tending to occur because of *access* and *engage* digital skill needs, which is why this resulting good practice guide addresses those skills more explicitly than *advance* digital skills.

Note 2: Identifying relevant digital skills is not a discussion of whether your program is online or not-online. It is about understanding, regardless of the location or medium of learning, what range and depth of digital skills are required to *access*, *engage*, and *advance* through the target learning in your contexts.

Note 3: Learner access to digital tools (e.g. access to an internet-connected digital device) is *not* within the scope of this project or guide, and should be addressed as a separate barrier.



1-2-3 ELEMENTS

The recommended 1-2-3 steps to address digital skill barriers in VET and workplace training are:



A simple *screening* of all enrolling students is intended to identify at-risk learners who can then be supported through targeted *testing*. Those results will inform what *upskilling* interventions are required, and enable providers to create a plan for that learner.

The recommended guideline for enrolling new students in any education program is to screen all prospective learners for the purpose of identifying those who may not yet have the digital skills to *access* or *engage* with the education context at hand.

Our research identified two reasons to screen and test separately:

- First, putting vulnerable learners through a detailed skills test without adequate framing and support was observed to be a negative experience for the learner that negatively impacted their longer-term perceptions of education and their opportunity to access it.
- Second, learners who are not experiencing digital skills barriers were observed to become frustrated with the process of completing an unnecessary test, and this negatively impacted their perception of, and early learning behaviour within, their chosen study program.

Screening:

Screening should not be onerous for you or your learners, and is ideally a simple set of a few questions (perhaps 5-10) embedded within the enrolment process for the purpose of identifying whether the learner should be directed to a formal evaluation of their digital skills. Screening questions should be relevant to the qualification or program

intending to be undertaken, and is unlikely to be a one-size-fits-all solution. Instead, different screening questions for different programs is anticipated, and how and when those screening questions are embedded will be unique to each context.

The utilisation of can-can't language in screening questions should always be avoided, and learner self-evaluation of skill level was found to be often inaccurate. Instead, pilot trials indicated that *experience* questions were better received by learners of all skill levels, while also more accurately indicating the need for further testing. For example, “*how often do you send an email?*” is better than “*how well can you use email?*”.

The language used when introducing digital skills screening should not deter learners who these initiatives are designed to help. Nor should these initiatives distract learners for whom digital skills are not a barrier.

Our discussions with educators revealed that, within many organisations, some qualifications or programs are often known to attract learners for whom digital skills are an *access* or *engagement* barrier. Pilot trials indicated that phone call screening can be an efficient and successful approach for those programs.

Testing:

There are several digital skill testing and/or upskilling tools and resources commercially available, and it is anticipated that new tools will continue to be developed. As discussed more in guideline 3, ideal solutions are those that draw on a curatable collection of targeted tests, and upskill learners in a flexible, need-driven way that is aligned with digital the skills needed for their education context.

Resources should never use complex language or require advanced language literacy. This is an absolutely critical consideration in the selection and implementation of tools.

Digital skills tests are ideally presented in separate parts that represent sets of skill types. This approach will enable you to select or curate which tests from your collection are appropriate for different learner cohorts or education programs. For example, the digital skills necessary to *access* and *engage* with one of your qualifications might be basic computer skills, internet basics, and simple email; whereas the digital skills required for a different qualification might also include downloading and uploading files, navigating complex websites, or perhaps being able to self-learn a new digital tool. Notably, testing learners against skills that aren't relevant to their chosen study program can represent a waste of resources. For example, we observed that unnecessary anxiety was experienced by learners who 'failed' a Microsoft Word digital skills test when at no time in their forthcoming program would Microsoft Word be used.

Effective support systems are those that consider the differences between *accessing*, *engaging* in, and *advancing* through the education context being sought by each learner, and match the testing elements to those specific needs. It is important to also consider to what extent the learner will be expected to engage with a learning management system to *access* and *engage* with their educator, timetable, learning materials, learning experiences, as well as administrative and support services.

Upskilling:

Depending on your context, upskilling support might take the form of self-paced or facilitated learning, and might be presented online or not-online. Regardless of how upskilling will be facilitated, implementation-ready curriculum and resources should be available so that learners for whom needs are revealed, are supported to become proficient in the digital skills necessary for the context at hand.

Achieving the necessary skills to *access* and *engage* with education should occur as a specialised intervention before the learner's mainstream program begins, rather than simultaneously with it. This is critical for learner success; it is also critical for the educator who will subsequently teach them (see guideline 8 for important insights regarding observed educator workload).

