



NSW PRIMARY PRINCIPALS' ASSOCIATION Inc.

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NSWPPA Position Paper - ICT to Enhance Student Learning

“Rapid and continuing advances in information and communication technologies (ICT) are changing the ways people share, use, develop and process information and technology. In this digital age, young people need to be highly skilled in the use of ICT.”

p.5 'Melbourne Declaration' – December 2008

Issue

‘Technology impacts nearly every aspect of our lives, yet its effect on learning continues to be modest.’

p.4 'The future of education' – Martin A. Siegel 2008

In NSW, over the last 25 years, there has been extensive investment by the state education system, and individual schools in technology. This investment has been in both the areas of education administration and technology for learning. The use of technology in administration, while it will always be developing, has significantly altered the way school administration is conducted.

The use and/or availability of technology for learning has had far less impact. Yet it has the capacity, as a learning tool, to help drive far stronger learning outcomes for our students – it is in the area of learning, that this position paper is targeted.

p. 18 'Young people need the right skills and knowledge to thrive in an informationrich world' – Federalist Paper 2 – The future of schooling in Australia' April 2007

When new technologies emerge, they are initially understood and often first applied in familiar ways and by means of familiar metaphors.

p.3 'Learning Environments: Where Space, Technology, and Culture Converge' Tom Warger ELI Paper 1: October 2009

Educational pedagogical practices are slow to change. With over 25 years of computer technology in schools, as a strong generalisation, we are still applying this ‘new’ technology (and its derivatives), in familiar ways. There’s also a need to look at our learning spaces with 21st Century eyes

'The Third Teacher – 79 ways you can use design to transform teaching and learning' Harry N Abrams (editor) – 2010.

Do our learning spaces effectively function to promote learning for what we know about learning today?

Mark Treadwell is one who has identified student learning reaching an ‘upper limit’ under our current pedagogical paradigms (*'Whatever School 2.0 – The First Paradigm Shift' 2009; & WSR Primary Principals' Conference – May 2011*), and for a breakthrough in student learning to be achieved we need to do something different, there needs to be a paradigm shift.

Use of ICT in *learning* (in NSW public schools), to a significant degree, has been driven by systems management. The capacity to innovate and drive student-learning capacity cannot be stifled by system constraints. Flexibility is essential.

Through analysis of relevant research (Appendix 1), and action research undertaken of the Learning Innovations Reference Groups and the Information & Communication in Technology Reference Group (Appendix 2), key points emerged for implementation of ICT to support learning now and into the future. The understanding of learning spaces has to include both physical and virtual spaces, and recognition of a greater shift (pedagogical) to active learning, collaborative learning and personalised learning (*21st Century Learning Spaces' Australian Policy Online, 2009*). It would also include the way we design both new schools and classrooms, and redesign/configure current space into learning areas where technology access is available anywhere anytime (*Future schools and how technology can be used to support millennial and Generation-Z students' Vicki Jones, Jun Jo & Philippe Martin 2007*). The design of learning spaces has the potential to assist in the positive transformation of educational experiences

(21st Century Learning: Acting Nationally and Internationally', Kurt Ambrose & Jill Wilson, 2008)

The paper also raises considerations for future research by NSWPPA, which other relevant Reference Groups could consider (Appendix 3), as NSWPPA priorities demand.

Rationale

The use of technology in learning has been hailed as a universal solution for improving student education for over 25 years, however its influence to raise student-learning outcomes has arguably been modest.

It is important that we, as educational professionals, maintain a clear direction for the use of ICT to enhance learning, now and into the near future. While understanding the rapid change inherent in technology, the building of flexibility into the system to respond will be critical. The use of ICT in schools must be driven by the educational needs of schools and children. Our teachers and educational leaders must develop the vision, understanding and capacity to utilise technology effectively as a learning tool.

In a Discussion Paper from the Warren Centre on 'Transforming 21st Century Education' (p. 7, 27 October 2009) a vision of learning incorporating technology encompassed:

How - All students will have multimedia computers during lessons and ICT supported learning will be available, as needed, at schools, homes and other locations.

Teaching – ICT will be used by all teachers to motivate students, help deliver and interpret information, optimise learning potential and monitor and guide students' progress.

Learning – ICT will be used by all students to help find their most suitable learning styles, identify and use information patterns, solve problems, explore their creativity and apply themselves to the achievement of their learning goals.

Students - will learn at their own optimal pace using centrally developed curricula based software fully integrated into K-12 pedagogy.

Computers - strengths will be fully exploited, particularly in teaching and monitoring learning of those aspects of curricula based on facts, logic and rules.

The Internet - curriculum specific software will be linked to other Internet based facilities to provide comprehensive teaching and learning systems.

