

Briefings

A monthly member publication of Independent Schools Queensland

Volume 20 Issue 10 • November/December 2016

From the Executive Director

Reflections on 2016: Challenges and Optimism for 2017

In the final edition of *Briefings* for 2016, it is opportune to reflect on a year of change and to look forward to the key challenges and issues for education in 2017.

Independent schools in 2016 have faced an uncertain and in some cases, a disruptive market with enrolment growth in the sector less than one percent over the previous year, the lowest level for some decades. Factors driving the tough environment in 2016 included: uncertain economic conditions; the decline of the mining industry as the key driver of Queensland economic growth; the affordability of fees; and increased competition across the schooling sectors.

Independent Schools Queensland (ISQ) research shows that parents are becoming more discerning about the choice of a school and are not only more prepared to “shop around” but are likely to be attracted by lower cost options providing the educational outcomes are acceptable and the school exhibits values and standards in line with their needs¹.

Despite the low enrolment growth, there were a near record number of new independent schools in Queensland in 2016 driven by the establishment of Special Assistance Schools (SAS) which cater for disengaged students².

ISQ research released early in the year highlighted the significant contribution of independent schools to the Queensland economy. According to the research, independent

schools contribute more than \$4 billion annually to the Queensland economy, support the employment of 31,000 people and save the taxpayer over \$1 billion annually³.

Politically 2016 was dominated by a double dissolution federal election which saw the return of the Turnbull Government with a significantly reduced majority. Education featured heavily in the extraordinarily long formal campaign period.

A key feature of the 20-year history of *Briefings* is the monthly research based article examining trends and key professional issues in school education. For 2016, the research features have been admirably prepared by two of ISQ's assistant directors, Leigh Williams and Josephine Wise. They are often republished or referenced in other journal articles and works and cited in school newsletters and reports.

For ease of reference, below are the topics covered in Volume 20 of *Briefings* during 2016. All issues of *Briefings* are available on the ISQ website at <http://www.isq.qld.edu.au/briefings>.

Issue	Topic
1	Performance and Development for School Improvement
2	Coaching as an implementation process for school improvement agendas
3	Leading Innovation and Change
4	Online Assessment and its Potential Impact on Student Results
5	Building Leadership Culture in Schools
6	Teachers Leading Research in Best Practice Pedagogy
7	Evidence and Quality Teaching
8	A review of global policy and educational trends for technology integration in classrooms
9	Leading Thinking to Manage Change
10	A review of frameworks for technology integration and their impact on teaching and learning

¹ See the ISQ What Parents Want survey released in 2015 at <http://www.isq.qld.edu.au/files/file/News%20and%20Media/Reports/WhatparentswantkeyfindingsSpreads.pdf>

² Eight new Special Assistance School sites were established in 2016 taking the total number of SAS sites in the Queensland independent sector to twenty-two (22).

³ See <http://www.isq.qld.edu.au/economic-significance-of-independent-schools-to-queensland>

Reflections on 2016: Challenges and Optimism for 2017

This was not surprising given the Coalition announced its intention to implement a new schools funding model from 2018 effectively ending the much publicised, but little understood, “Gonski” funding arrangements.

The Coalition’s *Quality Schools, Quality Outcomes*⁴ policy lined up against the Australian Labor Party’s (ALP) *Your Child Our Future*⁵ with both focusing on continuing reforms and national initiatives to improve schooling outcomes.

The Coalition’s policy confirmed growth of schools funding by \$1.2 billion from 2018 to 2020 to a record \$20 billion per annum. The Coalition also committed an additional \$120 million in funding for students with disability in the 2016/17 Budget.

Despite winning the election, the re-appointed Minister for Education, Senator Simon Birmingham, faced the prospect of a Senate where the support of eight of 11 cross-benchers will be required to pass any amendments to the *Australian Education Act* (assuming the ALP and the Greens oppose any changes).

