



Asia Education Foundation



# WHAT WORKS 4

Using ICT in schools to support the development of Asia-relevant capabilities

AUGUST 2013



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The following is a summary of key lessons learned from *What Works 4*:

> **1. Professional learning along all stages of the ICT pedagogic continuum is essential, as teachers seek to evolve their Asia-related teaching practice based on the benefits provided by the use of ICT**

Effective use of ICT requires teachers to act differently (Bell, 2001). The more teachers understand the possibilities of ICT use in the classroom, the more their teaching practice is required to evolve (UNESCO, 2005).

All of the *What Works 4* illustrations (video and written) show the essential nature of targeted professional learning. Using ICT in the classroom is challenging and can be uncomfortable, especially for the many teachers who are starting out in this space.

Likewise, intercultural communication and understanding can be a tricky space for many teachers and students. *What Works 4* demonstrates that up-skilling teachers in the use of ICT for the specific purposes of developing students' Asian language proficiency, Asia literacy and/or intercultural understanding requires a more tailored approach beyond generic professional learning around ICT-based pedagogies.

up-skilling teachers in the use of ICT for the specific purposes of developing students' Asian language proficiency, Asia literacy and/or intercultural understanding requires a more tailored approach beyond generic professional learning around ICT-based pedagogies.

In addition, the professional learning needs to address the key components of skills (relating to ICT tools) and ideas (Asia-related pedagogy and curriculum). Teacher capacity and confidence is unlikely to improve if either of these components is missing.

> **2. Understanding the transformative use of ICT in studies of Asia and/or Asian languages classrooms as it sits along a pedagogic continuum**

Transformative thinking about cultural diversity in today's globalised and increasingly interconnected world is a core goal of developing students' Asia-relevant capabilities (AEF, 2013; Hassim, 2013). Hence, innovative ICT use in classrooms needs to be a feature of an Asia capable classroom (Halse et al., 2013).

Using ICT to enable transformative learning is about making schools relevant to learners in the 21st century. Schools have now witnessed two generations of 'digital natives'. Failing to acknowledge this fact and subsequently restructuring pedagogy and curriculum runs the risk of student disengagement.

Educators have to evolve rapidly in order to make teaching and learning relevant to their students (Chen, 2010; Whitby, 2013). The rise of Asia will play an increasingly major role in the lives of current and future 'digital natives'. ICT will be thus crucial to reinforcing the relevance of Asia and the need to develop Asia-relevant capabilities in classrooms Australia-wide.

Up-skilling teachers in the use of ICT for the specific purposes of developing students' Asian language proficiency, Asia literacy and/or intercultural understanding requires a more tailored approach beyond generic professional learning around ICT-based pedagogies.

Achieving innovative and transformative learning environments through the use of ICT involves a multi-stage process. Schools evolve from familiarisation with, and basic use of, the technology to improve classroom productivity before they begin to focus on subject-specific pedagogy that is ICT-based.

Two schools that demonstrate how this process can also be cyclical are the Schools of Isolated and Distance Education (SIDE), WA, and Doncaster Gardens Primary School, VIC. Both these schools are featured in [video illustrations: SIDE and Doncaster Gardens Primary School](#).

> **3. Asking the key question, 'How is the use of ICT value-adding to my studies of Asia and/or Asian language classroom?'**

Teachers can follow some simple guidelines to ensure innovative and transformative use of ICT in Asia-related learning contexts. The written illustration on The Southport School, QLD, shows how a focus on this question can enable deeper learning through ICT, while the video illustrations demonstrate how it can provide a basis for schools to evolve their ICT-based pedagogy in order to support the development of Asia-relevant capabilities.

ICT is not a set of formulaic skills to be taught. Rather, it is a tool to be used and integrated within the curriculum to improve student learning. Hence, schools will evolve in their own way, depending on their needs.

The illustrations show that despite common themes, each school utilised a different combination of ICT tools to achieve an array of Asia-related curriculum objectives. For some schools it is the building of intercultural understanding; for others it is about improving student engagement and learning outcomes in Asian languages. Yet, some schools, like Illawarra Sports High School, NSW, focused on teaching students how to be independent researchers and learners through the use of ICT in its Indonesian language and Asian Studies classrooms.

> **4. Persistence**

The use of ICT in classrooms until recently has involved (primarily) accessing and collecting information from a range of online sources. However, there is little evidence to suggest this approach translates into student engagement that facilitates meaningful learning experiences and transformative thinking (Corio, Knobel, Lankshear & Leu, 2008), both of which are essential to intercultural learning.

Evolving curriculum and pedagogy in Asian languages and/or studies of Asia classrooms to better suit how 'digital natives' learn can motivate students to embrace the Asian Century.

Schools need to persist with evolving their use of ICT to a point where students can engage with higher order thinking skills, such as organising, connecting, analysing, repurposing, and creating information (Henderson, Allan & Mallan, 2009). Students have the potential to develop a wider range of global competences through the use of ICT, provided pedagogy and curriculum are redesigned accordingly.

In order to support teachers to persist with the use of ICT in Asian languages and/or studies of Asia, dedicated technical and pedagogic support is essential. This is what SIDE, WA, through its department for Online Teaching and Learning, has established.

Research shows that even the teachers most committed to the use of ICT struggle with constant technical problems. Other teachers require support because they have a pre-existing aversion to its use in the classroom, possibly caused by negative experiences (United Nations Educational, Scientific and Cultural Organization, 2005).

Using stories from other teachers — who have tried, succeeded and/or evolved their practice — to show what works and what is possible can be motivating and inspiring (UNESCO, 2005). This has been the broader goal of *What Works 4*.

> **5. The use of ICT to develop students' Asia-relevant capabilities can build demand for Asian languages and studies of Asia**

Evolving curriculum and pedagogy in Asian languages and/or studies of Asia classrooms to better suit how 'digital natives' learn can motivate students to embrace the Asian Century. While captured by all the *What Works 4* illustrations, this observation was most profound at Illawarra Sports High School, NSW. Jennifer Jurman, a teacher at the school, elaborates:

*Our school is embracing the Australia in the Asia Century White Paper. It has come a long way considering that in 2011 no Asian languages were offered to students. In 2012, the study of Bahasa Indonesia became mandatory for all Year 8 students. In 2013, the Asian Studies Enrichment Program is being implemented for Year 7 students. This is significant and progressive for our school. Indonesian and Asian Studies are our most popular subjects as students are engaged in the use of ICT in lessons.*

*What Works 4* maps illustrations gathered from nine Australian schools against an analytical framework adapted from UNESCO ICT-CFT (Competency Framework for Teachers). The adapted framework has been called 'ICT pedagogic framework for Asia capability'

### > Aim

*What Works 4* explores how teachers in Australian schools are using ICT to develop students' Asia-relevant capabilities, with a focus on Asian languages, studies of Asia, and intercultural understanding.

