

Unlocking the Potential

A digital learning strategy
for Victorian learning and
development settings

2014-2017



VICTORIA
AS A LEARNING
COMMUNITY

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Ministers' message

This is an exciting time to be involved in education. Access to a world of infinite information has changed how we communicate, think, and process information.

The rapidly changing technological landscape and the emergent new knowledge economy and global society demand a brave shift towards new learning which is connected, collaborative and global.

Our vision is to make the Victorian learning and development system one of the best in the world. Our challenge is to maximise the opportunities that new technologies make possible to help us achieve our vision.

The effective use of digital technologies is a critical enabler in re-shaping and enhancing the ways in which our children and young people learn and engage with the world around them to improve their academic performance, and to acquire the skills necessary to successfully participate in work and life.

Digital technologies provide unique opportunities for a curriculum guarantee for all Victorian children and young people regardless of location or circumstance. The use of digital technologies can also increase opportunities for adult learners to access vocational training to participate in work and life.

Although learning and teaching supported by technology sits within an overall curriculum strategy, the role that technology can play in improving learning and teaching requires a targeted and sustained focus to ensure it is fully embedded in practice, used appropriately and to greatest effect.

We need to clearly identify and demonstrate the opportunities and benefits that technology provides for improving learning across curriculum, pedagogy, assessment and reporting so that more powerful and deeper learning enabled by technology can be realised. We want a “connected Victoria” linking all those involved in education to

leverage the potential of technology to provide quality learning environments and opportunities.

Unlocking the Potential: A digital learning strategy for Victorian learning and development settings outlines what we will be doing to support change to ensure that our children and young people benefit from the learning opportunities, choices and resources afforded by the seamless, appropriate and effective use of technologies.

We will have an agile approach and will continually review our progress and adjust our actions to ensure that a generation of learners will have the capabilities for living and working in a complex, globalised and interconnected world.

Much is at stake in the implementation of *Unlocking the Potential*. We look forward to working collaboratively with the Victorian learning community to implement this strategy.



The Hon Martin Dixon MP
Minister for Education



The Hon Nick Wakeling MP
Minister for Higher Education
and Skills



The Hon Wendy Lovell MLC
Minister for Children and Early
Childhood Development





1 Introduction

“Ultimately what matters most – and what we are all working towards – is that children and young people learn what they will need to thrive in our world, and that they experience learning environments where each of them can blossom to enrich our cultures and societies.”

Michael Fullan OC

Unlocking the Potential: A digital learning strategy for Victorian learning and development settings outlines the Victorian Government’s plan to strengthen digital learning in order to improve learner outcomes.

The strategy addresses early childhood, schools and vocational education and training settings and:

- describes the rich learning opportunities that digital technologies offer
- outlines the challenges and opportunities Victoria faces in achieving widespread and effective use of digital learning
- describes 12 key actions that will be undertaken by the Department of Education and Early Childhood Development (“the Department”).

The actions outlined address three interconnected themes:

- **Unlocking learning potential:** Curriculum, pedagogy, assessment and reporting enabled, supported, extended and re-imagined by what digital technologies make possible.
- **Harnessing technology for learning:** Ensuring access and connectivity, optimising learning by leveraging the technology environment to deliver flexible options, and providing practical advice to inform local investment and planning decisions.
- **Changing learning culture:** Strengthening leadership, capacity building and promoting and adopting evidence-based practice and partnerships.

In addressing these themes, the Department will work with the Victorian learning community to ensure we maximise the possibilities digital technologies enable for learning.

Unlocking the Potential supports the Victorian Government’s commitment to make Victoria a world leader in learning and development over the next 10 years.

Digital technologies will be critical if we are to achieve this goal. Used well, these technologies offer the chance to make significant and rapid advances in teaching and learning.

They offer us the chance to transcend barriers of distance and constraints of time, and to support all learners to realise their potential.

Unlocking the Potential is aligned with the Victorian Government’s reform agenda for education, as outlined in *Towards Victoria as a Learning Community (DEECD 2012)* and *From New Directions to Action: World class teaching and school leadership (DEECD 2013)*. These documents emphasise autonomy, complemented by effective accountability and support, and the importance of building the capacity of the learning and development workforce.

This strategy builds on these reforms. In an autonomous environment early childhood professionals, teachers and education leaders will have the flexibility to determine how digital learning should be incorporated into their professional practice and what investments should be made to meet the needs of learners in their local context.



The strategy is connected and aligned with a number of other Department strategies, including the *ICT Strategy* (DEECD 2013), *Information Management Strategy* (DEECD 2013) and the *Victorian Government ICT Strategy* (VICTAC 2014).

Consultation on the strategy has been comprehensive and has included a series of focus groups and other stakeholder forums. Practitioners and leaders from early childhood settings, schools, vocational education and training settings and higher education, as well as peak bodies, parents, students and industry partners have all contributed to the development of *Unlocking the Potential*.

What are digital technologies?

Digital technologies are electronic tools, systems, devices and resources that generate, store or process data.

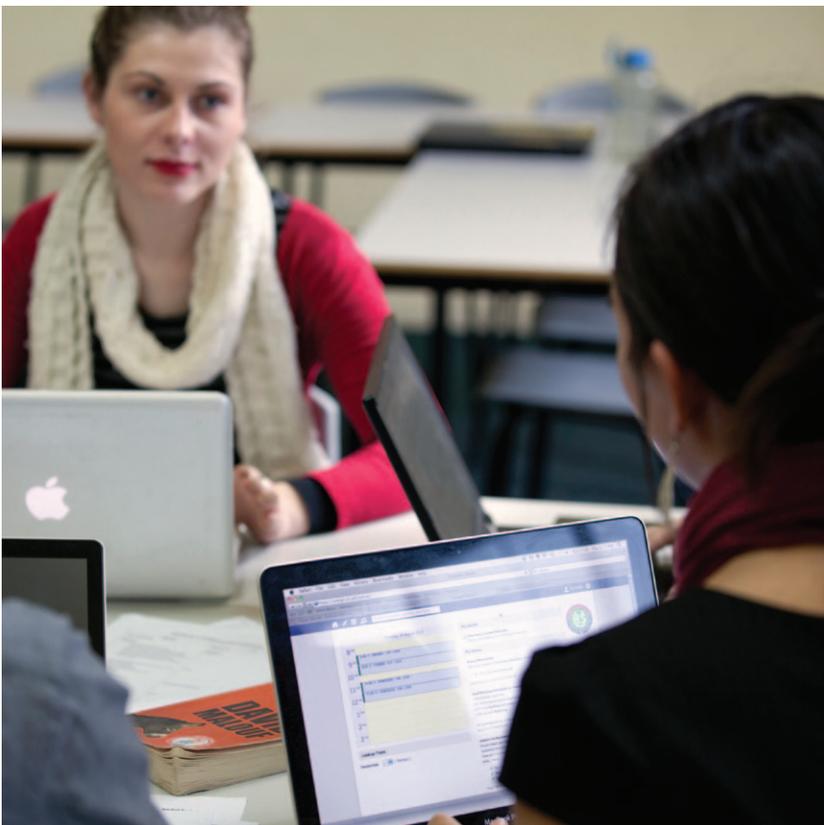
Digital technologies include social media, online games and applications, multimedia, productivity applications, cloud computing, interoperable systems and mobile devices.