Debate raged throughout the year about the level of Australian Government funding for schools and the fact that despite Australian Government funding for schools growing by 100 percent between 1987 and 2011/12 after adjustment

for inflation, student outcomes had “flat-lined” with Australia’s international rankings for reading, literacy, mathematics and science falling between eight and 10 places. Many questions were asked about whether or not it is the quantum of funding provided for schools that counts or in fact how the funding is utilised.

Minister Birmingham’s admission in October that some private schools were “over-funded”⁶ ensured that schools funding continued to dominate the headlines. He also highlighted significant disparities between Commonwealth funding levels for like government schools across the states and territories as an argument for a fairer and more sustainable funding model that treats jurisdictions equitably.

Other key issues at the federal level during 2016 included preparation for the transition of NAPLAN to an online assessment from 2017 and the collection of nationally consistent data on students with disability (NCCD).

At the state level, the reform of senior assessment and tertiary entrance procedures dominated with an October announcement by the Minister for Education, Kate Jones, of the final design of the new system and a decision to push back the implementation until 2019⁷. This major reform will

see the introduction of external assessment, a strengthening of the quality controls around school based assessment and the replacement of the Overall Position (OP) with the Australian Tertiary Admission Rank (ATAR). The Year 8 students of today will be the first to graduate Year 12 in 2020 under the new system.

Despite its minority status, the Queensland Government was active in legislative change impacting on education. This included a new and updated *Grammar Schools Act* and amendments to existing legislation to make the Preparatory Year compulsory, and amendments to the *Education (Queensland College of Teachers) Act* to improve the regulation of the teaching profession in Queensland.

The Government also enacted a new *Planning Act* under which non-state schools will be entitled to designation of their sites in terms of infrastructure planning and development.

Under the Advance Queensland strategy, the Government released its *Advancing Education Action Plan*⁸ with a strong emphasis on STEM, coding, languages and preparing students for a global world. The Government also released its *International Education and Training Strategy to Advance Queensland 2016–2026*⁹.

4 See <https://www.education.gov.au/quality-schools-quality-outcomes>

5 See http://www.laborsplanforeducation.com.au/labors_plan

6 For further detail see October 2016 Briefings at <http://www.isq.qld.edu.au/briefings>

7 See <https://det.qld.gov.au/programs-initiatives/education/queensland-senior-assessment-and-tertiary-entrance-systems>

8 See <http://advancingeducation.qld.gov.au/Pages/Downloads.aspx>

9 See <http://www.tiq.qld.gov.au/export/export-industries/education-and-training/international-education-training-strategy/>

Queensland continued to show significant improvement in 2016 across a majority of the domains in the annual NAPLAN, once again confirming the significance and impact of major education reforms over the past decade.

With the prospect of a state election in late 2017¹⁰, next year is shaping up to be a critical one for school education. The 2017/18 State Budget will be a pre-election budget and it could be expected there will be further investment in education, one of the critical “front-line” state services.

A long awaited review of the *Education (Accreditation of Non-State Schools) Act 2001* is scheduled to be progressed in 2017. This should provide the opportunity to not only modernise the legislation but to seriously address unnecessary red tape in the regulatory regime for non-state schools.

It will also provide the Government with the opportunity to facilitate new and emerging models of schooling provision (for example, such as micro schools) which are increasingly being driven by digital technologies and parental choice.

A focus on child protection will continue in 2017 with mandatory reporting requirements being extended to early childhood and further legislative change expected as a result of the long-running Royal Commission into Institutional Responses to Child Sexual Abuse.

¹⁰ A state election must be held prior to May 2018. The date of the next state election has special significance as it will become the set date upon which future elections are held following the passing of legislation that provides for fixed term (four years) Parliaments.

¹¹ About 100 schools in Queensland, including 15 independent schools, will undertake NAPLAN Online in 2017, with all schools to be involved by 2019.

The transition to NAPLAN Online begins in 2017¹¹ and the Australian Government will continue its focus on reforms in the teaching profession designed to increase quality teaching.

