

Agility in mind, technologies & environment

Enabling effective contemporary learning



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The advent of the knowledge and digital age is fuelling profound and escalating changes in global economies and societies. Advancements in brain science are providing insights into how people learn while also demonstrating that the minds of today's youth, the so-called digital generation, are being hard-wired to the digital landscape within which they live. At the same time, studies are confirming a crisis of disengagement of learners from traditional learning and teaching models. (Shifting Minds Report'- C21 Canada Summit)

Changing the art of teaching and learning to meet the demands and challenges of the

21st century requires agility in educators' minds, agile technologies and agile learning environments to enable contemporary learning practice. Whatever the model of 21st century literacies, all use ICT as a key enabler, inherent to each competency. We have all seen how the simple side injection of technologies into a learning community achieves very little gain in bringing value to learning and teaching. So educators with flexible mindsets, agile ubiquitous technologies working in rich agile learning environments, should form a scenario for 21st century learning.

Agility in mind

Continuous learning with clear purpose and connection to the real world is critical to developing the capabilities, dispositions and literacies required to live full lives in diverse communities and deal with issues and change in the twenty-first century. (MCEETYA)

Agile teachers are needed within today's learning culture. Rich engagement in technologies is also essential for graduating teachers. Tertiary institutions around Australia are addressing this need via the Teaching Teachers for the Future (TTF) federal government project.

Teaching Teachers for the Future will help embed ICT into everyday classroom learning by transforming the delivery of teacher education and supporting the development of progressive generations of teachers. Teachers who are expert in the use of ICT will assist universities to update teaching courses so that new teachers have the necessary skills to incorporate the use of ICT in classroom learning. (Education Services Australia)

One of the three goals of this project was to derive standards and elaborations in ICT for graduating teachers by the end of 2011.

FOCUS AREA	Descriptor	ICT Elaboration
3.1 Establish challenging learning goals	Set learning goals that provide achievable challenges for students of varying abilities and characteristics.	Demonstrate knowledge and understanding of how the use of digital resources and tools can support approaches to teaching that enable all students to pursue their individual curiosity, set their own educational goals, manage their own learning, choose the way they respond to tasks and challenges and assess their own progress.
3.2 Plan, structure and sequence learning programs	Plan lesson sequences using knowledge of student learning, content and effective teaching strategies.	Select and sequence digital resources and tools in ways that demonstrate knowledge and understanding of how these can support deep learning of the content of specific teaching areas and effective teaching strategies.
3.3 Use teaching strategies	Include a range of teaching strategies.	Demonstrate knowledge and understanding of how to support teaching strategies through the use of digital resources and tools in ways that facilitate accelerated and deep learning, promote creative and innovative thinking and inventiveness, engage students in exploring real world issues and solving authentic problems, promote student reflection and promote collaborative knowledge construction.
3.4 Select and use resources	Demonstrate knowledge of a range of resources, including ICT, that engage students in their learning.	Demonstrate knowledge of the use of digital resources and tools to support students in locating, analysing, evaluating and processing information when engaged in learning.
3.5 Use effective classroom communication	Demonstrate a range of verbal and non-verbal communication strategies to support student engagement.	Use a range of digital resources and tools to support effective communication of relevant information and ideas, taking into account individual students' learning needs and backgrounds, the learning context, and teaching area content.
3.6 Evaluate and improve teaching programs	Demonstrate broad knowledge of strategies that can be used to evaluate teaching programs to improve student learning.	Demonstrate the capacity to assess the impact of digital resources and tools on students' engagement and learning when adapting and modifying teaching programs.
3.7 Engage parents/ carers in the educative process	Describe a broad range of strategies for involving parents/carers in the educative process.	Describe how digital resources and tools can support innovative ways of communicating and collaborating with parents/carers to engage them in their children's learning.

Table one: Standard three – plan for and implement effective teaching and learning



Traditional furniture replaced with bean bags - LEQ PD November 2011

The ICT standards for graduating teachers are:

1. know students and how they learn
2. know the content and how to teach it
3. plan for and implement effective teaching and learning
4. create and maintain supportive and safe learning environments
5. assess, provide feedback and report on student learning
6. engage in professional learning
7. engage professionally with colleagues, parents/carers and the community

Table one outlines Standard 3: *Plan for and implement effective teaching and learning*. These standards call on graduating teachers to be agile, bold and adaptable in facilitating contemporary learning and to leverage technology in rich ways beyond simple substitution. The elaborations may be challenging for experienced teachers also. For example, how would you rate yourself in performance for the following elaboration?

Demonstrate knowledge and understanding of how to support teaching strategies through the use of digital resources and tools in ways that facilitate accelerated and deep learning, promote creative and innovative thinking and inventiveness, engage students in exploring real world issues and solving authentic problems, promote student reflection and promote collaborative knowledge construction.

Agile technologies

Agility in technologies can only be achieved when synchronised with the other two facets of agility discussed in this article; however, the type and use of technologies do play an important part. We must strive for meaningful ubiquitous use of technologies in learning; flexible learning spaces coupled with educators' flexible engagement can only have success with agile technologies. Rigid computer laboratories with rows of desktop computers will not provide agility. The use of mobile and portable devices such as tablet shaped single form factor technologies will help in transforming traditional classrooms into agile ones when used appropriately. Many Lutheran schools are implementing devices such as tablet pcs, iPads and slate technologies. Where possible these implementations are striving for a personalised solution; that is, each student is allocated a device for use on and off campus.

Such devices are proven to scaffold success in contemporary learning environments due to their long battery life, instant on and very little technical support, thereby minimising 'time to task' and maximising 'time on task' for the learner.