What is digital learning?

Digital learning is any type of learning that is facilitated by technology or by instructional practice that makes effective use of technology.

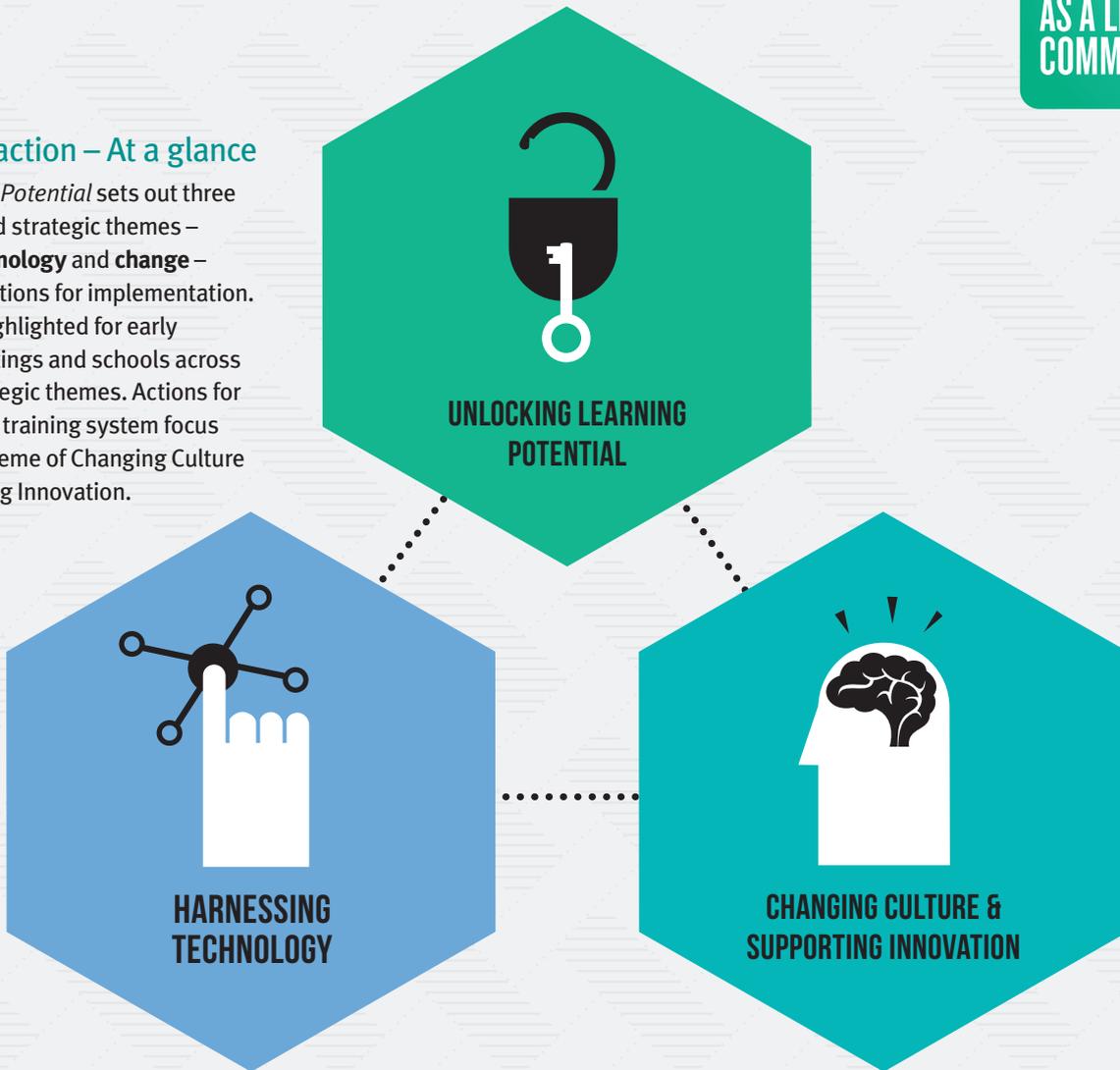
It encompasses the application of a wide spectrum of practices including;

- blended and virtual learning
- game based learning
- accessing digital content
- collaborating locally and globally
- assessment and reporting online
- participating in online communities
- using technology to connect, collaborate, curate and create.



A plan for action – At a glance

Unlocking the Potential sets out three interconnected strategic themes – **learning, technology and change** – and a set of actions for implementation. Actions are highlighted for early childhood settings and schools across the three strategic themes. Actions for the vocational training system focus on the third theme of Changing Culture and Supporting Innovation.



Unlocking Learning Potential

Curriculum, pedagogy, assessment and reporting enabled, supported, extended and re-imagined by what digital technologies make possible.

Harnessing Technology for Learning

Ensuring access and connectivity, optimising learning by leveraging the technology environment to deliver flexible options, and providing practical advice to inform local investment and planning decisions.

Changing Learning Culture and Supporting Innovation

Strengthening leadership, capacity building and promoting and adopting evidence-based practice and partnerships.

ACTION: Engage with high-quality curriculum

ACTION: Foster learner-centred, personalised and flexible learning and teaching

ACTION: Build blended and virtual learning capabilities for all Victorian government learning and development settings

ACTION: Provide real time, learner-centred formative assessment

ACTION: Enable transparent reporting and feedback on each learner's progress

ACTION: Enable core infrastructure

ACTION: Empower local choice of technologies

ACTION: Plan for investment maintenance and sustainability

ACTION: Strengthen leadership capacity for change management, direction setting and governance

ACTION: Build the confidence and capability of early childhood professionals, teachers and vocational trainers

ACTION: Base practice on research and evidence and foster and share innovation

ACTION: Establish and maintain positive partnerships

EARLY CHILDHOOD
SCHOOLS

EARLY CHILDHOOD
SCHOOLS
VOCATIONAL EDUCATION & TRAINING

2 How can digital technologies support learning and development?

The effective use of technology to transform learning requires strong organisation, leadership and vision however results so far indicate that education systems are not optimising the investment in ICT to leverage the potential it affords in changing teaching and learning practice. It is only by “building a common understanding of how students learn best and a shared vision for technology’s role in supporting such learning, can curriculum and technology leaders collaborate to create effective 21st century learning environments.”

Consortium for Social Networking

Learning can be significantly enhanced by an explicit focus on identifying and demonstrating the opportunities and benefits that digital technologies can provide across curriculum, pedagogy, assessment and reporting.

Digital technologies offer unprecedented access to quality educational content, resources and tools

The rapid development of digital technologies has led to an explosion in the availability of information, multimedia and interactivity. Learners and educators can access, interact with and create high-quality content, resources and tools, often at no cost.