By far the key issue facing independent schools in 2017 will be the resolution of the Australian Government funding arrangements from 2018.

In a period of less than 12 months, the Government will need to design and legislate a new funding model. Australian Government recurrent funding is expected to be close to \$900 million for Queensland independent schools in 2017, delivered through the School Resource Standard funding model.

The Federal Minister for Education faces the difficult task of implementing a new funding model from 2018 that not only meets the financial parameters set by the budget forward estimates but captures the principles of good public policy including fairness, equity, transparency and simplicity.

The development of a new federal funding model will be very political and public, so be prepared for the usual media headlines about schools funding. It is unlikely that the Australian Government’s new arrangements will satisfy everybody, setting up what might be a longer term look at a funding model that might apply from 2022.

Schools will have at least one thing to celebrate on the first day of the new year with the Federal Government recently abolishing the requirement contained in the *Australian Education Act* that every school has to publish a prescribed School Improvement Plan from 1 January 2017.

The [ISQ State Forum *Limitless Possibilities*](#) is also worth looking forward to in 2017. To be held at the Brisbane Convention and Exhibition Centre on Thursday 1 June, the State Forum will feature national and international speakers, including Richard Gerver from the UK and Angela Maiers from the USA, presenting an optimistic view of the future and the role of independent schools in educating our youth. We can also be optimistic about the future of independent schooling in Queensland with seven new independent schools scheduled to open next year, in addition to five new campuses to be opened by existing schools.

May I take this opportunity to wish all schools and their communities a wonderful conclusion to a busy and productive 2016 and all the best for a great year in 2017.



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A review of frameworks for technology integration and their impact on teaching and learning

In the two decades since digital technologies have been portable and affordable in the homes and workplaces of many Australians, the following question has occupied the discourse of educators:

How can teachers be supported to implement technology integration in informed and well-considered ways?

Too often the debate had simply focussed on “yes or no” to technology being integrated into schools. However, the exponential growth of portable devices and social media platforms has shifted the focus from whether technology is useful, to how best to capitalise on technology. This has been based on the understanding (subconscious or not) that technology is everywhere in the professional and personal lives of Australians and its use can have a positive and negative influence on our lives and workplaces.

Within education specifically, debate has often focussed on ensuring that technology is not used for learning that could easily be replicated without technology at all. Now more than ever however, research is focussing on aspects of learning where technology is a positive variable to learning potential as well as providing avenues of learning that have previously not been possible. New technology has opened up a myriad of opportunities for learning (Jordan & Dinh, 2012; Schrum, 2011; Hunter, 2015).

There are two internationally popular frameworks for technology integration that have been utilised and adapted in schools around the world, with a third framework now exploding into the educational marketplace based on work from an Australian researcher. These frameworks each offer greater understanding, accountability and analysis about how technology can be used in classrooms in a way that positively impacts learning of students.