While there is plenty of literature on ICT-based curriculum and pedagogy, as well as policies and frameworks developed by education authorities nationally and internationally, relatively few relate specifically to the development of Asia-related knowledge, understandings and skills. *What Works 4* contributes to initial studies in this space, exploring what has been working and what else is possible.

### > Approach

*What Works 4* maps illustrations gathered from nine Australian schools against an analytical framework adapted from UNESCO ICT-CFT (Competency Framework for Teachers). The adapted framework has been called 'ICT pedagogic framework for Asia capability' (see 'Methodology'). As a relatively recent (2011) international framework, UNESCO ICT-CFT provides a useful reference point for this research that explores intersections between studies of Asia, Asian languages, intercultural understanding, and ICT.

The three video illustrations in *What Works 4* focus on the following themes:

- Innovating with technology in the languages classroom — Doncaster Gardens Primary School, VIC  
[www.asiaeducation.edu.au/ww4doncaster\\_garden](http://www.asiaeducation.edu.au/ww4doncaster_garden)
- Building intercultural understanding through synchronous video and text — Our Lady of the Sacred Heart College, SA  
[www.asiaeducation.edu.au/ww4our\\_lady\\_of\\_the\\_sacred\\_heart](http://www.asiaeducation.edu.au/ww4our_lady_of_the_sacred_heart)
- Flexible language delivery using synchronous and asynchronous technologies — Schools of Isolated and Distance Education (SIDE), WA  
[www.asiaeducation.edu.au/ww4side](http://www.asiaeducation.edu.au/ww4side)

The written illustrations are divided into the following four categories, based on the 'ICT pedagogic framework for Asia capability':

- Teachers learning about ICT (Emerging)
- Teaching with ICT (Applying)
- Facilitating students learning with and/or through ICT (Infusing)
- Enabling and managing deeper learning through ICT (Transforming)

The main aim of the written illustrations is to link school practice to the relevant theory, presented as brief research 'signposts' in each illustration. A separate literature review has not been conducted because of the nature of *What Works 4*, which seeks to bridge the gap between theory and practice.

Increasingly, both in terms of quantity and quality of innovation, ICT is being used to achieve profound intercultural and Asia capability outcomes amongst students, teachers and broader school communities.

### > Scope

The generic reference to 'using ICT in schools' allows for a focus on both curricular and pedagogic approaches to the use of ICT in Australian schools to achieve specific learning outcomes, in this case Asia-relevant capabilities.

'Asia-relevant capabilities' has been used in favour of 'Asia literacy' to encompass both Asia-related content as well as intercultural understanding. Importantly, 'Asia-relevant capabilities' also encompass Asian languages.

Even though many schools are yet to implement the Australian Curriculum, the Asia Education Foundation (AEF) is committed to supporting the Asia and Australia's engagement with Asia cross-curriculum priority, Intercultural understanding general capability and Asian languages as key enablers for an Asia capable curriculum. Most of the Asia-related initiatives in Australian schools fall within one, both, or all of these dimensions, as demonstrated by *What Works 4*.

### > Some 'knowns' about the use of ICT to achieve Asia-relevant capabilities

The Halse et al. (2013) report — which involved the largest Asia literacy survey of its kind of 1,471 teachers and 481 principals — showed how the development of Asia-relevant capabilities in Australian schools today is essentially intertwined with the use of ICT. The report also argued that a key feature of Asia capable teachers is their use of ICT in the studies of Asia and/or Asian languages classroom.

These findings reinforce what AEF has known anecdotally for several years through its programs and initiatives involving Australian schools, in particular BRIDGE (Building Relationships through Intercultural Dialogue and Growing Engagement) and BALGS (Becoming Asia Literate: Grants to Schools). Increasingly, both in terms of quantity and quality of innovation, ICT is being used to achieve profound intercultural and Asia capability outcomes amongst students, teachers and broader school communities.

### > BRIDGE

The Australia-Asia BRIDGE School Partnerships Project provides Australian teachers and students with the opportunity to engage with their peers in Asia through the use of ICT. BRIDGE supports a range of online interactions between partner schools led by teachers and students.

Since 2008, the BRIDGE project has partnered 164 Australian schools with schools in China, Indonesia, South Korea and Thailand, facilitated professional learning around Asia-relevant capabilities to 520 teachers, and supported 171 Australian teachers from 120 schools to visit their partner school in Asia.

BRIDGE has been recognised nationally and internationally for its innovation in supporting Australia–Asia School Partnerships. For example:

- Included in the *Australia in the Asian Century* White Paper as a case study supporting the objective for ‘all schools to engage with at least one school in Asia to support the teaching of a priority Asian language, including through increased use of the National Broadband Network’ (Australian Government, 2012, p. 176)
- Acknowledged as one of Australia’s leading educational innovations at the 2012 Biennial National Education Forum
- Recognised as a leading model of School Partnerships in the *Australia–Asia Education Partnerships Directions and Opportunities* Discussion Paper for CISCO
- Shortlisted in the final 20 projects in the United Nations Alliance of Civilizations–BMW Award for Intercultural Innovation 2011 — it ranked 16th out of 400 entries from 70 nations

A future *What Works* publication, due for release before the end of 2013, will involve an AEF evaluation of BRIDGE.

### > BALGS

The BALGS project aimed to support the development of Asia literacy in schools Australia-wide through the provision of direct-to-schools grants for specific Asia-related projects. It had 1,997 applications and distributed more than \$7.2 million to 335 funded projects and 521 schools over three rounds of funding between 2009 and 2012.

The project was a key component of the National Asian Languages and Studies in Schools Program (NALSSP), and was managed by AEF on behalf of the Australian Government Department of Education, Employment and Workplace Relations (DEEWR). BALGS was supported by the Directors General, or their equivalents, in each state and territory education department, through the provision of project officers in Government, Catholic and Independent schools.

Funding was provided to primary and secondary schools across Australia to promote teaching and learning of Asian languages and/or studies of Asia. Focus countries were China, Indonesia, Japan, and Korea. In particular, BALGS supported programs that were initiating, developing or consolidating curriculum and/or pedagogy for Asia literacy. It enabled teachers to build their professional capacity and confidence to improve student engagement, skills and knowledge around Asia.