POSITION

The NSWPPA recognise that technology, as a tool that can support and enhance relevant learning, needs to be seamlessly embedded within our schools. We support and acknowledge that:

1. Information & Communication Technology in learning (in our schools) needs to be driven by *professional educators*;
2. the design and implementation of technological systems must *support the educational imperative* of delivering best student learning outcomes;
3. there be the immediate formation (or inclusion within current structures) of a position/s to bridge the communication and direction gap between understanding and implementing learning imperatives in schools, and Information Technology Directorate;
 - a. and the above role have a level of 'authority' sufficient to complement effective collaboration
4. there be renewed targeted professional learning for teachers to both understand the 'technical' implementation of technology in schools (use of computers and related technologies), and of equal, if not more importance, how it can best support quality learning and assessment in the classroom;
5. there be targeted professional learning for school leadership to improve the understanding of technology to enhance learning now and into the future;
6. school and system investment embrace the best technology to support student learning needs of each situation;
7. the development of future learning spaces recognise a technologically rich environment and the need to design creative space/s to support learning (thinking out of the box) - where the teacher will not always be in front of the classroom. This would include a review and restructure of current classroom and building Standards for public schools in NSW (to meet learning needs as already outlined);
8. learning necessitates absolute ease of access to relevant technology (anytime anywhere);
9. technologies to support and enhance best student learning will necessarily vary, and the capacity of the system to support the varied technologies is critical and fundamental; and
10. effective pedagogical practices in our classrooms have changed and continue to evolve. A deep understanding of learning and best learning practices is essential for teachers and leadership, to genuinely enhance learning and opportunities for our students.

Appendix 1

References

1. '21st Century Fluency Project' – 2011, <http://www.fluency21.com/about.cfm>
2. Abrams, Harry (editor) 'The Third Teacher – 79 ways you can use design to transform teaching and learning' – 2010, www.thethirdteacher.com
3. Ambrose, Kurt & Wilson, Compton '21st Century Learning: Acting Nationally and Internationally' – Curriculum Leadership, Volume 6 Issue 30, 2 September 2008
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4. Becta, 'Harnessing technology for next generation learning' – March 2009
5. Education.au, '21st Century Learning Spaces' Australian Policy Online, 2009
<http://www.apo.org.au/research/21st-century-learning-spaces>
6. Jones, Vicki; Jo, Jun; and Martin Philippe, 'Future schools and how technology can be used to support millennial and generation-z students', 2007
7. Federal Government 'Future of Schooling in Australia' – Federalist Paper 2, April 2007
8. Federal Government, 'Melbourne Declaration on Educational Goals for Young Australians', December 2008
9. Independent Schools Queensland '21st Century Learning Spaces' – Briefings – Vol. 13 Issue 6 July 2009
10. Punie, Yves & Cabrera Marcelino, 'The Future of ICT and Learning in the Knowledge Society', European Commission, Report on Workshop held in Seville 20-21 October 2005
11. Siegel, Martin A, 'Catalog of Tomorrow: Trends Shaping Your Future' edited by Andrew Zolli, 2002
12. Treadwell, Mark, 'Whatever! School 2.0: The First Paradigm Shift' – 2009,
http://www.marktreadwell.com/Whatever_Notes
13. Warger, Tom 'Learning Environments: Where space, technology and culture converge' – ELI Paper, October 2009
14. Warren Centre Discussion Paper, 'Transforming 21st century education' - 27 October 2009

Appendix 2

"In today's world we face technological applications in daily living the likes of which, even a few short years ago, would have been inconceivable. This is a digital age, with interactive devices storing and recording our life experience and containing overwhelming amounts of knowledge. This has become the essence of life in the 21st Century, but more specifically the lives of our children. As students, they have a whole new way of thinking and learning that many educators are unable to understand, and that most schools are unable to accommodate" – *21st Century Fluency Project - 2011*

NSWPPA Funded Project – Background Information

This paper began from recognition by the Learning Innovations (LI) Reference Group and the Information & Communication Technology (ICT) Reference Group that the use of ICT in learning in schools has not reached its potential, and that over the coming years, we need to position our schools and system to ensure that the integration of technology in learning better meets the needs of our current and future students.

In 2010 the NSWPPA offered assistance for project implementation for principal groups in an area or areas of priority. The LI Reference Group and the ICT Reference Group submitted an application for support to research the area: **The role of ICT to enhance learning for the 21st Century Learner (or learners in the 21st Century).**

Not only would the project develop a Position Paper for the NSWPPA, but provide a strong opportunity to develop deep professional learning and understandings for participant principals with the resultant 'ripple effect'.

In collation and development of this project and position paper, the LI Reference Group and the ICT Reference Group have met with DEC personnel including:

Mr Raju Varanasi (Director, NSW Curriculum and Learning Innovation Centre), and Mr Stephen Loquet (Chief Information Officer, Information Technology Directorate) and other personnel from CLIC and ITD.

Other action research through visits to schools and discussions have been conducted by:

- a visit to the Armidale School (by 4 NSWPPA principals with representatives from both LI & ICT groups) for discussions with Mr Martin Levins (The Armidale School, Director Information Technology, writer Education column for Australian Macworld and nationally acknowledged presented in the area of education and technology) and school visit;
- a visit (by 8 NSWPPA principals with representatives from both LI & ICT groups) to 4 specifically identified schools in Melbourne and discussions with Mr Mark Dixon (Senior Project Officer, One-to-One Program, Victorian Department of Education and Early Childhood Development); and
- conducting two combined meetings between the Learning Innovations Reference Group and the Information and Communication Technology Reference Group (of the NSWPPA), including further input and discussion with Mr Mark Dixon at the second of these meetings at ITD's new headquarters at Australia Technology Park.

Appendix 3

Additional Research/Paper Opportunities identified from Position points

Position Point/s	Description	Possible Reference Group Interest
2	System Support	ICT
4 & 5	Professional Learning	Curriculum HR ICT
6	School & System investment	Finance ICT Curriculum
7	School Facilities Standards	Asset Management Curriculum Technology Learning Innovations
8	Anywhere anytime technology	ICT
10	Effective pedagogy/paradigm shift	Curriculum Learning Innovations