1. SAMR

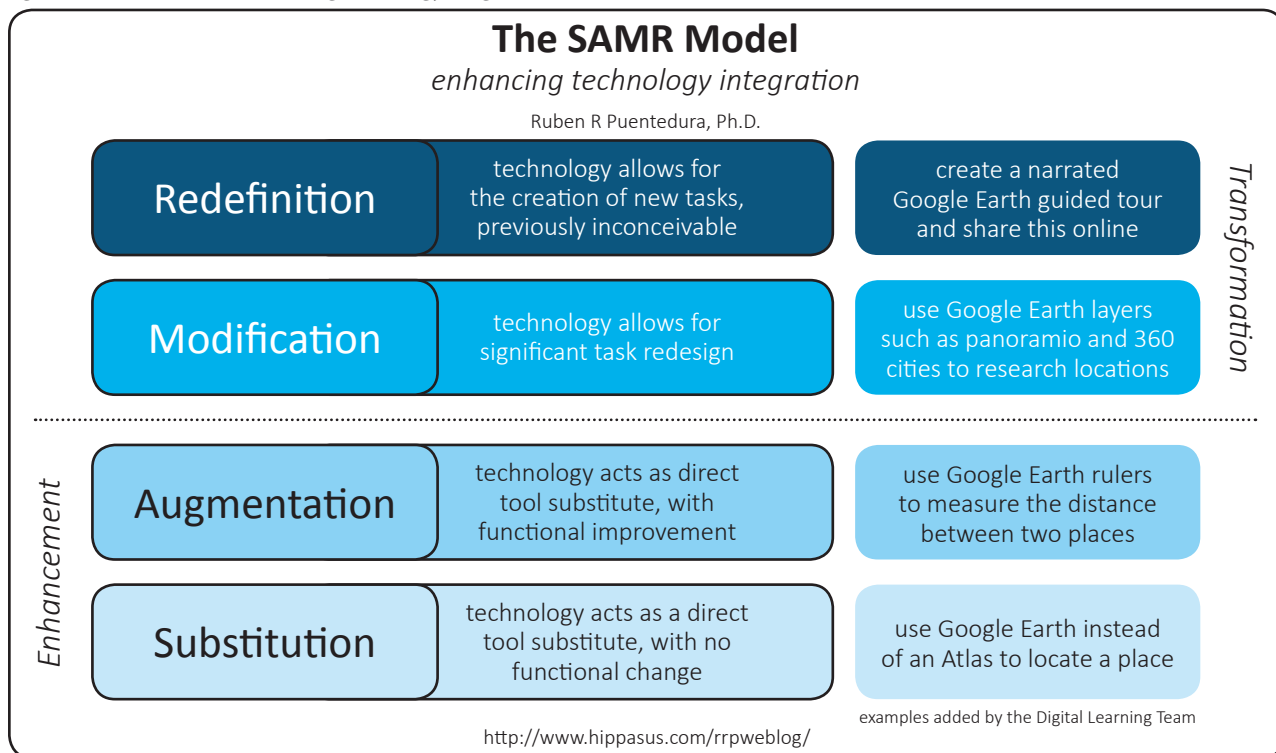
One of the most common technology frameworks in Australian education systems is the SAMR framework, named from its four levels of integration: Substitution, Augmentation, Modification and Redefinition. The framework was developed by Ruben Puentedura (2006) as a model to move from enhancing teaching to transforming teaching with technology (see *Figure 1*). At the most basic level, *Substitution*, the teacher replaces current resources with a newer piece of technology with no functional change to teaching practices. This practice is seen in many classrooms such as PDF worksheets being used on student devices, or on-screen calculators used in numeracy. While this gives students and teachers more confidence and familiarity with the technology, the technology itself has no impact on learning.

However, once teachers and students are able to move to the transformational levels (above the dotted line in *Figure 1*), technology enables new opportunities for teaching and learning that would not exist without the technology presence.

The SAMR framework for technology integration resonates with teachers and leaders due to its simplicity and step-by-step development that can be used for both redefining learning in the classroom and as a growth map for teacher professional learning in technology-enabled pedagogy (Romrell, Kidder & Emma, 2014). Many teachers find technology integration overwhelming and unachievable if their skills don't measure up to their students. However, this framework depicts a growth model for developing more technology-enabled learning where teachers can start with Substitution and move through each level as their confidence and skill develops, enhancing the possibilities of learning for their students in the process (Cochrane, 2012).

