

2023 Premier’s Education Perfect Technology in Education Scholarship

Digital Technologies

Effective use of technology to improve student agency, make learning visible and engaging community.

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# Introduction

Student agency refers to the capacity of students to take ownership of their learning process, make informed decisions, and actively engage in meaningful learning experiences. As our classrooms become more and more immersed in technology and learning tools are more accessible to students, educators are empowering students to become self-directed learners, capable of setting goals, making choices, and taking some of the responsibility for their educational journey.

Technology has fast emerged into a powerful tool that can significantly contribute to the development and enhancement of student agency. This report explores the way that schools have embraced different technologies, platforms, and the way we view student progress in the attitudes they bring to learning. Across the study tour, investigations into the role of technology in fostering student agency, highlighting key benefits, challenges, and best practices was explored.

For schools to better cater to student learning and social and wellbeing needs, we rely on technology to keep and analyse data so that we can know our students, determine what they need and provide pathways for further improvement in their learning. Technology platforms enable schools to identify this data so that a student is truly known. This data is used in a purposeful way and as a result, the student finds use of this data enables them to be known as a learner therefore developing a strong sense of belonging with a school.

Further to this, the purpose of this study was to investigate how schools then share this information with parents to genuinely have a true partnership in learning and defining clear learning goals for students. It was explored how schools do this on an ongoing basis and not just at the end of a semester.

# Focus of Study

The focus of the study is to discover what technology systems schools use to enable the vision of the school to be further extended. Questions focused on:

* How do schools create opportunities for student agency through the use of technology?
* How do schools use technology to enable the vision and values of the school to become operationalised?
* What is the evidence of the impact on utilising technology on student learning?
* How is technology utilised to genuinely engage with the parent community to demonstrate student progress and pathways for further improvement?

# Significant Learning

Visits involved a mix of public, state and private schools (primary, secondary and Kindergarten through Year 12) in New South Wales, Australian Capital Territory, Victoria, Western Australia, and South Australia (full school list in Acknowledgement section).Throughout the study tour, many major themes emerged. This report provides a generalised overview of what was observed across the study tour.

### We measure what we value

Schools are data-saturated, and many schools use standardised data and school-identified data. Technology enables the collection and analysis of student data, allowing teachers to gain deeper insights into student achievement including strengths, areas for improvement, and determining student needs. Assessment tools, learning management systems, and data analytics provide teachers with valuable information to help guide student learning data.

Dr Rachel Wilson (Professor, Education & Social Impact at UTS Business School) says that schools need to also consider reporting not only on longitudinal data including synopsis “report cards” or systematic alignment but rather consider reporting on the goals outlined in the [Mparntwe Education Declaration](https://www.education.gov.au/alice-springs-mparntwe-education-declaration) national goals of confident, creative learners and being a lifelong, active and informed citizen.

In all visited schools, there was clearly defined data collected which provided timely and personalised feedback loops between teachers and students which was focused on academic achievement. Many schools had also broken this down into rubrics for students so that they were able to identify feedback for further development.

In every school, we measure what we value. There is data captured of academic success, however, more schools are showing a shift and value on human-centred capabilities and embedding opportunities for reflection and making judgments on the demonstrated learning behaviours observed at school.

Schools have built their own technology; this was especially evident in brand new school builds. Murrumbateman Public School utilised a Business Intelligence Tool to monitor and capture student growth to report to parents. As a new school, they were a Microsoft school with embedded processes through their Teams platform. Similarly, Googong Public School, a new build, was working closely with Compass Education to utilise their platform to the school’s greatest benefit. Compass enabled the school to embed their rubrics to report on student achievement for monitoring but also sharing with parents. Whilst this process is not uncommon for schools, new schools have been able to integrate, have an intentional synergy between the school’s vision, values, pedagogy, and build it from the ground up to ensure fidelity in their approach.

A small number of these schools had determined that providing students with opportunities to reflect on their own learning with these rubrics enabled them to have agency – fostering a sense of direction in their learning. This was evident at Blairmount Public School where students use Learner Qualities as an anchor deeply embedded in school routines and practice. Through a student-led tour of the school, it was common language for learning across all classrooms from Kindergarten to Year 6. An observed STEM lesson saw students use their learner qualities as an anchor for feedback and a pathway for improvement using Apple Classroom (as an Apple Distinguished School with Apple Distinguished Educators).