BALGS ... enabled teachers to embed ICT into structured inquiries for studies of Asia and/or learning Asian languages.

Specifically, the grants have:

- provided teachers and school leaders with time release for curriculum planning;
- enabled teachers and school leaders to have valuable professional learning time, especially in pedagogical approaches;
- provided schools with opportunities to build sister-school relationships and strengthen interactions with native speakers of Asian languages; and
- enabled teachers to embed ICT into structured inquiries for studies of Asia and/or learning Asian languages.

An upcoming *What Works* publication provides an evaluation of the key themes and learnings emerging from the BALGS project. It is due for release later in 2013.

### > Web 2.0 technologies in Asian language classrooms – an evaluation

In 2010, Victoria implemented the NALSSP through a cross-sectoral consortium of the Department of Education and Early Childhood Development (DEECD), Independent Schools Victoria (ISV) and the Catholic Education Commission Victoria (CECV). A total of 51 schools participated in Phase 1 from across the three education sectors.

One of the initiatives was the Information and Communication Technologies Professional Development Project (ICTPD), which aimed to increase the ICT proficiency of teachers of Asian languages, and to expand the use of Web 2.0 and other ICTs as teaching and learning tools within Asian languages classrooms.

Schools used an action research approach to trialling various Web 2.0 technologies. A mixed method approach resulted in an extensive range of data being collected from principals, teachers and students.

An evaluation report of Phase 1, *The impact of Web 2.0 technologies in Asian LOTE classrooms*, looked at whether student learning outcomes are improved through the integration of Web 2.0 technologies in the teaching and learning of Asian languages and, if so, to what extent and under what circumstances (Oakley, 2011, p. 8)

The evaluation used surveys in which teachers gave pre- and post-project ratings on the value of Web 2.0 technologies in languages education programs, providing quantitative data on: student impact; degree of difficulty in implementing Web 2.0 technologies; and scope of application of the Web 2.0 technologies (p. 7).

Teachers’ action research reports were also collected and demonstrated a number of positive outcomes, including those relating to student motivation and demand for Asian languages. Four schools were also selected as case studies to feature in the evaluation report (p. 33).

Information and Communication Technology (ICT) is one of seven general capabilities specified within the Australian Curriculum alongside capabilities such as Intercultural understanding.

The main finding of the evaluation report is that student language learning outcomes were improved (p. 31). From the point of view of building student demand for Asian languages, however, the consequential changes to attitudes were also important findings. According to the evaluation:

The major change from teacher-centred to student-centred learning, resulted in LOTE ... classes where students were more motivated, engaged and demonstrating greater effort and independence in their learning. They were taking responsibility for how they learnt, working more collaboratively with their peers, and self-assessing. Many noted how much more they were learning through the LOTE Web 2.0 technologies. They recognised the changes they had made in their LOTE learning and achievement and were now keen to continue learning LOTE in the future. (p. 4)

These changes in teaching, learning and student attitudes and outcomes have been captured also by the *What Works 4* illustrations. A common element is the necessity of professional learning to enable teachers to move from familiarity with ICT tools in order to improve productivity, to enabling and managing deeper learning through use of generic and subject-specific ICT-based pedagogy (UNESCO, 2004, 2011).

The importance of professional learning has been addressed specifically by another NALSSP project, the 'ICT Languages Professional Learning Project: Student Learning and Digital Stories', led out of the Centre for Teaching Asian Languages and Cultures at Deakin University. 40 teachers undertook this action research-based professional learning program in 2011 and the results of their projects have been presented as digital stories on FUSE (DEECD).

## > Background

### Towards global competence

Information and Communication Technology (ICT) is one of seven general capabilities specified within the Australian Curriculum alongside capabilities such as Intercultural understanding. These general capabilities are a key dimension of the Australian Curriculum and encompass the knowledge, skills, behaviours and dispositions that all students are expected to develop through their schooling (Australian Curriculum, Assessment and Reporting Authority, 2013).

The general capabilities are based on the goals set out in the *Melbourne Declaration* (Ministerial Council for Education, Early Childhood Development and Youth Affairs, 2008), which identifies the essential skills for learners in the 21st century to develop. These skills characterise individuals who can manage their own wellbeing, relate well to others, make informed decisions, communicate across cultures, work for the common good and act responsibly at local, regional and global levels (ACARA, 2013).

ICT provides connectivity, authenticity and the capacity to organise ideas logically and meaningfully, all of which are core to intercultural understanding.

The two general capabilities of particular concern to *What Works 4* are ICT and Intercultural understanding.

*In the Australian Curriculum, students develop ICT capability as they learn to use ICT effectively and appropriately to access, create and communicate information and ideas, solve problems and work collaboratively in all learning areas at school, and in their lives beyond school ...*

*Information and communication technologies are fast and automated, interactive and multimodal, and they support the rapid communication and representation of knowledge to many audiences and its adaptation in different contexts. They transform the ways that students think and learn and give them greater control over how, where and when they learn (ACARA, 2013).*

Based on this description of the ICT general capability within the Australian Curriculum, the opportunities for supporting intercultural learnings through the use of ICT are manifest. In this regard, Asia stands as a compelling example to support development of students' intercultural understandings in Australian schools by virtue of its rise, global influence and proximity.

The Intercultural understanding general capability provides a solid platform for developing students' Asia-relevant capabilities, particularly when combined with the study of relevant Australian Curriculum content. This content includes:

- The Asia and Australia's engagement with Asia cross-curriculum priority [www.australiancurriculum.edu.au/CrossCurriculumPriorities/Asia-and-Australias-engagement-with-Asia](http://www.australiancurriculum.edu.au/CrossCurriculumPriorities/Asia-and-Australias-engagement-with-Asia)
- Curricula for Asian languages, specifically Chinese, Indonesian, Korean, Vietnamese, Japanese, and Arabic

The value-add provided by utilising the ICT and Intercultural understanding general capabilities to address the Asia priority in classrooms is profound. ICT provides connectivity, authenticity and the capacity to organise ideas logically and meaningfully, all of which are core to intercultural understanding. Intercultural understanding supports the development of higher-order, and transferable, global competences through the study of Asia-related content. These include:

*... sharing, creating and contesting different cultural perceptions and practices, and [it] supports the development of a critical awareness of the processes of socialisation and representation that shape and maintain cultural differences. (ACARA, 2013)*

Collectively, ICT, intercultural understanding and the Asia region feature in the national schooling objectives listed in the Australia in the Asian Century White Paper (Australian Government, 2012).

