

# The Promise of Technology: A Snapshot of Kallangur State School

**Blair Tomlinson**, Head of Technologies, Kallangur State School, Queensland Australia

This paper references Apple's Eight Elements for Success (Apple Education, 2015). These elements are viewed by the author as the foundations for successfully creating schoolwide technology-rich learning environments. With these points in the mind the paper provides an insight into how the notion of 'Bring Your Own Device' can be innovated upon for student learning outcome effects.

The elements, along with additional areas that will be covered are: Team, Measurement, Financial Sustainability, Community, Professional Culture, Student Learning, and Outcomes.

Kallangur State School is located approximately 20 km north of Brisbane and was established in 1930. It has an ICSEA level of 951 and a student population of 889. Forty-two of our 56 teaching staff are senior or experienced senior teachers. Kallangur State School has adopted a technology focus, with the following intended outcomes: demonstration of new digital skills; improved effectiveness and efficiency when utilising technology in learning experiences; technology being utilised to enrich and add value to learning experiences; students frequently utilising technology to create digital content to demonstrate their learning; the personalisation of student learning; making learning experiences and the curriculum more accessible for students; and increased student engagement and positive attitudes leading to improved assessment outcomes.

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At Kallangur State School, we strategically decided to take a different path than a Bring Your Own Device (BYOD) model. Parents pay \$150 a year through the Student Resource Scheme (SRS) to secure placement for their child in an iPad class with their own iPad to use for the whole year. This device remains at school. For equity, a bank of 30 iPads per year level is

available for classes to access. This model was chosen for several reasons over the BYOD model:

- › The iPads are always charged and ready for learning.
- › All necessary apps are installed and updated remotely by our Technology Manager.
- › No inappropriate content or games are installed from home.
- › The iPad is managed and maintained to a high standard.

## **Team**

Building an effective and capable team was considered pivotal to the success of the iPad initiative. We started with an experienced IT technician who could ensure the efficient management of technology was in place with scalability and future planning in mind. This was followed by a deputy principal with extensive knowledge and experience around digital pedagogy which allowed for direction and initial coaching of teachers. Lastly, a head of technologies was employed with the purpose to support teachers full-time around digital pedagogy and Technologies curriculum.

## **Measurement**

Preliminary data capture was essential to ensure we had baseline data against which to compare the growth and impact of a technology-rich learning environment. Baseline data collected through the Apple Learning Technologies Survey was analysed and used as a roadmap for targeted professional development and support. Along with this data, additional surveys, annual performance development plans and tracking of coaching sessions assists with measuring the impact of the initiative.

## **Financial Sustainability**

With our 1:1 iPad model, there is the initial upfront school cost to purchase the class set of iPads, as well as an adequate charging station and iPad cases. However, through the SRS payments of \$150 across the span of four years (which is our asset replacement cycle for 1:1 iPad classes), purchase of the iPad and case is covered. Growing classes sustainably has also been a priority. It is planned to expand the number of 1:1 iPad classes each year.

## **Community**

Engaging and involving the community is a key component in successfully maintaining and expanding a 1:1 iPad initiative. Changing the mindset of parents who see the iPad as a gaming device instead of the powerful learning tool that it is, can be a challenging process. At Kallangur State School, we've incorporated the online platform Seesaw to assist with this. Seesaw is a powerful digital portfolio platform that has the ability to link parents to their child's learning portfolio. This provides parents a window into the teaching and learning that

is taking place in their child's classroom. Parents can see and comment on their child's learning and observe feedback loops taking place between teacher and student. On average, we have around 500 parents engaged in their child's learning each week.

### **Professional Culture**

Teachers are exposed to the SAMR (Puentedura, 2017) model to gain an understanding of the complexity of tasks that can take place with the iPads and the impact size this can have. The TPACK (Mishra & Koehler, 2006) framework is also used to connect curriculum and pedagogy with technology. Teachers participate in regular Tech Talks, which are targeted professional development sessions with relevant context for staff. These voluntary sessions occur the day after staff meetings, with a participation rate averaging 50% of staff. Teach Meets also occur in which teachers present innovative ideas they are demonstrating in the classroom to their colleagues.

Collegial engagement time is also available to release teachers for 1:1 coaching or peer observation sessions.

### **Student Learning**

We encourage creativity on the iPad, allowing multiple opportunities for students to create content to share their understandings. Personalisation of learning is allowing student choice in how they will present their understandings, whether by video, audio, image or text. In 2019, we started designing connected units with the focus of strengthening deeper learnings. Examples of these units that have a technology focus are:

- › A Mathematics unit in Year 3 in which students program a drone to fly and land at particular grid coordinates, which involves angles and measurement. This unit also links with English and Technology.
- › A Mathematics unit in Year 3 in which students design a future farming robot using 3D shapes with the program TinkerCad. The students then print their robots using 3D printers. This unit also links with Technology and English.
- › A planned Science unit in Year 5 in which students will use LEGO Spike Prime to design, build and program a driverless car that can follow a line at night while detecting and avoiding obstacles. This unit will link with Mathematics, HASS and Technology.

### **Outcomes**

The outcomes and improvement of building teacher capability and embedding iPads across the span of a year has been highly evident. Comparing two sets of survey data, teachers being unprepared with utilising technology was at 38% in 2019, and only 7% in 2020. An analysis

of cohort over time assessment data in A to E English results from 2017 (pre-iPads) to 2019, reveals a 16% increase. This number equates on average to 136 students moving into or across the A to C achievement scale.

Comments from two iPad class teachers provide further insight:

*'The iPad has allowed me to personalise learning for each of my students. I can tailor lessons to suit each of their needs which can all take place at the same time. The iPads have given me the option to modify my lessons in a way that makes them more engaging and allows for deeper and critical thinking.'* Year 3 teacher

*'The use of iPads in the classroom finally allows me to truly differentiate for my students. I can use powerful recorded feedback loops with students who can then articulate what their next learning is and how they will accomplish it. Students have the option to re-watch the feedback I give them.'* Year 5 teacher

## **Conclusion**

To achieve this success, Kallangur State School began with one trial 1:1 iPad class which was financed entirely by the school. With community support, this has grown over the last three years into seven 1:1 classes across Years 1 to 6. Ensuring that effective support, direction and accountability has been put in place, along with the Eight Elements for Success (Apple Education, 2015) has enabled our 1:1 iPad program to be a success with measurable outcomes. With these outcomes, Kallangur State School is supporting and assisting local schools with their planning and establishment of iPad learning environments.



## REFERENCES

- Apple Education.** (2015). *Eight Elements for Success*. Apple Inc. – Education.
- Mishra, P., & Koehler, M. J.** (2006). *Technological pedagogical content knowledge: A framework for integrating technology in teachers' knowledge*. *Teachers College Record*, 108 (6), 1017–1054.
- PuenteDura, R.** (2017). *SAMR, the EdTech Quintet, and Shared Practices* [Presentation]. August 2017 SVSU Workshops, Saginaw Valley State University. [http://hippasus.com/rrpweblog/archives/2017/08/SAMREdTechQuintet\\_SharedPractices.pdf](http://hippasus.com/rrpweblog/archives/2017/08/SAMREdTechQuintet_SharedPractices.pdf)