Hunter School of the Performing Arts (HSPA) is an example of a school that has developed their own version of these rubrics, creating their own badging and credentials for students to use to measure across the curriculum. The badges are awarded in three areas of Curriculum, Cross-curriculum and Co-curriculum.

* Curriculum badges are generally subject specific, aligned with NESA syllabus outcomes and awarded to students based on cumulative assessment.
* Cross-curriculum badges are measured across all subjects (not subject specific), aligned with future-focused skills, and awarded based on cumulative assessment, making them a powerful reflection of student capability with regard to these important post school skills and dispositions.
* Co-curriculum badges are awarded to students via submissions of written and uploaded evidence. Expert executive staff from the school assess each application once per semester and award a badge or offer feedback on what is required to successfully re-apply.

This model is similar to Ormiston Junior College (New Zealand) where they not only have expert teaching staff, but they also include student voice by having peers determine if they have met the criteria to successfully gain a badge. They have been working on their [Digital Badging](https://vimeo.com/361200391) for just under 10 years. They have found that this process has engaged their students, provided reflection as a lifelong learning school and enabled them to determine where improvements are needed. Their criteria are linked to the New Zealand Curriculum. Students then present a pitch using technology screens and iPads to collate evidence to validate if they have achieved a badge.

On a whole state level, in South Australia they are working to also provide a more holistic view of students’ achievements. The South Australian Certificate of Education (SACE) Board’s Capabilities & Learner Profile project introduces the recognition of capabilities alongside academic achievement (grades). Their project is central to the SACE Board’s commitment to enable all students to thrive through provision of a future-focused, and internationally sought-after qualification. Their Learner Profile aims to provide the demonstration of students' capabilities that showcase their achievements following 13 years of schooling and enable them to make better decisions about their post-school pathways that match with potential employers and further education providers.

Many secondary schools across Australia are moving towards a digital wallet or learner portfolio as a resource to support them in post-school destinations. The workforce and industry outside of schools have indicated to school graduates that they are interested in skills such as collaboration, communication, critical reflection and creativity as they enter the workforce.

Some schools were involved in the [‘New Metrics for Success: Transforming what we measure in schools’](https://education.unimelb.edu.au/melbourne-assessment/our-impact/new-metrics). New Metrics is a collaborative research venture between The University of Melbourne and selected forward-thinking schools to work in partnership to address the meta-problems faced by Australian schools today and in the future.

The schools working in partnership with New Metrics provide the opportunity for innovative school leaders to join with academic experts and international trailblazers to reimagine and influence schooling in Australia. These schools believe that young people must now be educated and assessed in new ways so they are prepared for a very different future.

Lindfield Learning Village, at the time of writing this report, were about to launch what they call Octopus 2.0. Their school team have been working towards live and continuous reporting so that parents can access their platform at any time and see how their child is tracking at any time through the academic year. In measuring what they value, their assessment and reporting is both on academic success but also on human-centred learning through their learning characteristics. These achievements do not sit separately from one another and are deeply embedded in their approach across Kindergarten to Year 12.

### Student showcase vs student reflection and celebration of learning

Student-led conferences empower students to take an active role in their learning by showcasing their progress, reflecting on their achievements, and setting goals. Many schools who took the approach of student-led conferences utilised technology in most cases to showcase student learning and achievement in their learning goals. When combined with digital portfolios, these conferences offer a platform for students to present their work, provide evidence of their growth, and engage in meaningful conversations with parents or caregivers.

Some schools indicated that they had encountered a few implementation considerations to successfully provide consistency across the classes in a school. Two areas were identified. Schools needed to firstly, build and maintain teachers’ capacity to understand the purpose, process and implementation of a student-led conference, and secondly, ensure the reliability of the technology infrastructure. Many schools shared that it would be incredibly beneficial to have a digital learning profile to follow a student all the way from kindergarten through to Year 6 or even in secondary school from Year 7 through to Year 12, but even more beneficial for a students’ full 13 years of schooling. However, schools had identified that technology is moving so quickly that the platform that a school starts using cannot guarantee the longevity in the platform to still be fully operational or the best platform seven years later.