In spite of the richness of educational content available online, particular skills are needed to identify, locate, organise and make effective use of the resources made possible by digital technologies. Information and support are needed to navigate digital content online and identify quality-assured tools and resources.

A number of tools are currently available to provide this support. Find, Use, Share Educational resources (FUSE), for example, offers access to the Department’s portal, repository, search engine and workspace for sharing quality digital content and resources.

Digital technologies enable explicit development of digital skills

The use of digital technologies in itself generates a range of skills that are increasingly important in the workplace and in life.

Skills in online communication and collaboration, research, data analysis and visualisation, modelling and simulations, and problem-solving can all be further developed through effective use of digital technologies.

For adult learners, pre-accredited and accredited training are critical to increasing digital literacy skills, improving pathways into further education, employment and social participation.

Accordingly, the Adult Community and Further Education Board has committed to pre-accredited digital literacy delivery through Victoria’s Learn Local adult community education organisations.

Digital technologies engage and motivate learners

With few exceptions, learners respond with energy and enthusiasm to digital technologies.

There is the capacity to investigate real-world problems, visualise and interact with concepts in multiple ways, learn at their own pace and connect with others around the world. The possibilities presented by digital technologies are genuinely exciting for learners. While use of digital technologies may be enjoyable for learners, the learning it enables is also deep and genuine. Digital technologies can promote agency for learner choice and control.

For many children and young people, digital technologies are commonplace or intuitive. Early childhood settings, schools and vocational training providers can tap into this learner engagement and harness digital technologies to improve learning outcomes.

Mobile devices promote learning in the early years – Spring Gully Kinder

Internet enabled iPads are being used to support learning at the bush kindergarten, Spring Gully Kinder.

Children discovered animal eggs and hypothesised which creature they belonged to. They took photos of the eggs with the iPad and then searched the internet to find out more.

The iPad enabled them to test their hypothesis by looking for pictures of similar eggs on the internet.

The visual options that the iPad affords enabled children to navigate information while in the pre-literacy stage without the literacy skills required to engage in many information texts.

Digital technologies support personalised learning

Across all areas of learning and development, digital technologies are a critical tool in enabling personalised learning and differentiated instruction.

Early childhood professionals, teachers and vocational trainers who are adept in the use of digital technologies can tailor their teaching practice, taking into account learners' interests, needs and learning styles. They can empower learners to pursue learning outside the standard sequence or pace. They can provide the appropriate level of challenge and ensure that all learners have the opportunity to practice skills or build their knowledge so they can realise their potential.

In this context, the educator's role becomes that of 'activator' (Hattie 2012), stimulating thinking and providing feedback and targeted instruction, while learners access and explore core curriculum content through technology.

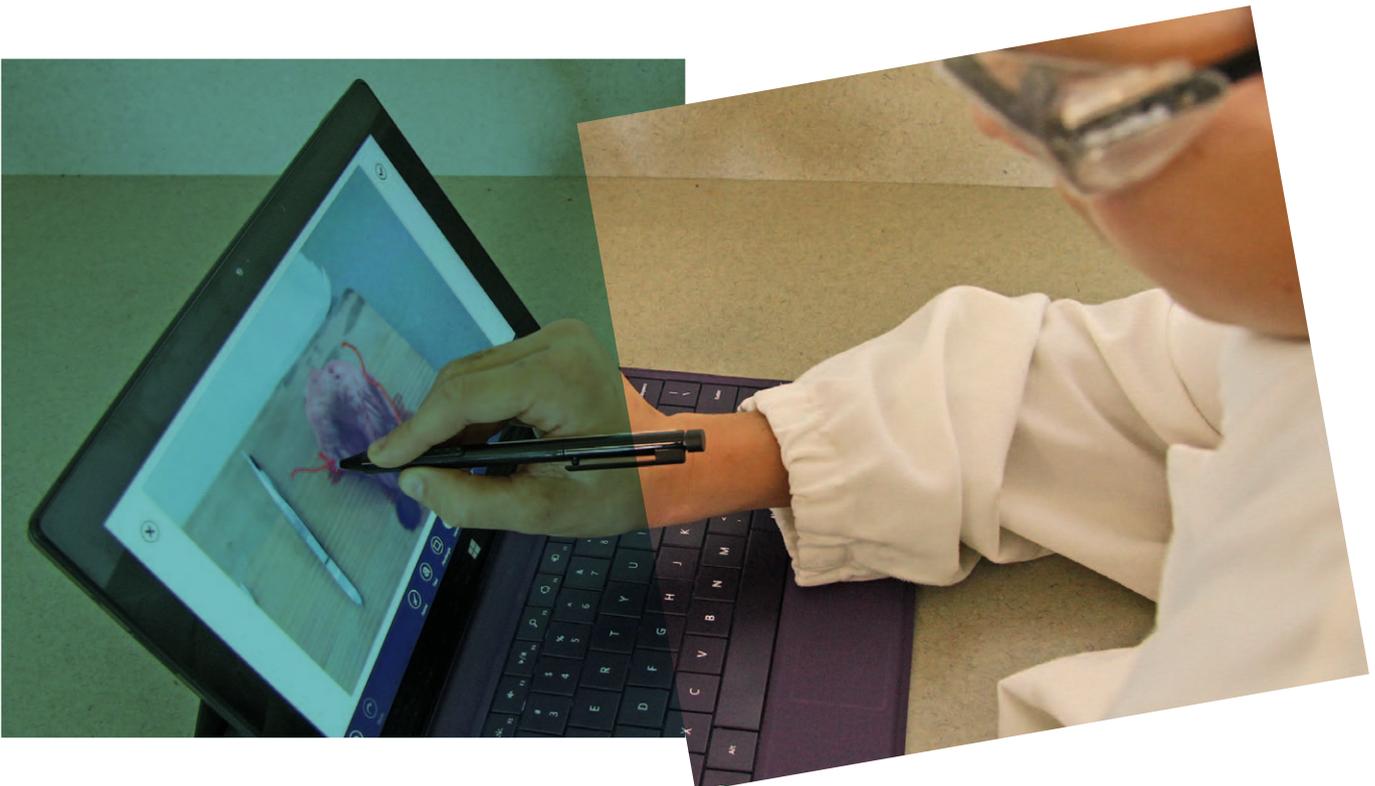
Digital technologies enable real-time assessment and feedback

Digital technologies are crucial in designing and implementing formative and summative assessments that are interactive, real-time, ongoing, personalised and adaptive.

Ongoing records of learners' achievements can be created through the use of digital technologies, giving access to deeper understandings of the learning journey, timely feedback and providing rich sources of diagnostic and adaptive information to inform learning progress and plan future learning.

“This isn't the time to use technology to refine the model we had before; this is a time to harness technology to let children go as far and as fast as they want.”

Professor Stephen Heppell



Using mobile devices to record and share student learning – Frankston Special Development School

All students and staff at Frankston Special Developmental School (FSDS) have their own iPads. Instead of communication devices, the iPad is used as a “giant” texting, phone and video tool for communication between students, parents and teachers.