If we are to see real gains in student learning and technology, there must be a change in process. Technology is not enough if we continue to do the same things with it that

we did before technology. We need to rethink how we go about teaching and learning so that computers do not become the \$1000 pencil. (Alan November)

The key ingredient here is always the teachers who are acting as masterful learners or facilitators of learning. How do they engage with the technology and learner in rich meaningful ways? Where are they on the adoption model (see figure one) when using new technologies to enhance learning? Are they at an entry level or at an invention stage?

A key question teachers also need to ask is how they are using these agile technological devices in learning. Looking at the SAMR model (see figure two), is the technology solely being used in an enhancement mode or in a richer transformational mode? Key questions which need to be answered in order to achieve results.

Agile learning environments

The classroom is a relic, left over from the Industrial Revolution, which required a large workforce with very basic skills. Classroom-based education lags far behind when measured against its ability to deliver the creative and agile workforce that the 21st century demands. This is already evidenced by our nation's shortage of high-tech and other skilled workers - a trend that is projected to grow in coming years. (Prakash Nair)

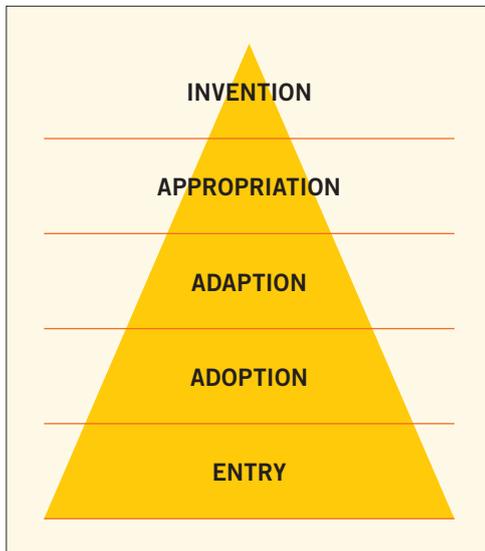


Figure 1: Levels of Adoption model

Without an agile learning environment, meaningful ubiquitous use of technologies in learning via educators' flexible engagement cannot be achieved. The classroom or physical learning space is being challenged with more appropriate designs. Professor Stephen Heppell, in his recent visit and work with Lutheran schools in Queensland, argued for a radical change and implements what he preaches. He promotes students having a say in the design of their learning environments on the school campus. *'Kids + Technology + a*

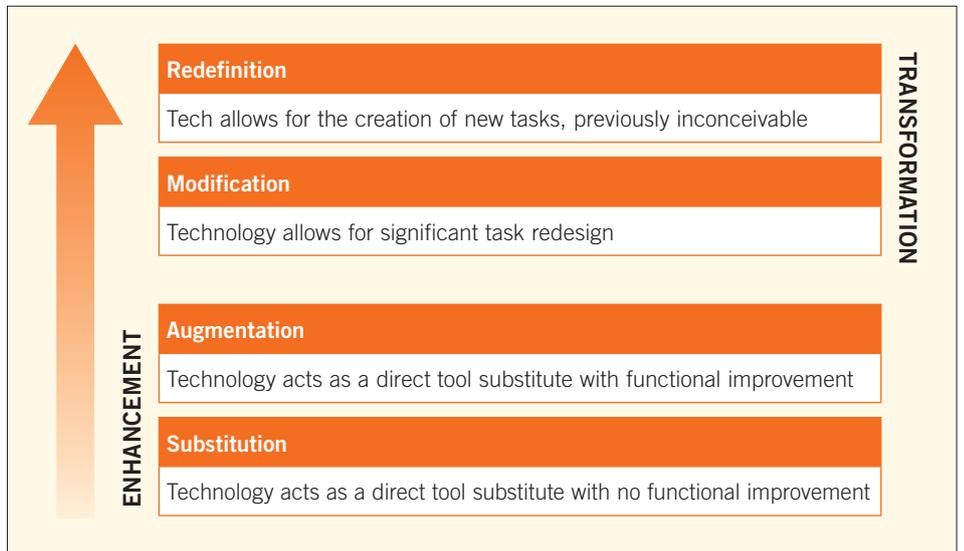


Figure 2: SAMR – Models for Enhancing Technology Integration

Voice = Stellar Progress... Our vision for kids is massively underwhelming. We are holding them captive in a prison of criteria' (Stephen Heppell).

He promotes learning spaces that celebrate children and embody community, mutuality and belonging. His radical yet very successful designs around the world are not about spending loads of money, simply about thinking differently and deciding what's important for learning today. Café style learning, stairwells as lecture theatres, shoes off learning and factories and malls turned into

schools are some of the ideas for successful learning environments.

Recently at a Lutheran teachers professional development day in Queensland, the traditional furniture was replaced with bean bags and soft flexible furniture. This was based on Heppell's premise that if you are learning to use agile technologies why not use them in an agile learning space? When we go home and read a traditional novel or browse information on an iPad, we do not find the straightest chair at a rigid table and sit upright to carry out this task, so why should we in a learning space?

His rule of **three** for 3rd millennium spaces includes:

- » Never more than **three** walls
- » No fewer than **three** points of focus
- » Always able to accommodate **three** teachers and **three** classes

Conclusion

As educators and leaders in Lutheran schools, we need to continue to implement bold not old paradigms of technology integration which are rich and meaningful for our learners. As Will Richardson states, *'we need to create student-centred, inquiry-based, technology-rich learning opportunities in our classrooms that can help kids navigate the world they live in'.*

Lutheran education is well positioned to take up the challenge to grow and develop flexible and agile teachers performing as masterful learners engaging with technologies in rich and meaningful ways within supportive dynamic and agile environments.



When we go home and read a novel we do not find the straightest chair and sit upright... so why should we in a learning space?