Intercultural and global competences are foundational to studies of Asia if schools are to move beyond the selective study of content to the formation of individuals who possess the understandings, skills and dispositions to engage with diversity in the Asia region and, indeed, the broader world (see Mansilla & Jackson, 2011; UNESCO, 2013). This reflects essentially the global move from multicultural education — learning about cultures — to intercultural education — learning with and from one another in the context of dialogue, engagement and interculturality in a globalised world (UNESCO, 2006a).

The Asia region contributes much to the notion of global competences, particularly intercultural competence. For instance, the notion of 'conviviality' can help shift Euro-centric perceptions of the nature of social relationships between individuals and groups, towards embracing a more Asia-centric worldview that values relationality, circularity and harmony, thus emphasising interconnectedness and interdependence between people above individuality (Miike, 2003).

#### The policy context

Collectively, ICT, intercultural understanding and the Asia region feature in the national schooling objectives listed in the Australia in the Asian Century White Paper (Australian Government, 2012); further reinforced by the White Paper Implementation Plan (Australian Government, 2013a) and the National Plan for School Improvement (Australian Government, 2013b). For instance, in the White Paper:

10. Every Australian student will have significant exposure to studies of Asia across the curriculum to increase their cultural knowledge and skills and enable them to be active in the region.
  - All schools will engage with at least one school in Asia to support the teaching of a priority Asian language, including through increased use of the National Broadband Network.
11. All Australian students will have the opportunity, and be encouraged, to undertake a continuous course of study in an Asian language throughout their years of schooling.
  - All students will have access to at least one priority Asian language; these will be Chinese (Mandarin), Hindi, Indonesian and Japanese. (p. 176)

ICT will be crucial to meeting these national objectives, enabling the flexible delivery of Asian languages and studies of Asia, as well as opportunities to engage with partner schools in the Asia region.

While the national objectives are new, engaging with Asia and Asia content through the use of ICT in schools is not. Sharing insights and experiences from those schools that have successfully used ICT in this manner might assist and inspire other schools to implement similar strategies to meet the national objectives.

Data from Halse et al. (2013) demonstrates that effective Asia literacy consistently involves the use of ICTs to link Australian schools to schools in Asia.

In addition, *the Asia Literacy and the Australian Teaching Workforce Report* — completed for the Australian Institute for Teaching and School Leadership (AITSL) and DEEWR by Deakin University and managed by AEF — proposes that 'professional learning for the teaching workforce should include training in the best practice use of ICT for learning about and connecting with Asia' (Halse et al., 2013, p. 13).

Data from Halse et al. (2013) demonstrates that effective Asia literacy consistently involves the use of ICTs to link Australian schools to schools in Asia. A common approach is teachers and students using ICT to communicate with partner schools in Asia in order to build intercultural understandings and engagement, as well as to collaborate in teaching and learning about Asia and/or language learning.

In addition, the following features of an Asia literate teacher, drawn from Halse et al. (2013), relate to ICT use (of which one mentions ICT explicitly):

- Possesses expert knowledge of content, assessment strategies and pedagogy for teaching Asia related curriculum
- Demonstrates familiarity with a wide range of Asia related teaching resources
- Actively builds intercultural understanding
- Uses ICT to connect their students with students in Asia



> **Research questions**

The following research questions were used to identify schools for *What Works 4* and to develop the illustrations:

- What was the school’s focus — studies of Asia, Asian languages, or a combination of both?
- How was ICT used to support the development of students’ Asia-relevant capabilities?
- What is/was the motivation behind the use of ICT to achieve this learning outcome?
- What informed the curricular and/or pedagogic approaches to ICT use?
- How did these approaches support the intercultural learning experience?
- Which approaches worked and did not work?
- What changes in learning outcomes were observed amongst students?
- What could have been done differently?

In addition, the following questions based on the Most Significant Change (MSC) technique of evaluation (Davies & Dart, 2005) were posed to the illustrated schools:

- What was the most significant change for you, your students and your school?
- Why was it considered significant?

The MSC technique has been used on the premise that change is an indicator of success, not change equals success. It is useful for illustrations because it attempts to link outcomes to the initial needs identified by schools. It also looks at individual change (e.g. in teachers) and how this change influences others (e.g. students).

> **Analytical framework**

Two frameworks, one for pedagogy and one for curriculum, were used to analyse the data gathered from the schools illustrated in *What Works 4*. These are:

1. Pedagogy — Adapted from UNESCO ICT-CFT (2011), focusing on the shift from pedagogical content knowledge (PCK) to technological PCK (TPCK). This adapted framework is referred to as the ‘ICT pedagogic framework for Asia capability’ in *What Works 4*. It also incorporates elements from a related ICT framework (UNESCO, 2004) namely, Emerging, Applying, Infusing, and Transforming.

Learning about ICT (Emerging)	Teachers integrate ICT in lesson planning and use multimedia tools in their teaching. Using ICT-based generic pedagogical skills, they present/guide/search for information, create content, and facilitate learning. Teachers are able to use authoring and multimedia tools based on quality pedagogy in their teaching.
Teaching with ICT (Applying)	Teachers experience good pedagogy as a student. Daily life in the classroom, teaching and management is enhanced through ICT use. Teachers require an understanding of the ICT productivity tools available, e.g. information searching, Web 2.0 tools, and online teaching and learning resources
Facilitating student learning with and/or through ICT (Infusing)	Teachers design ICT-enabled lesson plans and digital materials, creating pedagogically proper learning environments. Using ICT-based subject-specific pedagogical skills, they conceptualise learning, organise ideas, and facilitate online collaboration. Teachers are able to use, for instance, Web 2.0, subject-specific learning tools, Mind Mapping, WebQuest etc. to facilitate student learning.
Enabling and managing deeper learning through ICT (Transforming)	Teachers enable and utilise a pure blended learning environment, which involves the seamless integration of ICT-based and face-to-face teaching. This approach requires teachers to possess autonomous professional learning skills focusing on quality ICT-based pedagogy (both subject specific and generic). Teachers use, for example, synchronous (e.g. web conferencing) and asynchronous (e.g. LMS) tools, as well as interactive activities (e.g. games) to value-add to what students might otherwise already learn via more conventional means.

CATALYTIC (FIRST STEPS)



USING ICT FOR DEEP AND TRANSFORMATIVE LEARNING

Figure 1: ICT pedagogic framework for Asia capability. Adapted from UNESCO (2011), incorporating elements of Emerging, Applying, Infusing and Transforming from UNESCO (2004).