Staff use their iPads for photo and video recording of student achievements during the day. They then send this footage to each student’s iPad, enabling parents and students to subsequently view the footage at home. Parents are encouraged to communicate with the teacher, taking footage of their child’s achievements and behaviour at home.

Teacher Michael Duckett says, ‘This has been a way of creating communication with visual media in a way that we couldn’t see before – seeing what is happening at home, and in the parents’ case, what their child is doing at school. If a child is having difficulty with something at home, the parents film it on the iPad and then the FSDS therapists, if requested, give them targeted help and guidance.’

Digital technologies enable collaboration with others in the community and around the globe

A range of digital technologies including interactive web applications (Web 2.0), video-conferencing, screencasts of lessons and lectures, offer learners the opportunity to connect and collaborate with peers or experts wherever they may be in the world.

The global connectivity made possible by the internet and a range of communications technologies also provides a unique opportunity for learners to develop intercultural understanding and/or learn languages.

Digital technologies enable early childhood professionals, teachers, vocational trainers and education leaders to form and participate in professional networks, collaborating in their work and sharing practices.

New learning partnerships with education settings, industry, cultural organisations and communities around the world, as well as locally, have been made possible by digital technologies.

Digital technologies enable early childhood settings and schools to communicate with and report to parents in new and better ways.

The progress of a child’s or young person’s learning and development can be documented, tracked over time and shared with families or caregivers so that they can work in partnership with early childhood professionals and teachers to achieve the best outcomes for learners.

Higher expectations through blogging – Berwick Lodge Primary School

Students at Berwick Lodge Primary School use the Global2 blogging platform as a digital portfolio to showcase their achievements, work and ideas.

‘Our students learn by creating things,’ says Lois Smethurst, eLearning teacher, ‘and technology is essential for creating and for sharing.’ Students create films, podcasts and voice threads and publish them on the Global2 blog.

The knowledge that their work has an authentic audience has raised students’ expectations of their work.

Lois adds that verbalising and visualising their ideas using digital technologies helps students make better sense of what they are learning.

‘It is the re-creation of the learning by the student using technology that leads to powerful learning.’

3 Unlocking the potential of digital learning: challenges and opportunities

“New technologies are dramatically changing early childhood education in the 21st century, as well as the face of childhood itself. Access to new technologies – in the western world at least – provide young children with a myriad of possible activities and explorations that were not possible even a few years ago.”

Professor Nicola Yelland

Undoubtedly, digital learning has the potential to significantly enhance learning experiences and learning outcomes. Yet we face challenges, as well as opportunities, if we are to support all practitioners and leaders across early childhood, school and vocational education settings to embed digital learning in their professional practice.

Challenges

Being learning-centred, not technology driven

A key challenge for early childhood professionals, teachers, vocational training providers and the Department is to ensure that decisions about how, when and why to use technology are determined by what best meets the needs of learners.

It is easy to become technology-driven, establishing systems, providing access and developing and sourcing content – focusing on the technology itself rather than the learning that it can facilitate.

Our challenge is to select those digital technologies that will support quality teaching practices, embed them in learning and development activities and enable learner progress to be monitored.

Strengthening leadership capacity

Leaders in early childhood, schools and vocational training settings play a pivotal role in promoting effective use of digital learning. Those who understand the potential of digital technologies communicate their vision and expectations to staff, families or caregivers and learners, and support planned and intentional use of technology, to drive real and meaningful improvements in learning.

Many leaders across Victoria are already using digital learning to great effect. Our challenge is to tap into their expertise to support other leaders across the system to develop their capacity in digital learning, and foster further innovation.

Building the capability and confidence of educators

Entirely new approaches to teaching practice have been made possible through the introduction of digital technologies. This presents an exciting opportunity, but for some is also a daunting prospect.

We know that across all sectors there is a need for greater support for professional development and the sharing of best practice. Capability and confidence in digital learning is about much more than mapping technology onto existing practices. It is about rethinking existing practices and applying technology flexibly and creatively in order to meet the needs of all learners.

Addressing these challenges is a central part of this strategy.



Promoting safe, responsible and discerning use of digital technologies

Digital technologies provide opportunities for enhancing learning and development, but may also present potential risks for learners if not used appropriately.

Learners need to be aware of the potential risks and understand how to behave in a safe, discerning and responsible way when using digital technologies. This includes taking care when sharing personal information online, when interacting with others through social media and other online forums, accessing appropriate and reliable information, storing data responsibly and monitoring 'screen time' use.

Early childhood settings, schools, vocational training providers and the Department have an ongoing responsibility to address this challenge by promoting safe, responsible and discerning use of digital technologies. The learners, their families and the wider community are all important partners in this task.

Opportunities Leveraging the investment that has been made in technological infrastructure

Substantial investment continues to be made in Information and Communication Technology (ICT) infrastructure to ensure access and connectivity.

Support is currently provided for schools, for example, through the VicSmart network and the eduSTAR suite of services. Over nine hundred video-conference units are in place, and schools are supported by over 650 centrally-funded technicians. Internet services are provided at no cost to government funded kindergartens.

Building on this foundation of core technology infrastructure, early childhood professionals, teachers and education leaders have the flexibility to make locally-driven technology investment decisions.

In the context of the Victorian vocational training system, significant investment has been made in recent years to support e-learning grant projects and flexible learning support services. Recent investment includes the Technology Enabled Learning Centres pilot, which aims to increase learners' access to a greater range of higher education and vocational training programs.

To get the most value out of previous investment and support learning, we want to provide all settings with the information and advice they need to plan and make informed investment and planning decisions that will deliver the best outcomes for learners.

Support is already being provided through initiatives such as the school ICT Progression Strategy (SIPS) and star rating for schools; and by providing Service Delivery Managers across the Department's four regions to support schools embed the use of digital technologies into their practices.

Connected Educators: Lync Communities Online

The Centre for Adult Education (CAE) has focused on Lync as a tool for developing alternative training and support models for Learn Local organisations through the Lync Communities Online project funded through the Adult Community and Further Education Board's Capacity and Innovation Fund. As part of the project, online communities of practice were established across participating Learn Local organisations, with a focus on encouraging tutors to collaborate, share knowledge and acquire new skills. The project was particularly successful in geographically isolated areas where Learn Local practitioners used Lync to meet and teach online.

Extending uptake of existing, high-quality tools and resources

To support curriculum design and delivery, assessment and learning, numerous high-quality tools and resources are available to Victorian educators and leaders. We have the opportunity to extend adoption of these tools and resources and promote further sharing of good practices.

To help build our evidence base, support is being provided through initiatives such as research partnerships with educational organisations and industry to showcase and share practices.

To support early childhood professionals, teachers and education leaders to collaborate in professional learning, a range of quality tools are available. These include Lync, video conferencing, Scootle Community, and FUSE. Support is also being provided through a range of professional learning opportunities such as the Virtual Conference Centre and flourishing social media communities.

