

Executive Summary

For three years, schools have been without an Information and Communications Technology (ICT) Vision Statement to guide both ICT infrastructure and the use of digital technologies to assist learning. The Department of Education (DoE) told the Committee in June 2019 that publication of its ICT Vision Statement (an update to the 2014–2016 statement) was imminent, but revised this three months later when it transpired that critical elements such as teaching practices and learning outcomes had not been included. Schools have been left to determine how to make the best use of digital technology, resulting in unsystematic, uneven implementation.

As well as exploring the use of digital technology to provide opportunities to learn from anywhere at any time, this inquiry focussed on how digital technology might help to engage students at secondary school. In addition, the inquiry considered how digital technology can provide a more inclusive and equitable experience for students with disability, with learning difficulties or who are disadvantaged.

It was difficult to ascertain to what degree digital technology is being used across all secondary schools. Beyond some baseline infrastructure and management systems provided by the DoE, most schools seem to have some hardware (such as robotics kits and 3D printers) and software (such as Mathletics and Minecraft).

Engagement, inclusion and equity

The inquiry found that there is wide acceptance that digital technology can increase engagement in learning (and even reduce absenteeism) because it makes learning more enjoyable. Digital technology can also assist students who are disadvantaged for cultural, linguistic and socioeconomic reasons or because of where they live. There are a range of programs (many provided by external organisations) which target Indigenous students, with digital tools found to be particularly compatible with Aboriginal culture and ways of learning. Digital technologies could also expand study options for students from small regional and remote schools, and provide virtual work experience opportunities. Digital technology was seen as a way of keeping students with their families and ensuring the sustainability of small regional communities. While there are tools to assist students with a language background other than English, the Committee is not aware of the extent to which these are being used in secondary schools in Western Australia.

The DoE uses digital technology to keep students who are not attending school for medical reasons connected to their enrolled school. However, it is unclear to what degree students with other learning difficulties (such as dyslexia and giftedness) are being offered tools such as assistive technologies and adaptive courseware. The Committee was told that more families were opting for home schooling because schools were not catering for special needs. While the DoE provides assistive technologies and some professional learning support for students with disability, we do not know to what extent these are being used in the classroom. National reports suggest that they are under-used. The DoE must ensure that assistive technologies are supplied to all students that need them.

Digital strategy

In October the WA Government announced it would increase bandwidth to more than 500 public schools, recognising that a fast and reliable internet connection underpins access to a range of educational digital technologies. Almost all schools are now connected to the internet by way of a fibre connection. However, maintaining connections to all schools across the state is challenging. The DoE has committed to providing 100 kilobits per second per user (location and infrastructure complications permitting) by term three 2020, but the DoE should review this target given higher bandwidth per user targets in some other Australian jurisdictions.

Almost one-third of secondary schools have taken up the School Managed Internet program, which allows them to supplement the bandwidth provided by the department with a purchased service. There is wide variation in the arrangements, bandwidths and costs individual secondary schools are subject to under this program. The DoE should review the arrangements schools are making to ensure they are receiving value-for-money. Technology resources in schools also vary. At least half of all secondary schools are now operating a Bring Your Own Device program. Unless a particular type and model of device is specified, this can lead to a wide variety of devices depending on what families can afford, which is challenging for teachers to manage.

However, the type of device is less critical to learning with technology than the enthusiasm and knowledge of teachers and school leaders, the Committee was told. Schools without a specific ICT strategy or dedicated technologies teacher depended on particular teachers with skills and an interest in digital technology. Supportive and proactive principals could be instrumental in establishing a focus on digital technology. The DoE said it plans to address identified gaps in pre-service teachers' knowledge of digital technologies with the deans of university schools of education. It will also review professional learning in schools and ask schools to participate in skill development programs where necessary.

Considerations for the future

As schools increasingly use apps and software provided by big tech companies, the potential for student user data to be harvested using embedded artificial intelligence will become greater. Schools seem largely unaware of this potential, however the DoE is conducting a risk assessment of third-party providers to assist schools.

Many contributors to the inquiry were mindful that technology should not be used without consideration of its educational value. A link to foundational skills and the curriculum was important, and becoming creators rather than just consumers would help to ensure this. The Committee recommends that a method for integrating digital technology into the curriculum be part of the ICT Vision Statement, along with recommendations on ethical and legal aspects pertaining to its use. The DoE should also specify how it will provide more support to teachers in the form of software and online resources.

While there has been progress in digital technology use, innovations in digital learning need to be implemented in a systematic way, which can only happen with vision and leadership. A strategy that facilitates learning *through* as well as *about* digital technology is critical.