Top-tip: Learners should not perceive that they have 'failed' an entire module or testing part because of some incorrect questions.

The ideal testing solutions are those that highlight successes and offer learning opportunities that are specific to the identified gaps.

3

FLEXIBLE, TARGETED TESTING AND UPSKILLING

The ideal digital skills support systems offer each affected learner an opportunity to engage with short, targeted learnings that are derived from their own test results. This represents a *need-driven* approach to upskilling.

Using a one-size-fits-all model to upskill learners is not ideal. This is especially true for *access* and *engage* digital skills. We observed that learners resent being forced to move through learning materials for skills they are already proficient at. Instead, the recommended guideline is to implement upskilling tools, resources, or interventions that are specifically matched to the learners' specific deficits as identified through targeted testing. This represents a need-driven approach.

Key-insight:

Need-driven upskilling is the ideal approach.

Our recommendation is for testing tools to be used for the purpose of evaluating current skills and identifying relevant learner needs that can be addressed in a targeted way. For example, having a system which facilitates a micro-lesson in response to each incorrect answer is preferable over asking learners to undertake or repeat an entire learning module even though many digital skills in that module were proficiently demonstrated by the learner.

Exception: It is acknowledged that some digital skills (often of the *advance* type) are designed to be embedded as part of the curriculum within the qualification the learner is intending to undertake. In these situations, the associated training will therefore organically occur as a normal part of the content delivery.

Note: *Need-driven* is the term of choice over *gap-driven* which triggered negative associations and perceptions for some learners.

4

LEARNER ACCESS TO TESTING AND UPSKILLING

Providers should consider how learners will receive access to, or be expected to engage with, digital skill screening, testing, and upskilling resources. We found that it is important not to inadvertently embed a digital skills barrier for the learners who need to access and benefit from those resources.

We observed that some learners require direct support to access testing and upskilling support. For example, some learners benefit from hands-on guidance to first learn how to navigate a computerised tool (such as enter a password, use a mouse, navigate to the opening page, scroll to see questions, etc). If your organisation is working with learners for whom digital skills to *access* or *engage* with education are a barrier, then choosing a solution where some of the testing protocols have the option of being flexibly implemented as either online or paper-based is ideal. Educators suggested to us that qualifications which are known within different organisations to attract early school leavers are ones to particularly offer non-online screening, testing, and first-stage upskilling support.

5

NON-ADVANCED LANGUAGE SKILLS

While language literacy is not the target of digital literacy testing and upskilling, the complexity of language being used should be a major consideration in the selection and implementation of support systems. In particular, *access* and *engage* screening, testing, and upskilling resources should not require advanced language or reading skills.

Digital skills tools and resources should use straightforward language, and not expect learners to be strong readers or have advanced language skills. Simple, short sentences should be used, complemented with audio and video. Tools that use complex language, requiring relatively advanced reading and comprehension skills, were observed to add an unnecessary burden and distraction when testing and upskilling (particularly for *access* and *engage* digital skills).

Top-tip: If choosing commercial resources, it's essential to have several of your staff trial all facets of the tools, both from an educator and learner perspective. It's especially important to include adult literacy specialists in your trials.

6

POSITIVE COMMUNICATION

During our trials, learners reported the importance of not being given the impression that digital skill screening or testing systems are being used to deny them access to education. Quite the opposite! Our guideline here is to therefore frame your initiatives as proactive support for learners, and to thoughtfully communicate the timing and type of upskilling support that will be offered.

We observed that learners appreciated clear messaging that digital skills screening and testing is designed to *enhance* their learning journey by making it an easier, better experience. We recommend sharing with learners that digital skills support systems:

- prepare them to succeed in accessing and engaging with their chosen study program;
- ready them for the digital demands of 21st century workplaces; and
- enhance their ability to engage with social services.

7

SUPPORTIVE LANGUAGE

Within testing tools, it's important to always avoid 'pass-fail' language. Instead, look for tools that present test results to learners in a positive way. Terms such as *mastered skills* and *skills to improve* were found to be well received by learners.

The way learner results are presented to them is an important consideration. During our research we found that learners were disconcerted should test results be kept from them. When an explicit relationship between test results and upskilling resources was demonstrated, learners reported perceiving the process to be a more positive and beneficial experience. One way this can be achieved is to make a micro-lesson available for each incorrect answer, immediately or soon after a test.