To support assessment, many schools currently access and use the Department's and the Victorian Curriculum and Assessment Authority's (VCAA) online assessment resources.

Vocational training providers are also utilising online assessment in many cases.

In the vocational training sector the national Flexible Learning Advisory Group (FLAG), of which Victoria is a member jurisdiction, trialled a number of projects relating to assessment as part of its 2012-13 business activities, including mobile video e-assessment and industry e-validation of assessment pilots.

To support learners to collaborate locally and globally, educators can make use of video conferencing technologies or the Global2 blogging platform. Teachers establish an online community on Global2 where students can blog, wiki, message board and connect to other technologies.

A number of digital learning partnerships are already in place in Victoria. Partnerships (commercial, cultural and educational) are brokered by the Victorian Government to facilitate the sharing of resources and expertise. Major partnerships such as Microsoft's Partners in Learning have benefited thousands of educators by building local and global communities.

Building on the strong foundation of Victoria's curriculum frameworks

Curriculum design and delivery can connect with digital learning in a number of important ways including through the:

- explicit development of digital skills, such as computational thinking skills which involve problem-solving through data analysis and modelling
- enhanced learning across all learning areas and domains, through use of digital technologies

- development of contemporary skills such as collaboration, self-regulation and metacognition (the capacity to analyse and control cognitive processes when learning).

Victoria's curriculum frameworks, including the Victorian Early Years Learning and Development Framework (VEYLDF), AusVELS, Victorian Certificate of Education (VCE), Victorian Certificate of Applied Learning (VCAL) and Vocational Education and Training in Schools (VETiS) provide opportunities for digital learning and the explicit development of digital skills.

The AusVELS Digital Technologies curriculum will clearly advise teachers of the learning and teaching expectations for Foundation to Year 10 students. At the senior level, a number of curricula focus on digital technologies, including VCE Information Technology, the VCE higher education scored study in computer science (under development) and VCE VET programs such as ICT and Media.

Educators can access an extensive suite of quality-assured digital resources that are aligned to Victoria's curriculum frameworks through FUSE. Software applications available through eduSTAR are also aligned to Victoria's curriculum frameworks.

In vocational training settings, the development of digital skills is supported at both the pre-accredited and accredited level. The Adult Community and Further Education Board is continuing to support both internationally recognised and locally developed digital literacy curriculum through its purchase of pre-accredited training.

In the accredited training market, digital literacy and e-skills are supported through the Australian Qualifications Framework (AQF) which includes units of competency ranging from foundation-level digital literacy to support skills for life and work, through to advanced ICT units for specialist occupations.

The Victorian Virtual Learning Network – Bendigo Senior Secondary College

The Victorian Virtual Learning Network (VVLN) project is investigating ways of delivering online VCE courses in Mathematical Methods, Physics and Psychology. The initiative was a response to the emergent and changing demands of students. The project also aimed to respond to the difficulties rural schools face in recruiting and retaining highly skilled staff to teach VCE Maths, Physics and Psychology specialist subjects.

In 2012 the first generation of online VCE courses in limited subjects were trialled in eight schools catering for 18 students. In 2013 the VVLN delivered VCE courses online to 28 schools, catering for 114 students.

In 2014 the VVLN is offering new subjects in Psychology, Chemistry, Legal Studies, General Maths and Health & Human Development.

Transcending barriers of rurality and remoteness, including through blended and virtual learning

Digital technologies can connect learners living in rural and remote areas with knowledge and expertise, offer opportunities to create or participate in new communities and expand curriculum choice.

Blended learning, which is a combination of face-to-face and online learning, and virtual learning, which involves accessing instruction online, can greatly enhance rural and remote students' learning opportunities.

Virtual learning may be synchronous, where all students log in at the one time in a virtual classroom, or asynchronous and involve students accessing recordings of a lecture or class in their own time. It can provide wider access to senior, specialist studies such as science and mathematics, language studies, music or enrichment activities.

Blended learning and virtual courses are already being provided through a small range of locally-based and successful cluster and cross school curriculum provision arrangements as well as through the Distance Education Centre Victoria (DECV). Many vocational training providers in Victoria also offer blended and online courses.

Grant funding opportunities such as through the Adult Community and Further Education Board's Capacity and Innovation Fund for Learn Local adult community education organisations, and the TAFE Structural Adjustment Fund for TAFE Institutes, provide additional opportunities for increasing blended and virtual learning capability.

The potential of blended and virtual learning, and of digital learning more generally, to meet the needs of learners in rural and remote areas has now been established. Victoria has the opportunity in coming years to extend good practice and increase the number of learners benefiting from access to digital technologies through a coordinated approach.

“Blended learning has shifted our thinking about approaches to the design and execution of the learning experience. Rather than replicating or reproducing traditional practices, we are now generating more engaging, interactive and challenging lessons. Our students love it.”

Principal, County Education Project

Growing Virtual Learning in Victoria

A growing number of 'virtual learning' providers are delivering subjects through blended modes across the state. These include:

- The Distance Education Centre of Victoria (DECV) which offers subjects at all year levels for students who cannot access a particular subject, or attend their local school (eligibility criteria apply)
- The John Monash Science School which offers enrichment subjects in astrophysics and nano science to Year 10 students
- The Wimmera Virtual School which offers almost 30 VCE subjects across its cluster network of schools
- The Gippsland Virtual network which delivers 10 VCE subjects as well as other secondary and upper primary subjects
- The Country Education Project which runs the VCE ebiology and ephysics projects, and the upper primary science initiative
- The Victorian School of Languages (VSL) which delivers languages remotely as well as face-to-face.

Technology-Enabled Learning Centres

The Technology-Enabled Learning Centre (TELC) network was launched in November 2013 as part of a \$5 million commitment to improve regional education.