*Emerging* means that administrators and teachers are beginning to explore the potential of ICT. *Applying* means that teachers may be using computers for word processing, databases, and to explore subject-specific software. *Infusing* means that a variety of ICT tools are being used, and ICT is becoming integrated into the curriculum. *Transforming* involves a major reconstruction of the classroom into one that is learning-centred and where ICT is used to explore a variety of real-world problems. A transformed classroom is an inquiry-oriented learning environment (UNESCO, 2004, p. 20).

PCK, the ‘amalgam of content and pedagogy that is uniquely the providence of teachers’ (Shulman, 1987, p. 8), has been the focus of inquiry into the value-add that ICT gives to teaching and learning (So & Kim, 2009). This has since led to the development of TPCK as an important aspect of teacher professional capacity. With TPCK, the idea is to develop both deep learning in a subject and ICT competence. Pedagogical goals inform the use of ICT in classrooms, and teachers need to understand what it is about ICT that can make authentic learning possible (Mishra & Koehler, 2006; Lee, 2008).

- Curriculum — ICT general capability in the Australian Curriculum (2013)

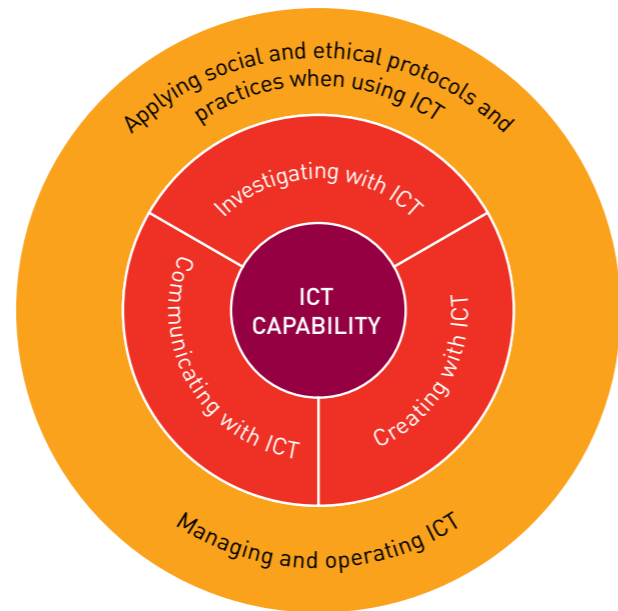


Figure 2. Organising elements for the ICT general capability in the Australian Curriculum (ACARA, 2013)

Adopting and adapting an international framework (UNESCO ICT-CFT) situates ICT classroom practice in Australia — around studies of Asia and Asian languages — within a broader global context.

Adopting and adapting an international framework (UNESCO ICT-CFT) situates ICT classroom practice in Australia — around studies of Asia and Asian languages — within a broader global context. It also promotes the possibility of international benchmarking that is based on recent theory and best practice. Referring to the ICT general capability makes *What Works 4* relevant to Australian teachers within the context of implementing the Australian Curriculum.

The *What Works 4* illustrations were then presented against the ‘ICT pedagogic framework for Asia capability’ to demonstrate:

- The continuum of ICT use in Australian schools to develop proficiency in Asian languages and/or studies of Asia
- The key teacher competencies and pedagogies required for the effective use of ICT in order to develop students’ Asia-relevant capabilities.

Teacher learning about ICT (Emerging)	Teaching with ICT (Applying)	Facilitating student learning with and/or through ICT (Infusing)	Enabling and managing deeper learning through ICT (Transforming)
<b>Written Illustrations</b>			
Bomaderry High School, NSW	Agnes Water State School, QLD	Maffra Secondary College, VIC	The Southport School, QLD
Schools of Isolated and Distance Education (SIDE), WA	Wollumbin High School, NSW	Illawarra Sports High School, NSW	
<b>VIDEO Illustrations</b>			
SIDE, WA			
Doncaster Gardens Primary School, VIC			
Our Lady of the Sacred Heart College, SA			

Figure 3. *What Works 4* illustrations mapped against the ‘ICT pedagogic framework for Asia capability’

With its focus on developing students’ Asia-relevant capabilities, data analysis for *What Works 4* was also conducted with close reference to:

- The Asia and Australia’s engagement with Asia cross-curriculum priority within the Australian Curriculum
- The Intercultural understanding general capability within the Australian Curriculum

### > Audit process — Short-listing schools as potential illustrations

The objective of the audit process was to develop a short-list of schools that potentially could be used for the *What Works 4* illustrations. The first step was an Expression of Interest (EOI) callout via a survey distributed to schools listed in AEF's Customer Relationship Management (CRM) database as having participated in the following projects/initiatives:

- BALGS (Becoming Asia Literate: Grants to Schools)
- BRIDGE (Building Relationships through Intercultural Dialogue and Growing Engagement)
- Access Asia schools
- TELL (Technology-Enhanced Language Learning)

According to AEF records, these groups of schools are known to be using ICT in some manner for the purposes of developing students' Asia-relevant capabilities.

The EOI survey reached 1,300 schools and returned 53 EOIs (4% response rate). Out of the 53 EOIs, 35 were complete and useful (66% completion rate). Of these 35 responses, seven focused on studies Asia, eight related specifically to Asian languages, and 20 involved a combination of both.

This is a significant statistic, reinforcing the popularity and importance of a whole-of-curriculum approach to developing students' Asia-relevant capabilities. It also shows that investment in studies of Asia is just as vital as investing in Asian languages in order to build Australia's Asia capabilities through schooling (Asia Education Foundation, 2011, 2012).

The following questions were posed as part of the EOI survey:

- What was your school's focus — studies of Asia, Asian languages, or a combination of both?
- How was ICT used to support studies of Asia and/or Asian languages?
- What is/was the motivation behind the use of ICT to support studies of Asia and/or Asian languages?
- How did the ICT approaches used support the intercultural learning experience?
- What changes in learning outcomes were observed amongst students?

The EOI callout enabled interested schools to submit brief responses to these questions, which, in turn, enabled AEF to evaluate and rank the submissions.

Schools were short-listed on the basis of being able to explain clearly the pedagogic and/or curricular approaches employed, the rationale behind these approaches, and the learning outcomes achieved with students. The research questions and the 'ICT pedagogic framework for Asia capability' acted as an audit checklist.

### > Choosing the illustrations

The following criteria were used to select the nine schools used for the *What Works 4* illustrations.