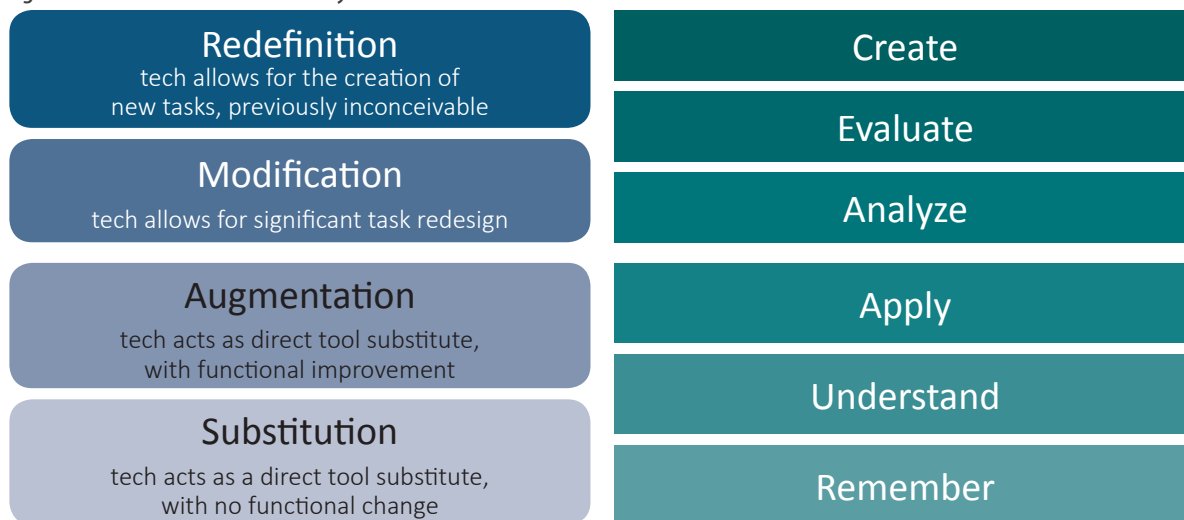
Opponents to this framework, however, argue a number of perceived inadequacies, including a missing layer of higher-order thinking, or high-yield teaching strategies, that would need to be paired with this model to increase its effectiveness (Kearney et al, 2012).

Figure 1: The SAMR Model: enhancing technology integration



Source: (The Digital Learning Team, 2016)

Figure 2: SAMR and Bloom's Taxonomy



Source: (Puentedura, 2014)

While this framework moves teaching into newly-enabled practices, that does not necessarily equate to classroom tasks that include analysing, evaluating and creating etc. As Schrock (2013) explains: *I feel teachers need to both create tasks that target the higher-order cognitive skills (Bloom's) as well as design tasks that have a significant impact on student outcomes (SAMR) ...*