Key-insight: Making test results available to learners using supportive language is vital. Phrases such as 'skills yet to improve' are perceived better by learners than 'fail' or similar.

8

IMPLEMENTATION

We suggest that supporting learners to overcome digital skills barriers is not only a moral imperative but is a commercially sound practice that improves the rates of learners successfully completing their subsequent courses.

Digital skills screening, testing, and upskilling is ideally a purposefully implemented initiative, specific to each training provider's target education context. For larger organisations, the consideration of providing *digital skills hubs* is encouraged. These hubs would be a boon for learners, while also providing educators with a specialist support resource to direct affected learners to.

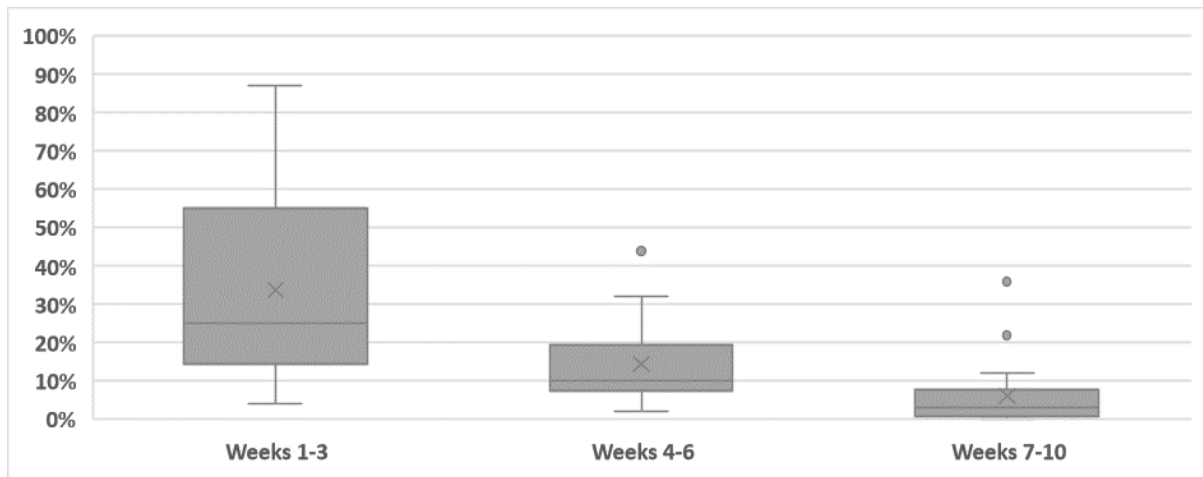
As shown in the data presented below, we found that providing digital skills support within normal content delivery contexts is time consuming for many educators. Importantly, many educators reported that providing digital skills support is outside their job description and expertise, and also outside the scope of content assigned for them to teach.

This means that time and resources are being diverted away from delivering the assigned content or intended curriculum, and away from students for whom digital skills are not a barrier to learning. We observed digitally proficient learners expressing frustration at receiving less attention and instruction than they would have received were they not in a cohort with peers who lacked *access* and *engage* digital skills.

How much time do educators spend providing remedial digital skills support?

During a term in 2022, 197 vocational educators across a diverse range of specialities and education providers voluntarily maintained a daily record of what percent of their time was spent on their assigned teaching role, and what percent of time was spent providing *access* and *engage* digital skill support. Importantly, each of these educators was not responsible for providing digital skill support within their job description, and they reported

that providing this support reduced the amount of time they were able to spend teaching the intended course content and supporting learners from whom digital skills were not a barrier to learning.



Time spent on remedial digital skills, as reported by 197 educators

Across the term, an overall average of 18% of teaching time was reportedly spent on digital skill support, with the most intensive support provided in weeks 1-3 (range 4-87% of time; mean average 34%). The average time spent on remedial digital skills support in weeks 4-6 was 14%, and some educators hypothesised that the reduced burden on them during this period was due to learners, for whom digital skills remained a barrier, dropping out of the course.

During pilot trials we observed improved successful completion results when learners who are experiencing *access* and *engage* digital skills barriers were temporarily diverted from commencing their target study program. Providing those learners with specialised support *before*, not concurrently with, their target learning program was found to be a critical success factor for their longer-term successful engagement with, and completion of, the target program.

9

MAPPING

It is anticipated that many organisations will be concerned with mapping their digital skills initiatives and resources to a framework. Our guideline here is to instead prioritise identifying the digital skills required to *access*, *engage*, and *advance* through each of *your* learning contexts, and align your support systems to those.