Lindfield Learning Village enables students to create a student showcase of their work via Google Sites every year. Students engage in craftsmanship of their work, meaningful reflection, and goal setting as part of this process. This is with the aim to promote self-awareness, self-evaluation, goal orientated thinking ultimately leading to enhanced self-regulation, agency in their learning and a growth mindset. This reflection is using their learning characteristics as well as academic achievement.

Schools who have developed digital learning portfolios serve as a repository of student work allowing them to curate and present evidence of their learning progress over time. Students are encouraged to document their learning experiences, provide explanations, and reflect on their growth over time. Some schools were completing this in the form of a lapbook which provide this same showcase without the need to keep up with evolving and changing technology programs.

In schools where student portfolios were used in a three-way or student-led conference, they found that students were invested and took more pride when having an opportunity to present their work to their parents. Articulating their achievements with their parents demonstrated reflection and celebration of their learning and enhanced communication and presentation skills. In schools that promoted student-led conferencing, reports found that it promotes increased parental involvement and support in comparison to traditional parent teacher interviews and teacher led meetings.

Digital portfolios or photos of student work can also support authentic assessment practices by providing a holistic view of students' abilities, growth, and achievements. Many primary schools shared this learning digitally with parents, thus gaining insights into students' strengths, areas for improvement, and the development of essential skills.

### Parent and school genuine connectedness

Technology facilitates effective communication between parents and teachers, ensuring timely communication and updates, sharing of student progress and an opportunity to engage more deeply in their child’s education. Parent portals, mobile apps, and virtual meeting opportunities not only allow ease to be involved but schools report they also create a sense of shared responsibility.

This was extremely evident in the schools that had boarding houses and lived on campus at their school. To remain connected with families back home or for them to watch a sports activity streamed, schools with boarding facilities provided endless opportunities for families to remain connected to all school events.

Technology has also been proven to bridge the digital divide and ensure equitable access to learning resources. Many schools reported that following the disruption and impact of COVID, they had to quickly pivot to new ways to ensure continuity of learning and access to a student’s usual teaching and learning program.

It is essential for a school to do this effectively to invest in and maintain robust infrastructure, differentiated professional learning and development for their teachers, and equitable access to technology to maximise their potential.

In schools that had significantly invested in the professional learning of their teachers by sending them to conferences both within Australia and worldwide, the more confident those teachers felt equipped to use technology or build capacity of teachers.

### Pivot to technology during pandemic

This was evident across the states with varying needs across the country dependent on mandated lockdown periods. With a quick pivot for most schools, many needed to rely on technology to enable the continuity of teaching and learning programs. Some of these practices sped up utilising innovative technology, systems and/or programs for some schools.

Due to this study being across Australia, there were varying experiences from state to state about how long they had been in lockdown and how long the schools were non-operational due to the restrictions in their area. Schools that remained in lockdown for extended periods of time found that very quickly, they needed to become proficient with unfamiliar technologies. The extensive use of virtual meetings via Teams or Zoom has seen schools continue to access professional learning and other meetings in this online setting. Schools also reported that following extended times of using Google Classroom, SeeSaw and other technologies to set work for families, they have seen teaching programs still include these for student learning. As a result, some of these platforms have remained a part of teacher’s usual practice as schools and families could maintain these connections.

### Self-directed learning opportunities

Digital platforms allow students to be self-directed and know what content is being covered. Following on from explicit teaching opportunities, schools might utilise Google Classroom, Canvas and Microsoft classroom as a ‘third teacher’. One teacher describes this as communicating to the students that teaching does not begin when the teacher starts teaching. Some high schools have teaching programs pre-loaded so students can login into Canvas allowing them to access the lesson content prior to or at the beginning of a lesson, or after to make up missed work. Secondary schools have found that outlining all lesson overviews and access to content assists students who may have missed content due to illness or other school commitments.

In Kidman Park Primary School in South Australia, they have invested heavily in their infrastructure with students having access to quality internet, quality devices and extensive technology. Effective and expert use of Google Classroom adds value to their inquiry learning units of work. Students navigate the system to turn in questions and assessments, utilise rubrics, and provide a deliverable presentation at the end of their inquiry. The students have agency the whole way through with student voice and choice to drive their learning and their project. Use of a virtual and augmented reality lab built for specific purposes adds further experiential opportunities to their learning. Not only do these systems come with curriculum aligned experiences, but senior students also develop teaching and learning activities for younger students. Parents and community members are invited to attend presentations in the lab so that they can be immersed in the student’s work and the future focused technologies.