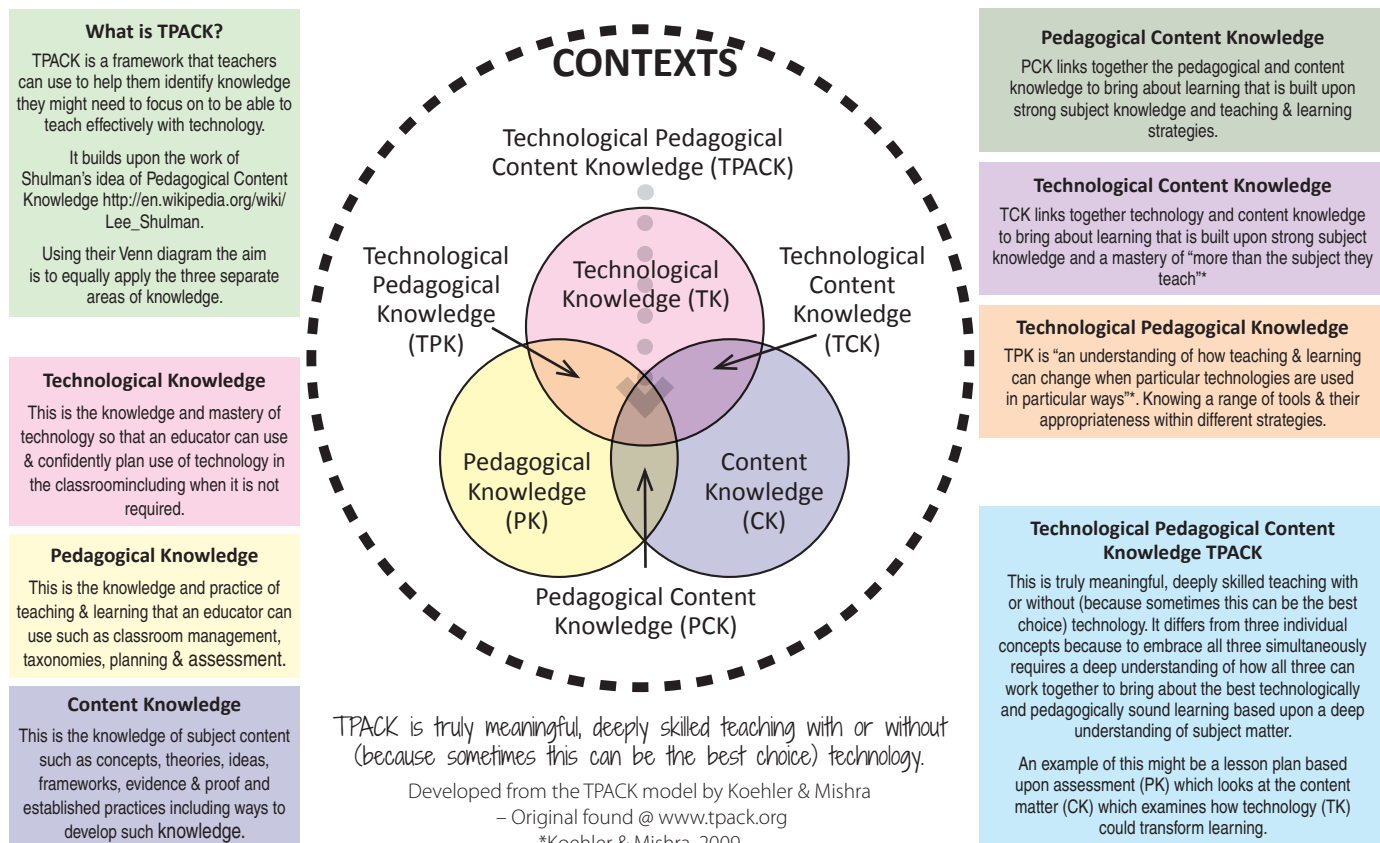
Educators will argue they have seen redefinition tasks that only target the remembering level or have a creative assessment that is only at the augmentation level. Of course that is true, but I believe we should be planning for technology tasks, activities, and assessments that include both the higher levels of Bloom's Revised Taxonomy and the transformation area of the SAMR model (np).

This view was echoed by Puentedura himself, who went on to map his framework against Bloom's Taxonomy to highlight the intentions of how the framework should transform teaching and learning practices (see Figure 2). Mapping learning skills with technological tasks creates a more holistic view of how learning with technology can have a positive impact on student learning that may have otherwise not been achievable.

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Figure 3: TPACK model with explanations

Technological Pedagogical and Content Knowledge (TPACK)



Adapted from: (Anderson, 2014)

2. TPACK

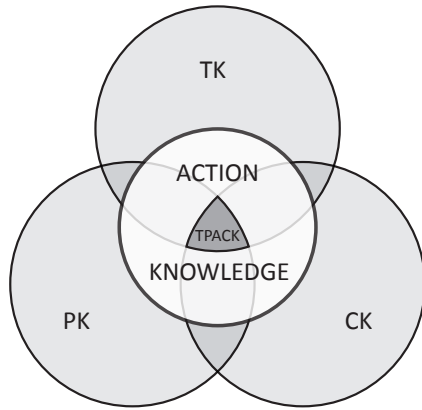
The TPACK framework is one of the most widely accepted models for technology integration internationally. The name stems from the major elements of the framework: Technological, Pedagogical And Content Knowledge (TPACK) and was first developed by Mishra and Koehler in 2006. While its conceptualisation is an adaption of a framework developed in the mid-1980's called "PCK" (Shulman, 1986), its explosion and acceptance in classrooms wasn't realised until Mishra and Koehler's work incorporated technology as another central focus and layer to teaching practice. The TPACK framework,

while having three major layers (technology, pedagogy and content), is designed to be examined and utilised by seven interesections with knowledge identified within the model (shown in Figure 3):