If you are considering ways of formally mapping digital skills in your context, we recommend that you avoid using 'levels'. We observed that learners respond more positively to resources that are framed as digital skill as *access*, *engage*, and *advance*. For example, learners were observed to more readily engage with opportunities to acquire *Skills To Access* education than they did with the same resources labelled *Level 1 Digital Skills*. Furthermore, we perceived that stakeholders more readily conceptualised relevant barriers to education when the *access*, *engage*, and *advance* terms were used over "levels".

That said, drawing on the Australian Digital Capability Framework and other resources will help inform your understanding of the types of skills that might be relevant across your education context. Importantly, we note that every education provider facilitates their enrolment processes and learning resources differently. This means that the digital skills required to *access*, *engage*, and *advance* through your qualification/s will be different from another provider facilitating the same qualification/s. Furthermore, the skills required to *engage* with one qualification at your organisation, is likely different to another qualification that you deliver.

Our guideline, therefore, is to identify what is relevant in your context. First, consider skills that are common across your learners, such as navigating the enrolment process, then consider skills that are specific to the qualification at hand. This will include *applying* pre-existing digital skills, or having the proficiency to *learn* a new digital skill that is embedded in the curriculum. For each qualification you facilitate, you'll also consider the range of digital skills that are specific to the types and delivery methods of learning experiences and learning content that are being made available for learners to *access*, *engage* with, or *advance* through.

If you are seeking to incorporate an established framework, a matrix approach can provide a manageable, practical structure as you identify the digital skills necessary to *access*, *engage*, and *advance* through learning at your site, and within each qualification or program that you offer. The matrix presented here combines the 3 stages of digital skills that we have identified for education (*access*, *engage*, and *advance*) with the 5 focus areas presented in the Australian Digital Capability Framework (ADCF).

		Stages of Digital Skills for Education		
		Access learning	Engage with learning	Advance through learning
Australian Digital Capability Framework	Focus Area 1: Information and data literacy			
	Focus Area 2: Communication and collaboration			
	Focus Area 3: Digital content creation			
	Focus Area 4: Protection and safety			
	Focus Area 5: Technical proficiency and problem solving			

The ADCF also provides guidance on *levels of proficiency*. We therefore recommend drawing on those indicators to consider whether learners in each of your programs require *guided* or *autonomous* proficiency, and whether the task expectations are *simple*, *routine*, *advanced*, *complex*, or *specialised*.

10

COMMERCIAL CONSIDERATIONS

When selecting and engaging with digital skills resource providers, normal commercial considerations should be observed. Key elements to also consider might include:

- licencing arrangements, setup costs, and ongoing costs
- training and support
- inclusion of both testing and upskilling resources
- the option for both digital and paper-based resources
- the availability and formats of complementary teaching resources
- proven, established resources developed by experts.

The types of experts involved in the selection, development, or implementation of your digital skills support systems is a critical consideration. Remember, digital skill support is more than testing!

Our research identified that some commercially available digital skills providers have a long history of supporting adult learners and increasing access to education, employment, and social services. The tools and resources offered by those providers have been built and implemented by teams with deep expertise in adult literacy, and extensive experience directly supporting learners who are experiencing *access* and *engage* barriers to education.

This is an important consideration when choosing a resource provider because digital skills are a type of literacy. Adult literacy specialists have expertise in teaching and learning literacy-related skills. These specialists know how to break down complex material and build a scaffold to assess and build on types of learner capabilities that are relevant to preparing them for engaging with mainstream learning programs. This is a critical skill when it comes to the design of resources to assist learners with digital skills, not just for educational opportunities, but for work and daily life in the wider community. We therefore recommend ensuring that adult literacy experts are involved in the development and implementation of your digital skills support systems, as well as the development of any commercial products you incorporate.

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Quick-reference action list

Choose or develop systems for digital skill testing and teaching that...

- 1 Prioritise the 3 stages of digital skills for education (*access, engage, advance*)
- 2 (1) Screen; (2) Test; and (3) Upskill learners
- 3 Provide targeted skill testing and responsive, need-driven upskilling
- 4 Ensure learners can easily access user-friendly testing and upskilling support
- 5 Offer plain language information, instructions, and tools
- 6 Feature positive communication throughout all elements
- 7 Use language that is supportive and encouraging

Further considerations...

- 8 Develop a digital skills hub so educators have a specialist resource to direct affected learners to
- 9 Prioritise your learner needs, not frameworks
- 10 Consider commercial factors

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