#### Step 1 — Ensuring diversity of illustrations

- A representation of schools focusing on studies of Asia and/or Asian languages
- A range of ICT approaches (pedagogic and/or curricular) used
- A range of systems and jurisdictions
- A range of primary and secondary schools

#### Step 2 — Alignment to specified framework

- Schools that best reflect the 'ICT pedagogic framework for Asia capability' were prioritised
- Schools that best align to the Asia and Australia's engagement with Asia cross-curriculum priority and Intercultural understanding general capability, in general terms, were prioritised
- Schools that focus on the pedagogy behind the use of ICT, not just the technology, were prioritised — these schools were able to answer satisfactorily the key question, 'What is the added benefit of using ICT to develop students' Asia-relevant capabilities?'

### > Developing the illustrations

The illustrations are intended to be multi-dimensional, incorporating:

- A walkthrough of the variety of pedagogic and/or curricular approaches to ICT use for studies of Asia and/or Asian languages
- Discussions around the development of students' intercultural understanding through the use of ICT
- Most Significant Change (MSC)
- Primary and secondary school perspectives

The illustrations have been arranged thematically, based on the 'ICT pedagogic framework for Asia capability' (see Figure 3). For each theme, schools that best illustrate the particular theme have been used as examples.

The illustrations are intended to contextualise and translate the relevant theory for teachers, enabling them to navigate the necessary pedagogic and/or curricular processes through use of practical examples. They are samples only, intended to show a continuum of ICT use to develop students' Asia-relevant capabilities. They are neither prescriptive nor exhaustive.

Marion Hing, a teacher at Bomaderry, emphasised the importance of educating teachers, in the first instance, about ICT tools and resources that can be used in the classroom to support studies of Asia in the curriculum.

> **Bomaderry High School, NSW  
Schools of Isolated and Distance Education (SIDE), WA**

The first step to the meaningful use of ICT to develop students' Asia-relevant capabilities is ensuring that teachers are given opportunities to familiarise themselves with the various ICT tools and online teaching and learning resources available. This precedes professional learning centred on generic ICT pedagogical skills and/or subject-specific ICT pedagogy (UNESCO, 2004, 2011).

The focus of this approach is increased productivity in teaching as well as classroom management, which are the initial steps to realising the pedagogic potential and benefits of ICT use in the classroom to achieve particular learning outcomes (UNESCO, 2004, 2011).

The increased use of ICT at Bomaderry High School, NSW, brought about a range of significant changes for teachers, students, and the school as a whole. Marion Hing, a teacher at Bomaderry, emphasised the importance of educating teachers, in the first instance, about ICT tools and resources that can be used in the classroom to support studies of Asia in the curriculum.

*Because our [studies of Asia] project involves five schools (Bomaderry High School, Cambewarra Primary School, Kangaroo Valley Primary School, Shoalhaven Head Primary School, and Bomaderry Primary School), which are geographically separated, we have had to use ICT for communication and collaborative purposes.*

*The use of ICT in our project has encouraged students and staff to become more confident in using communication and display technologies. We have had to utilise Connected Classrooms, Edmodo and, to a limited extent, Adobe Connect, to keep our students in touch with the activities at partner schools.*

*We also hold an Asia Expo in Term 2, where students showcase their work and experience aspects of Asian culture[s]. Online display work on wikis and glogs [graphics blogs] have been included. The confidence building from these activities is most apparent in staff members who previously had less need and/or incentive to utilise ICT in their work.*

*This change is significant because it has encouraged more staff to utilise communication technologies and Web 2.0 tools in their classroom practise, enhancing the 21st-century skills needed by our students and encouraging student-centred collaboration and leadership.*

*Staff also find that the use of ICT helps with student engagement and creativity, so staff are utilising applications that allow students to communicate their ideas and activities with group members and the wider community, including parents.*

**Marion Hing, Bomaderry High School, NSW**

The online classroom allows students who would otherwise miss out an opportunity to access a language.

**Kathryn Lamberto, SIDE, WA**

The impact of ICT use on student learning for Asia capability has been demonstrated in a number of positive learning outcomes at Bomaderry.

*Our [studies of Asia] project is assessed annually through student and teacher reflection statements. Staff members have reported a growing knowledge, of and sensitivity to, different cultural viewpoints. Students from the primary schools are generally commenting very positively about their studies, particularly enjoying the collaboration with older students.*

*Secondary students are appreciating the real opportunities they are getting to practise their communication and leadership skills. All are reporting their appreciation of the opportunity to learn about cultures that are different from ours, but which have a significant impact on our lives, both currently and in the future.*

**Marion Hing, Bomaderry High School, NSW**

Kathryn Lamberto, Japanese language teacher at SIDE, WA, emphasised the essential nature of ICT to the school's functioning, and the importance of teachers learning about the available technology to increase teaching and learning productivity in the classroom. For a fuller illustration of SIDE as it relates to the entire 'ICT Pedagogic Framework for Asia Capability', visit [www.asiaeducation.edu.au/ww4side](http://www.asiaeducation.edu.au/ww4side).

*The technologies we use at SIDE to conduct our language lessons include a web-conferencing program called Saba Centra, video conferencing, and Moodle. Through each of these we are able to incorporate specific learning activities to help develop Asia-related capabilities. These learning activities might include viewing a cultural or language video, responding to a PowerPoint presentation, playing a language game, answering oral questions, completing an online activity, viewing a website, participating in an online forum, or adding a comment either in a wiki or their own language blog.*

*As a teacher of Japanese, I am able to use these technologies to greatly enrich my lessons. For example, if a student asks me a question about life in Japan, I am immediately able to search my database and import into my lesson an appropriate PowerPoint or take the students to a relevant website within my online classroom.*

*The language classroom becomes a very vivid environment and one that is very real and relevant. The students begin to see themselves as part of a wider world and not so isolated and insular. The online classroom is limitless in the sense that students can be connected to each other in a learning environment from anywhere in the world. The online classroom allows students who would otherwise miss out an opportunity to access a language.*

**Kathryn Lamberto, SIDE, WA**

Kathryn also emphasised the importance of teachers continually upgrading their knowledge of rapidly changing ICTs to remain relevant.

*All of our students are 'offsite' and many are in rural and remote locations ... without the use of the Internet or phone-line connections, language learning outcomes would be significantly compromised.*

*Technology is constantly improving so we are lucky enough to have at SIDE a dedicated department for Online Teaching and Learning whose job it is to help support teachers in the delivery and development of lessons and lesson material.*

*Kathryn Lamberto, SIDE, WA*

The nature of SIDE as an e-school has meant that it has needed to evolve constantly with the available technology and utilise a combination of synchronous and asynchronous technologies for language learning.