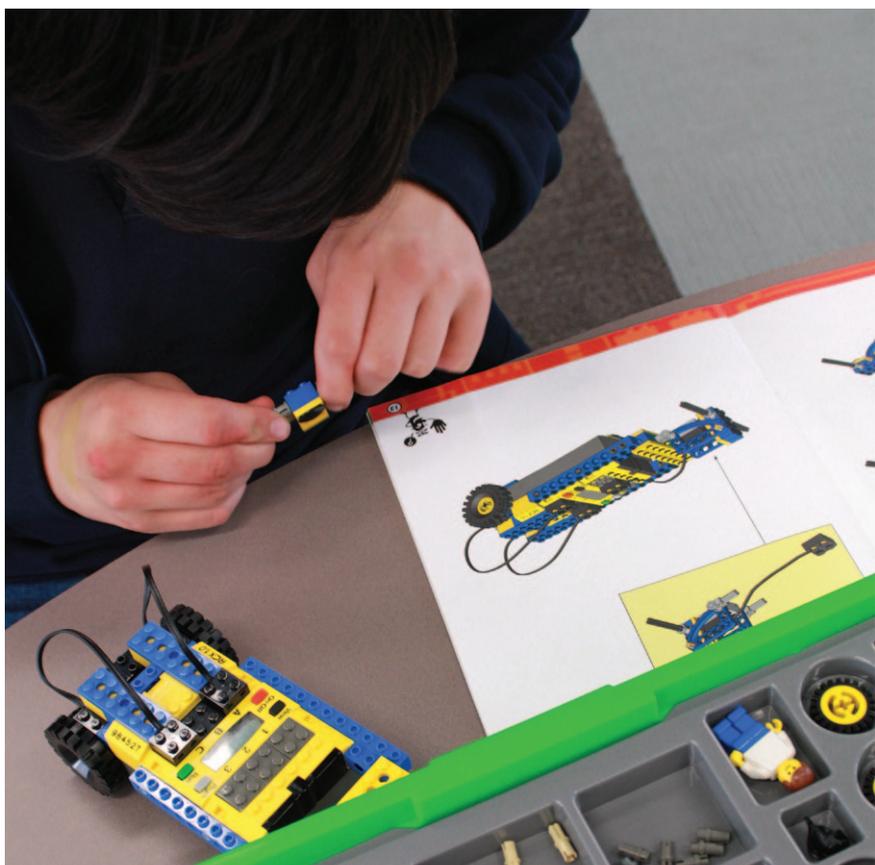
TELCs combine face-to-face and online learning, providing learning opportunities closer to home, flexibility, access to expertise from across the globe, peer communication, online learning materials and new assessment opportunities. TELCs will increase students' access to a greater range of higher education and vocational training programs, ensuring students can access courses that align with industry needs.

The TELCs pilot is being implemented at a range of locations across the Gippsland region. There were nine TELCs in Bairnsdale, Lakes Entrance, Cranbourne, Dandenong, Leongatha, Morwell, Pakenham Secondary, Sale and Wonthaggi. In 2013, a further 11 are operating from Berwick, Chadstone, Churchill, Frankston, Mallacoota, Omeo, Rosebud, Traralgon, Warragul, Yallourn in 2014.



“Great teachers will facilitate student learning through exploration, interaction, problem-solving, immersion and demonstration. New technologies provide engaging, interactive and experiential learning that is socially connected and collaborative.”

Associate Professor Claire Macken,
Pro Vice-Chancellor (Future Learning),
La Trobe University



4 A plan for action

“We should not be mapping the use of new technologies into old curricula, rather we need to rethink our curricula and pedagogies in light of the impact we know new technologies can have on learning and meaning making in contemporary times.”

Professor Nicola Yelland

“The digital learners have different expectations for school today and quite often the heart of that expectation is centred around their use of technology tools and resources to self-direct and self-monitor their learning experiences.”

Project Tomorrow

Unlocking learning potential

Digital technologies make possible rich learning opportunities with benefits across the areas of curriculum, pedagogy, assessment and reporting.

To support early childhood professionals, teachers and education leaders to unlock the potential of digital technologies for learning, five key actions will be implemented.

Engage with high-quality curriculum

Victoria’s curriculum frameworks, the VEYLDF, AusVELS, the VCE, VCAL and VETiS provide clear guidance on what to teach. Educators and leaders have the flexibility to embed digital learning across all areas and domains. The frameworks also provide learners with the opportunity to explicitly develop digital skills.

To continue to support the effective use of digital technologies as part of curriculum design, planning and delivery, we will:

- Support implementation of new curriculum to develop digital skills
- Provide an online Curriculum Planning Portal
- Provide access to quality advice and support to incorporate digital technologies into curriculum planning in early childhood settings and schools
- Provide easy access to quality digital resources aligned to Victorian curriculum frameworks

- Promote digital citizenship and provide resources to support safe, responsible and discerning use of digital technology
- Promote a calendar of annual events to develop, test and showcase learners’ digital skills.

Foster learner-centred, personalised and flexible learning and teaching

Digital technologies enable new approaches to learning and teaching. Many education settings across Victoria are already using technologies to enhance their practice – enabling learners to investigate ideas collaboratively, encouraging learners to create, refine, reflect on and publish their work, facilitating peer-to-peer teaching and engagement, and mobilising social networks for authentic inquiries or investigations.

To continue to foster learner-centred, personalised and flexible learning and teaching we will:

- Collect examples, across all settings of good practices and showcase teaching and learning models and learning experiences enabled by technologies
- Support collaboration through global projects and promote online communities
- Promote student agency for learner choice and control through student-led digital initiatives.



Build blended and virtual learning capabilities

Blended and virtual learning connect learners and educators wherever they may be. Through these modes of learning, high-quality learning opportunities can be provided for learners in rural or remote areas, those who are not able to access a subject of interest in their school, those who have difficulty coping with mainstream settings or those who require enrichment opportunities.

Victorian schools and vocational training providers have demonstrated considerable leadership and innovation in establishing high quality blended or virtual learning programs. We want to build on their success.

To build capacity in blended and virtual learning, we will:

- Provide options for a comprehensive curriculum delivered through virtual learning across all settings
- Expand virtual learning in Victoria and establish a coordinated Victorian Virtual Learning Consortium to guide the sharing, planning, implementation and quality assurance of flexible models of curriculum delivery.

Provide access to real-time, learner-centred formative assessment tools

Digital records of achievement can be personalised, adaptive, real-time and accessible to learners and their families in a way that was not possible prior to the emergence of digital technologies. They enable learners and practitioners to see changes in learning over time, and to participate in both formative and summative assessments.

To support access to real-time, learner-centred formative assessment tools, we will:

- Provide an assessment advisory portal
- Establish the *Insight* platform, a 0-18 consolidated online assessment platform
- Populate the *Insight* platform with products and tools, to provide educators with access to quality-assured assessment tools for learners at different ages and stages
- Identify and promote strategies and measurement tools to assess contemporary competencies, including collaboration, self-regulation, real world problem solving and digital skills.

Instant video feedback during kinaesthetic learning – Boort District School

In Boort District School physical education classes, it is not uncommon to see real-time video feedback being used for skill development and game understanding.

Physical education teacher Jarrod Robinson teaches a school volleyball team and uses a video camera on fifteen-second delay to record the play.

The students are able to refer to the screen to assess the just completed play. Jarrod explains, 'I now have the capacity to pause the group, direct them to the replay and discuss the play and its implications. With physical education, learning is completely kinaesthetic-based, and having immediate visual feedback leads to much faster improvement and learning.'

'Our teachers and students now have access to elite level tools,' says Jarrod, 'the benefits of technology are now available while we're on the go.'

Strengthening home-school communication – Ocean Grove Primary School

Students and teachers at Ocean Grove Primary School are working together, using the collaborative learning platform, to provide parents with a weekly update on students' achievements and learning goals.

Following a fifteen minute, one-on-one conference in which students prepare the update with their teacher, the update is privately shared with students online, for them to pass on to their parents.

Feedback from parents has been positive. As Year 5 teacher Rick Kayler-Thomson explains, 'The simple language of the conference document facilitates a genuine conversation between students and their parents... such as a specific math concept, or a writing project they've been working on for a couple of weeks.'