1. Content knowledge (CK)
2. Pedagogical knowledge (PK)
3. Pedagogical content knowledge (PCK)
4. Technology knowledge (TK)
5. Technological content knowledge (TCK)
6. Technological pedagogical knowledge (TPK)
7. Technological pedagogical content knowledge (TPCK or TPACK as its commonly called)

While the authors describe TPACK as a framework that allows "researchers and educators to move beyond over-simplified approaches that treat technology as an 'add-on' instead to focus again, and in a more ecological way, upon the connect among technology, content and pedagogy" (Koehler & Mishra, 2009), researchers have reported a number of criticisms regarding its use. The main opponents have commented on the depth of understanding required by teachers to know, analyse and evaluate whether classrooms are in the central intersection of TPACK (Maor, 2013). The teacher would need a deep

Figure 4: TPACK coupled with Action Knowledge



Source: (Hunter, Technology integration and high possibility classrooms: Building from TPACK, 2015, p. 52)

and complex repertoire of knowledge in good technology practices, content knowledge and pedagogical practices that best match each. In contrast to SAMR, the growth and redefinition in technology-enabled lessons is not evident, but assumed to be at the highest levels upon its use. This in itself may cause issues in its implementation. A teacher with little technological knowledge and skill may struggle with this framework as they are not knowledgeable in what is possible with the use of technology to enhance learning (Moroder, 2013).

3. HPC

A third framework emerging in the Australian educational market is High Possibility Classrooms (HPC) which was developed to build on some of the shortcomings of TPACK. Hunter's (2015) research into TPACK identified that 'Action Knowledge (AK)' (p. 51) is applied to TPACK when more than the seven components are present. The context of learning is relevant to what is achievable (such as school, classroom and learning space) and can impact on the direction and outcome of the learning. Because of this, Hunter reconceptualised the AK component as an additional layer to TPACK *Figure 4*.

Figure 5: High Possibility Classrooms

Theory-driven technology practice	Creativity for learning through technology	Public learning through technology	Life preparation using technology	Contextual accommodations using technology
Technology drives construction of learning	Technology boosts creativity	Technology scaffolds performance	Technology operationalises the real world	Technology remains personal and professional
Technology enhances purposeful teaching	Technology creates opportunities for production	Technology enhances outcomes	Technology gives voice	Technology changes time
Technology focuses planning	Technology unleashes playful moments		Technology means ownership and possibility	Technology nurtures community
Technology enriches subject matter	Technology supports values		Technology reveals effectiveness	Technology defines the game
Technology promotes reflective learning	Technology differentiates learning			
Technology shifts conversation and thinking				
Technology engages students in authentic ways				

Source: (Hunter, 2016)

From this revised model, Hunter developed five concepts, based on researching exemplary teachers' knowledge of technology integration. To elaborate on these, 22 themes of pedagogical strategies and student learning processes were described that exemplify the overarching idea of action knowledge in technology-enhanced classrooms. *Figure 5* describes Hunter's framework, categorising each theme against a major concept for teacher practice and student learning.

Hunter's framework helps identify and describe themes for technology-enabled teaching and learning. It also provides deep knowledge and understanding about why technology is useful and powerful in classrooms, and provides a framework for teacher and school-wide understanding of technology integration.

However, whilst this framework provides many opportunities for educators, it may still be complex to initiate into classrooms without a deep knowledge and understanding in each of the 22 themes

identified. Further to this, this framework is still in its infancy with limited availability of rigorous research on its effectiveness in achieving greater impact on student learning, particularly in comparison with SAMR and TPACK. In time, this may become a null point, when more independent research, both within and external to Australia, can be developed, evaluated and published to give greater credibility to its use across a variety of educational contexts, as Hunter proposes.