*As communication is the main aim of language learning, our distance education lessons needed to be dynamic and in real-time. There was a need to utilise tools that would allow students and teachers to be able to 'meet' and interact.*

*Centra allows all aspects of the curriculum to be addressed, as the teacher is able to speak with students and conduct a lesson 'online'. Video conferencing was also found to be a great tool for delivering lessons, especially for younger students. Video conferencing allows the teacher to be almost in the classroom and is great for achieving curriculum outcomes that require group work and role-plays.*

*Our Moodle platform works particularly well with older students as it allows them to access course material whenever they like whether it is at 10am or 10pm. It also allows any number of students to access the material at the same time from anywhere in the world.*

*Kathryn Lamberto, SIDE, WA*

The nature of teaching and learning at SIDE has resulted in positive outcomes in terms of student engagement in language learning and intercultural understanding.

Using ICT to teach languages is a continually developing and experimental exercise, which emphasises the importance of teacher professional development in areas as basic as familiarisation with the available tools.

*Most students respond well to distance learning and particularly enjoy using the computer for lessons. Within the Centra online classroom students develop good listening skills, as they are required to listen carefully to each other and to their teacher. Students are generally excited to participate in an online lesson and quickly develop strong computer skills.*

*In terms of Asia-related capabilities, students are exposed to other cultures, different ways of thinking, and develop a sense of understanding, empathy and awareness. These skills would otherwise not be developed due to the students' lack of access to a suitable program.*

*Kathryn Lamberto, SIDE, WA*

Using ICT to teach languages is a continually developing and experimental exercise, which emphasises the importance of teacher professional development in areas as basic as familiarisation with the available tools.

*We are constantly finding better ways to conduct our lessons and improve our course material. In an ideal world it would be better to have more hours ... as teaching online is often fraught with problems such as students having difficulty logging in to lessons, the Internet dropping out, headsets not working etc.*

*Making sure that everyone is trained to use the technology before beginning a course is also crucial to its success. Teachers and students need to know how to contact each other and problem solve any technical issues. Having as much information about our students, their backgrounds and their environment is also crucial for a successful online course.*

*Support for the teacher, both technically and pedagogically, is a critical factor into the future [and] must never be forgotten.*

*Kathryn Lamberto, SIDE, WA*

## Consider the research

Familiarisation with ICT tools and the possibilities for their use in the classroom is the first step. This explains why the use of ICT in classrooms, until recently, has involved primarily accessing and collecting information from a range of online sources. However, there is little evidence to suggest that this approach translates into student engagement that facilitates meaningful learning experiences and transforms thinking (Corio, Knobel, Lankshear & Leu, 2008). Students must engage with higher order thinking skills, such as organising, connecting, analysing, repurposing and creating information when using ICT (Henderson, Allan & Mallan, 2009).

The use of ICT to facilitate learning connections based on people-to-people links was observed at Agnes Water, with students developing greater awareness and appreciation of the reasons for learning the Indonesian language.

### > Agnes Water State School, QLD Wollumbin High School, NSW

The next step to familiarisation with ICT tools to increase teaching and learning productivity in the classroom is integrating the use of ICT in lesson planning and utilising ICT-based generic pedagogical skills. Quality pedagogy underpins the use of ICT, which ceases to be merely a tool, but becomes an approach to facilitating learning (UNESCO, 2004, 2011). Learning is facilitated when ICT is used to search for, create and/or present content in a manner that enables students to learn more deeply and meaningfully. Students draw quicker, more visible connections between themes and concepts, which improves their understanding of the subject matter.

Agnes Water State School, QLD, demonstrates how teachers can use ICT to teach Asian languages and develop students' intercultural understanding with positive results.

*We acknowledge that a language does not exist in isolation so intercultural investigations are also a key component of our language studies. For example, we may begin a unit looking at introductions and greetings. Before we can create our own introductions and greetings to send, we need to view what is culturally appropriate and relate it to our target audience. So while our school curriculum focus is on the study of Asian languages, we combine this with some cultural studies of our target country.*

*Peta Swan, Agnes Water State School, QLD*

The use of ICT to facilitate learning connections based on people-to-people links was observed at Agnes Water, with students developing greater awareness and appreciation of the reasons for learning the Indonesian language through interaction with an Indonesian sister-school. Peta Swan describes:

*ICT is integrated throughout student learning. It is vital to the learning of a second language as it brings our countries so much closer together. By sharing learning, we are creating links between our two countries, breaking down stereotypes and giving students a real reason to learn a second language.*

*Peta Swan, Agnes Water State School, QLD*

Honestly, I have been so happy with increased student engagement through the use of ICT.

*Peta Swan, Agnes Water State School, QLD*

The commitment to using ICT and setting up a virtual classroom at Agnes Water in order to achieve these specific learning outcomes was motivated by the desire for real-time interaction.

*In the past we had tried to create links with an Indonesian school, but the time delay between writing a letter and a reply being received meant that most students had lost interest. This motivated us to apply for funding to cover the additional costs of both training and the time to set up and maintain a virtual classroom. Our goal was to allow students to communicate in real-time in a safe learning environment. This could only be achieved through the use of ICT.*

*Peta Swan, Agnes Water State School, QLD*

The establishment of a virtual classroom at the school enabled synchronous language learning to occur, which also allowed intercultural understandings to be explored and developed within an authentic learning environment.

*Having access to ICT gave students a platform to communicate in real-time with our sister school in Indonesia. Through using Indonesian to communicate with peers in Indonesia, we are also allowing students to make friends and to explore similarities and differences between our two countries. This in itself supports the intercultural learning experience.*

*Peta Swan, Agnes Water State School, QLD*

Using ICT to promote synchronous language learning and intercultural experiences comes with its challenges. But in recognising the learning potential provided by their virtual classroom, teachers at Agnes Water persisted with the idea and sought workarounds to ensure that the learning experience would not be affected adversely. This persistence has also led to increased student engagement within the Indonesian program.

*Honestly, I have been so happy with increased student engagement through the use of ICT. If anything, I would say that the virtual classroom, while easy to access and enrol students here in Australia, has been problematic in terms of enrolling students from our sister-school in Indonesia. One way we overcame this was to set up generic passwords for students in Indonesia, which is not ideal, but at least allows both our students to communicate in a safe shared learning space. We are looking at solutions to this. In future we also hope to incorporate Skype and/or comic chat, once this feature becomes available through the Learning Place.*

*Peta Swan, Agnes Water State School, QLD*

## Illustration 2: Teaching with ICT (Applying)

As my school is located in a rural environment, the use of connected classroom facilities, in particular, has provided an authentic learning experience for the students.