Enable transparent reporting and feedback on all learners' progress

Digital technologies can improve the way learning progress is captured, collated and communicated. Digital records of learners' progress can be a highly effective stimulus for conversations and collaboration between learners, teachers, other learning professionals and families or caregivers. With the rapidly increasing use of digital technologies and more families accessing online services, technology will increasingly support active involvement in learning by parents and caregivers.

Many settings are already using digital technologies to improve the collection, recording and communication of learner progress and reporting of achievement.

To continue to enable transparent reporting and feedback on all learners' progress, we will:

- Create data analytics capacity through the *Insight* platform to provide student, school and system data on student learning
- Investigate options for parents to receive ongoing reporting on their child's learning progress over the course of the year in early childhood settings and schools
- Investigate and showcase options for online portfolio systems for learners.

Harnessing technology for learning

Reliable and safe digital environments with connectivity to online tools, resources and communities are vital in enhancing teaching and learning. Early childhood providers and schools require access to a range of aligned, complementary, flexible services and tools that support learning and development.

Vocational training providers need to be equipped with knowledge and skills to make infrastructure choices appropriate to the needs of their learners and organisations.

To support early childhood professionals, teachers and education leaders in early childhood settings and schools to harness technology for learning, three key actions will be implemented.

Enable core infrastructure

Reliable, core technological infrastructure is needed to manage identity, access, connectivity and security. The Victorian Government ensures internet connectivity for government funded kindergartens and schools. At the same time, flexibility is provided for these settings and schools to select the technology that best meets the needs of their community.





To continue to enable core infrastructure, we will:

- Leverage core infrastructure to ensure connectivity, manage identity, access and security e.g. eduSTAR suite of services for schools
- Manage and maintain core learning and teaching online services e.g. FUSE, Global2, Virtual Conference Centre, and eduSTAR catalogue
- eduSTAR.ISP will be provided at no cost in 2015 and 2016 to Victorian government schools. Internet services in government-funded kindergartens are funded until December 2015
- Provide ICT funding through schools' ICT budgets for technical support
- Act as a broker and facilitator of ICT services.

Empower local choice of technology

Early childhood settings and schools have sophisticated knowledge of the needs of learners. They are in the best position to decide how they will harness digital learning and in which technologies they will invest.

Advice and resources for practitioners and education leaders can guide local decision-making and support safe, discerning and responsible use of digital technologies. The Department also has a role to play in promoting professional networks that support digital learning by connecting early childhood professionals, teachers and education leaders to local and international communities.

To empower the people who make decisions about digital learning, we will:

- Continue to adopt technology standards to support local technology choices
- Leverage platforms to support flexibility and access management e.g. simplified, secure access such as federated identity, the use of a single identity across a variety of systems
- Provide advice to early childhood providers and schools to inform local decision making on digital technology

investment e.g. 3rd party products, cloud computing, and ensure identity, access, connectivity and security are considered.

Plan for investment, maintenance and sustainability

In order to make wise investment choices that will support good practice, and to leverage digital technologies available now and into the future, decision-makers in early childhood settings and schools need access to good information.

Advice is also required to guide and inform effective planning and implementation to ensure maintenance and sustainability. The Department can provide support by making available preferred supplier panels, ensuring technical support and advice is available and ensuring that procurement relationships are brokered to capitalise on economies of scale.

To plan for investment, maintenance and sustainability, we will:

- Leverage procurement relationships
- Develop and provide access to an online resource to support ICT planning, implementation and ensure maintenance and sustainability
- Facilitate sharing models, strategies and advice to sustain personal access e.g. BYOD, co-contribution, school owned.

Changing the learning culture and supporting innovation

Working together, early childhood settings, schools, vocational training providers, the Department and the wider community can build a culture that recognises the potential of digital learning and supports innovation. Strengthening leadership, building professional capabilities, promoting and



adopting evidence-based practices and building partnerships will be essential in driving cultural change.

To support early childhood professionals, teachers and education leaders in early childhood settings, schools and vocational training settings to build a learning culture that supports innovations, four actions will be implemented.

Strengthen leadership for change-management, direction-setting and governance

Leaders who understand, create and foster an innovative change culture that embraces digital technologies are the key driver to determining the success of educational change (Eaker and Keating, 2008). They have the capacity to influence learners, parents and caregivers, educators and the wider community, and to marshal the resources that can be accessed through strategic networks and partnerships.

To strengthen leadership for change-management, direction-setting and governance, we will:

- Provide guidance on how the effective use of digital technologies can enhance learning and teaching through the Department's *School Performance Framework*
- Partner with the Bastow Institute to provide a comprehensive program for school leaders, *Leading Schools in the Digital Age*
- Develop a planning checklist for implementing digital technologies in early childhood settings
- Support 80 schools to participate in the *New Pedagogies for Deep Learning Global Partnership*
- Provide professional development opportunities for vocational training practitioners in change management and governance.

Build the confidence and capacity of educators

A contemporary understanding of how digital technologies can enhance learning and teaching is essential for all early childhood professionals, teachers, education leaders and vocational trainers.

A staged approach to capacity-building is needed, so practitioners can be introduced to new ideas, have time to explore, consolidate and apply new skills and approaches. This may include building skills and confidence through structured professional learning and further education, collaborative networks, professional learning communities or inquiry-driven communities of practice.

To build confidence and capacity, we will:

- Promote a calendar of face-to-face and online professional learning events on the explicit use of digital technologies in curriculum, pedagogy, assessment and reporting
- Support professional collaboration across networks: provide Virtual Conference Coaches to assist with web and video conferencing use in schools and government funded early childhood settings
- Provide a continuum of effective digital practices integrated with curriculum examples from learning and development settings
- Investigate and promote surveys available to determine Digital Technology Capabilities

complementary to the AITSL teaching standards. Educators will use these surveys to benchmark capacity and plan for professional development as a replacement to the current ePotential Survey

- Partner with the Bastow Institute to leverage and promote the effective use of technologies through professional learning opportunities: Horizon Workshops, Professional Practice Forums and Twilight Sessions
- Promote personal learning networks, support professional communities and inquiry-driven communities of practice e.g. social media, virtual conferencing, teaching and learning in the 21st century and digital pedagogies
- Raise awareness of the benefits of digital technologies in enhancing learning and teaching by promoting “Connected Educator Month”, incorporating a suite of online professional learning activities
- Profile practitioners across all settings using digital technologies to add value to and accelerate learning. Nominees will be highlighted on the Department’s communication channels each month
- Establish a network of virtual learning design centres, building on the expertise of designers of current virtual courses to share quality instructional design and pedagogy and improve teacher quality
- Work with pre-service institutions to build capacity of trainee teachers in digital pedagogies
- Develop structured professional learning opportunities that build the confidence and capacity of vocational training educators
- Support sharing of quality e-learning practices to support a self-improving vocational training system in relation to digital learning.