What does this mean for technology integration in schools?

Each framework highlights great possibilities for technology integration in classrooms. They provide insight into avenues for teacher development in technology integration and give school leaders direction on what effective technology integration can, and should, be. However, each framework assumes a particular level of technology expertise already present in teacher's repertoire of skills and knowledge. The success of

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each framework will depend on the advocacy, time and priority the school gives to achieving effective technology integration. A process for knowledge-building, teacher development and practice will need to be conceptualised with a cross-section of stakeholders and communicated effectively across the school as a shared vision.

As with any new program or framework, a change management process should be deployed that allows for effective growth, opportunity and redefinition in teacher pedagogy and development. Each framework will allow a school to achieve success given the right conditions are in place to capitalise on that framework's strengths and mitigate its weaknesses. A school that can capitalise on the strengths of their chosen framework, contextualise its use based on student needs, and be able to provide a supportive professional development pathway for teachers, should see the successful integration of technology into classrooms. Successful integration will deliver technology-enabled learning and well-conceptualised and informed innovative classroom practices that will have a positive impact to the students' learning.



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References

- Anderson, M. (2014, 1 6). *Don't use technology...do use technology*. Retrieved from ICT evangelist: <https://ictevangelist.com/dont-use-technology-use-technology-2/>
- Cochrane, T. (2012). Secrets of mlearning failures: Confronting reality. *Research in Learning Technology*, 5, 123–134.
- Hunter, J. (2015). *Technology integration and high possibility classrooms: Building from TPACK*. New York: Routledge.
- Hunter, J. (2016, March 13). *Using HPC with all subjects in primary and high school curriculums*. Retrieved from High Possibility Classrooms: <http://www.highpossibilityclassrooms.com/using-hpc-with-all-subjects-in-the-primary-and-high-school-curriculum/>
- Jordan, K., & Dinh, H. (2012). TPACK: trends in current research. *ACEC*. Perth, Australia: ACEC.
- Kearney, M., Schuck, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology*, 20(1), 1–17.
- Koehler, M., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary issues in technology and teacher education*, 9(1), 10–20.
- Maor, D. (2013). Does the use of the TPACK model enhance digital pedagogies: We don't understand the present so how can we imagine the future. *30th ascilite Conference 2013 Proceedings*, (pp. 1–10).
- Mishra, P., & Koehler, M. (2006). technological pedagogical content knowledge: a new framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.
- Moroder, K. (2013, November 4). *Push My Thinking: TPACK or SAMR or ?* Retrieved from Ed Tech Coaching: <http://www.edtechcoaching.org/2013/11/ed-tech-frameworks-why-i-dont-use-tpack.html>
- Puentedura, R. (2014, November 24). *SAMR and Bloom's Taxonomy: Assembling the Puzzle*. Retrieved from Common Sense Education: <https://www.commonsense.org/education/blog/samr-and-blooms-taxonomy-assembling-the-puzzle>
- Puentedura, R. (2006). *SAMR*. Retrieved from Transformation, technology and education: <http://hippamus.com/resources/tte/>
- Romrell, D., Kidder, L., & Emma, W. (2014). The SAMR Model as a Framework for Evaluating mLearning. *Online Learning*, 18(2), 79–96.
- Schrock, K. (2013, November 09). *SAMR and Blooms*. Retrieved from Kathy Schrock's guide to everything: <http://www.schrockguide.net/samr.html>
- Schrum, L. (2011). Revisioning a proactive approach to an educational technology research agenda. *Considerations on Educational Tehcnology Integration*, 1017–1054.
- Shulman, L. (1986). Those who understand: knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.
- The Digital Learning Team. (2016, October 29). *The SAMR Model – Enhancing Technology Integration*. Retrieved from Digital Learning Team: <https://digitallearningteam.org/2012/06/07/the-samr-model-enhancing-technology-integration/>

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