Schools utilised many opportunities for self-directed learning through technology platforms – aims included developing and enhancing creativity and research skills, and consolidating concepts taught within the classroom. Schools utilised platforms that tailored differentiated learning based on student performance and correct responses to learning activities. Platforms such as Education Perfect and Mathematics Online also provided clear data for schools to measure student learning so that educators could analyse for data driven practices.

### Digital maturity and staff competence

One area that was apparent in the study tour, is the need to build or maintain the capacity of staff knowledge and experience of effective use of technology in the classroom. In some schools, specific positions were created such as ‘Director of Innovation and Technology’ or ‘Director of Learning Re-imagined’ to specifically build the capacity of teachers within the school.

Recently in 2023, the New South Wales Department of Education created 1,000 Digital Classroom Officer positions in schools. These roles were specifically created as part of a digital strategy to improve teacher confidence in using digital tools and delivering better student engagement and outcomes. Linda Lazenby, Director of the Digital Learning Strategy, explains that schools need – and school leaders have – a responsibility to build the digital maturity of staff. There has been significant change in how education is delivered and the ways of learning; and the development of technology has been rapid and needs its own place in a school’s Strategic Improvement Plan to better prepare and pass on this learning to students. To address this need, the position of a Digital Classroom Officer was to ‘guide from the side’ to help schools navigate this transformation in a sustainable way. A teacher was provided with a one-day-a-week funded role for teachers to support school staff by building confidence to embed technology into their teaching, learning and daily practice.

As a result of the program, as of Term Two 2023, 82% of teachers found digital tools useful for teaching and learning. More than 70% of teachers consistently reported digitisation had enhanced their skills. Digitisation had freed up time in the teachers’ day allowing more time for one-on-one student support, and greater capacity to be more present in the classroom for effective and engaging teaching.

# Conclusion

My scholarship was based on future-focused pedagogies whilst being responsive to student and family needs. Through school visits, conference workshops and virtual connections, it was observed that schools use technology in diverse ways. Every school visited utilised technology to capture student data to have information about the student through learner management systems. Schools had gone one step further to capture and report on not only academic success of the learner but personal success through school values and learner qualities or dispositions. Schools that were doing this well made the audience broader by sharing it with parents and looking at post-school destinations.

At all the schools, there was a clear demonstration that learning in the classroom should be connected to life, building deep connections between students and real-world problems, occupations, organisations, and other cultures.

Across Australia, there are varying requirements, with some schools having autonomy to make decisions for their school context both in content delivery and the technology infrastructure within a school. Many New South Wales public schools are required to utilise endorsed technology providers following the most recent ‘Administration Marketplace Panel for Schools’ (AMPS) implemented in 2023. With the requirements for NSW public schools being very specific, reports prepared by the NSW Department of Education showed that 85% of schools had purchased third-party products to streamline and simplify processes to meet their individual needs prior to the department establishing AMPS. This change replaced existing individual agreements that schools have with vendors with a single, standardised contract across the state. Vendor products were evaluated through a rigorous procurement process to ensure that schools were able to purchase third-party products that best meet their requirements. This provides schools and their school communities with student and learning management systems that comply with the department’s data privacy regulatory and security requirements.

Schools saw value in providing student and parents with ongoing and continuous live reporting to capture student learning progress, and also their approaches to learning using school values or learner dispositions.

For schools to be successful in the innovative use of technology, they need to maintain professional learning for staff and teachers in an ongoing and sustainable way. With the rapid change in the way technology evolves, school leaders have a responsibility to maintain professional learning for teachers to maintain their ‘digital maturity’.

Schools have always measured and used data analysis for what they value. Monitoring academic success is important. Many schools are now looking to report on the learner quality and approaches students bring to learning to foster and place importance on self-awareness, perseverance, grit and creativity.

Students are digital natives and need the balance of explicit teaching and mastery of skills and content to then be able to contextualise their knowledge in student-led learning.

The use of Artificial Intelligence is an emerging trend across schools. This will be a growing area of interest for schools as there were vastly different approaches across schools, particularly in the secondary school environment. With the launch of co-pilot coming into the Microsoft Suite, it will be a key area for schools to monitor as technology continues to advance and evolve within and outside education.

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