Base practice on research and evidence and foster and share innovation

The Department is committed to supporting innovation in learning and development settings. The most effective way to do this is by providing access to current good practice examples and contemporary research to ensure there is a solid evidence-base to build a compelling vision of how digital technologies can enhance learning outcomes.

To support evidence-based practice and to foster and share innovation, we will:

- Trial and document whole setting approaches on the integration of digital technologies to improve learning and teaching through industry partnerships
- Identify, showcase and share best practice e.g. Digital Deck, DigiPubs
- Pilot the use of digital technologies to support the implementation of the VEYLD in Early Years (50 kindergartens)
- Support trials that explore and document the impact on learning and teaching of a range of digital technologies e.g. Connective, Google Chrome Books, Social Media, Office 365, Google Apps for Education, student voice
- Research safe and appropriate use of digital technologies in the early years
- Support sharing of best practice in digital learning in the vocational training system to promote innovation.

Establish and maintain positive partnerships

Partnerships in learning provide opportunities to innovate, extend, and deepen learning and build contemporary capabilities and authentic links with industry and with the wider community. Digital technologies can be used to establish and promote partnerships between educational settings, home and industry and foster global collaboration.

To establish and maintain positive partnerships, we will:

- Leverage partnerships: generate further alliances with industry to match technology development with education needs
- Promote the use of digital technologies to establish partnerships between settings, families and their communities
- Leverage learning partnerships with cultural and educational organisations to facilitate the authentic use of digital technologies
- Support partnerships through funding opportunities such as the Capacity and Innovation Fund for Learn Local adult community education organisations.

Students Leading Learning – Hawkesdale P-12 College

In Britt Gow’s Year 12 Environmental Science class, video is used extensively. For ninety minutes each week, Britt teaches the subject online to students in surrounding schools who would otherwise be unable to study Environmental Science. Videoing practicums enable the external students to recreate the experiences at their own schools. Video is also used to enable Britt’s class to link up with the Melbourne Museum, Melbourne Zoo and other external organisations.

Students have also developed short videos that explain how typical exam questions should be tackled. These videos are then shared using YouTube so that all students can benefit. Britt explains, ‘Making the video reinforces the learning for the students. The authentic audience gained by publishing to YouTube gives the students extra confidence.’

5 Conclusion

“Technology needs to be:

- Irresistibly engaging for students and teachers
- Elegantly efficient and easy to use
- Technologically ubiquitous 24/7
- Steeped in real life problem solving.”

Michael Fullan OC

Use of digital technologies can support learning and development in a range of ways. From offering unprecedented access to high-quality, interactive educational content and tools, to the development of digital skills, to enabling personalised learning, transforming assessment, reporting and feedback, and driving new forms of collaboration and communication, digital learning can benefit all learners.

While the benefits are significant, Victoria will face challenges in ensuring all early childhood professionals, teachers, vocational trainers and education leaders across all sectors are supported to embed digital learning in their professional practice. We must be relentlessly learning-centred, not technology driven. We need to build capabilities and confidence and promote safe, discerning and responsible use of digital technologies.

In addition to these challenges, we are presented with a number of opportunities: leveraging previous investment in technological infrastructure, extending uptake of existing, high-quality digital learning tools and resources, building on the strong foundation of our curriculum frameworks and seizing the opportunity to overcome many of the barriers faced by rural and remote learners by embracing digital technologies.

Unlocking the Potential outlines a plan to embed digital learning as part of the core business of Victorian early childhood settings, schools and vocational education providers.

Implementation of the plan will support early childhood professionals, teachers, vocational trainers, education leaders – and most importantly learners themselves – to unlock the potential of digital technologies, and re-imagine learning in our globalised and interconnected world.



6 Glossary

Analytics	the measurement, collection, analysis, and reporting of data about learners and their contexts for purposes of understanding and optimising learning and the environments in which it occurs
Adaptive	software (usually) that automatically adapts instructional level, content, and pace to the current abilities of the user; related to individualised learning, personalised learning
Asynchronous	interaction between teachers and students occurs without all parties having to be online at the same time; examples are self-paced courses online discussion groups, and email
Authentic learning	refers to instructional techniques focused on connecting what students are taught to real-world issues, problems, and applications
Blended learning	learning where instruction is a mix of online and face-to-face with a teacher
Blog	online journal, displaying most recent posting first
BYOD	Bring Your Own Device, where students and teachers are encouraged to bring and utilise their own technology
Change management	an approach to transitioning individuals, teams, and organisations to a desired future state
Cloud computing	services and applications that host data, files, and information at remote servers around the country/world to be accessed from any device; 'in the cloud'
Contemporary skills	refers to a broad set of knowledge, skills, work habits, and character traits that are believed by educators to be critically important to be successful in today's world and participation in society – often referred to as 21st century skills
Data mining	the computational process of discovering patterns in large data sets
Differentiated instruction	approaches, programs or tools that present learning materials that match each student's individual learning level

eduSTAR	the School Technology Architecture and Resources (eduSTAR) program provides schools with standardised models, patterns, management practice and tools in order to deliver an effective mix of educational software and tools to teachers and students
FUSE	FUSE (Find, Use and Share Educational resources) is the Department's digital content repository and sharing place. https://fuse.education.vic.gov.au
Game-based learning	type of game play that has defined learning outcomes
Global2	an educational community for Victorian schools to communicate and teach students to use social media safely and responsibly. Provides members with both blogging and wiki technology. http://www.global2.vic.edu.au
ICT	Information and Communication Technology (ICT)
Languages online	multimedia website containing language games, videos and audio resources for schools. http://www.education.vic.gov.au/languagesonline
Lync	Microsoft Lync provides a tool for instant messaging, desktop video conferencing, scheduling meetings, sharing files and collaborating with others
Microsoft Partners in Learning	a global initiative designed to drive more effective use of technology in teaching and learning
New Pedagogies for Deep Learning	an international collaboration initiative that will develop new learning pedagogies. 80 Victorian and 20 Tasmanian schools make up Australia's cluster that will partner with schools in nine other countries to participate in collective capacity building through a common framework of shared research and action
Online assessment	the use of information technology for any assessment-related activity
Personalised learning	tailoring for each student of the pace, content, and goals of learning, with the learner exercising significant choice and direction in the learning process
Scoutle Community	an online community to support Australian teachers to collaborate and implement the Australian curriculum
Synchronous	occurring at the same time
VicSmart	VicSmart provides bandwidth access to all eligible Victorian government primary and secondary school sites, DEECD corporate and regional offices

Virtual learning

allows students to connect, interact, share and learn with others outside of their classroom and school using virtual conferencing tools such as Polycom, Blackboard Collaborate, Microsoft Lync and Skype. Virtual learning can be synchronous where all students log in at the one time in a virtual classroom, or it may be asynchronous and involve students accessing recordings of a session to access in their own time

Wiki

web application developed collaboratively that allows anyone visiting a website to edit content on it

7 References and further information

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Further information

Further information can be found at www.education.vic.gov.au/digitalllearning