Suzanne Lofts, Wollumbin High School, NSW

For Agnes Water, the following significant changes resulted from using ICT to learn Indonesian language and culture.

Teaching	<ul style="list-style-type: none"> <li>• Increased use of multimodal texts, such as those created on iPads, that allow students to participate in forums and discussions</li> <li>• Blended approach (synchronous and asynchronous)</li> <li>• Increased use of iPad apps and language games, allowing for more efficient feedback to students</li> </ul>
Learning	<ul style="list-style-type: none"> <li>• Increased motivation to learn a second language</li> <li>• Better engagement leading to improved learning outcomes</li> <li>• Developing relationships and intercultural understanding with students in Indonesia</li> <li>• Students use iPads to film, voice record and create multimodal texts quickly</li> </ul>

Increased student motivation and engagement as a result of teachers using ICT in the language classroom were also observed at Wollumbin High School, NSW. This observation is important given the rural context of the school, where students have little, if any contact, with native Korean speakers. Teacher, Suzanne Lofts, explains:

*As my school is located in a rural environment, there is little/no contact with native Korean speakers and hence no relevance for the students in learning the language. The use of connected classroom facilities, in particular, has provided an authentic learning experience for the students. It has also enabled interaction on a cultural level with the sharing of unique features from both cultures [Korean and Australian].*

*Suzanne Lofts, Wollumbin High School, NSW*

Suzanne uses an extensive range of ICT tools in her classes to facilitate student learning. She explains her approach in detail:

*In the first stages of language learning, when learning introductions, I use a combination of processes. First, a program called Audacity is used to record self-introductions. The students then create their own avatars (vokis) and insert their introductions onto this.*

*We have created a year blog (through blogED) on which the students post their introductions ... and these are then played for the class without student names necessarily being published. They love to see their creations on the interactive whiteboard and also often ask to redo these to fix their pronunciation. I also use the blog to post information, interesting videos and comments for students.*

*Students have been registered for Edmodo and this can be used for tests, assignment submissions, and communication. I post assignments on Storybird, which can be used for illustrated story writing, published in an online book form, and submitted for marking ... Animoto, Toondoo and Xtranormal are sites that can be used for video publication and language learning.*

*My classes are currently engaged in a number of connected classroom projects. I have established connected classroom contact with Glen Innes High, where the students are of an equivalent level in language learning. Students are introducing language concepts fortnightly to fellow students ...*

*I have also established connected classroom contact with two Korean schools, and the students from both schools are currently engaged in presenting set topics to each other. Due to language limitations these lessons involve PowerPoint slides presented by students from both countries. We have a fixed timetable, and these lessons are conducted fortnightly as well.*

*The school is part of an Australia-wide BRIDGE program — this is in its fledgling stages. Due to the new school year, this project has had to be restarted. Ten students in Korea have been matched with one of my classes, and they will correspond via the wiki, which has been established. These projects have also widened the technology use of students, as they use both still and video cameras to record a number of their topics. Consequently, they must develop editing skills using such sites as PhotoPeach.*

*Suzanne Lofts, Wollumbin High School, NSW*

I was also drawing on the fact that current students are 'digital natives' who are engaged by technology and am drawing on this to attempt to generate interest in future language learning within the school.

Suzanne Lofts, Wollumbin High School, NSW

Suzanne's motivation to use ICT in her classrooms stemmed from the installation of ICT facilities and tools as part of a school upgrade. She saw the opportunity to evolve her teaching practice to better engage students in their learning. Suzanne describes:

*The resources provided enabled me to expand my teaching expertise and methods of teaching. I was also drawing on the fact that current students are 'digital natives' who are engaged by technology and am drawing on this to attempt to generate interest in future language learning within the school.*

*Suzanne Lofts, Wollumbin High School, NSW*

The use of ICT at Wollumbin has also coincided with the students' increased confidence to utilise Korean in their daily activities.

*I have observed an increased interest in learning the spoken Korean language and also in using the written script. Students are using words in everyday activities. The use of ICT has enabled creative techniques for problem solving and enabled expression through a variety of activities. As part of their assessment, students present their lessons to the Koreans ...*

*Suzanne Lofts, Wollumbin High School, NSW*

As described by Suzanne, the key takeaway from Wollumbin is that ICT use in languages classrooms is a continually evolving process. Language teachers require ongoing professional learning to develop their capacity to use ICT meaningfully with their students. This, in turn, will facilitate a shift from ICT-based generic pedagogical skills to ICT-based subject-specific pedagogy (UNESCO, 2004, 2011).

### Consider the research

Effective use of technology requires teachers to act differently, and the more the technology asks teachers to act differently, the harder it is for teachers to incorporate it into their instruction. (Bell, 2001, p. 525)

Teaching with ICT (Applying) is the first step to utilising ICT-based pedagogy to improve student engagement and learning outcomes successfully. The more teachers understand the possibilities of ICT use in the classroom, the more their teaching practice is required to evolve (see, for example, UNESCO, 2005).

This can be both difficult and challenging, especially when combined with a subject matter that can be unfamiliar or uncomfortable for the teacher, such as developing intercultural understanding (see, for instance, AEF, 2013; Sinha, 2010). Yet, 'it is often at the edge of our comfort zones where the excitement of real development, true growth and meaningful transformation lies' (Grant & Brueck, 2010, p. 10).



The investment of such substantial resourcing was the most significant change to our school, ... for the purpose of communicating with people from another country.

Nathan Wallace, Maffra Secondary College, VIC

### > Maffra Secondary College, VIC Illawarra Sports High School, NSW

The next step to utilising generic ICT-based pedagogical skills is using subject-specific ICT pedagogy to facilitate student learning and collaboration. With this approach, ICT use is not merely an addition to the standard curriculum or pedagogy; rather, these essentially need to be redesigned to support ICT-enabled lesson plans and the use of digital materials as fundamental to teaching and learning (UNESCO, 2004, 2011). The aim is to create pedagogically proper learning environments where ICT is used to conceptualise learning, organise ideas, and connect key concepts.

Nathan Wallace, teacher at Maffra Secondary College, VIC, outlined how the school's initial focus on studies of Asia shifted to combining these with the study of an Asian language through the introduction of Mandarin. Maffra has a sister-school relationship with a school in Changshu (Jiangsu Province, China) involving Years 7–9 students. The aims of this relationship are to develop students' intercultural awareness, understand the importance of Asia's rise, and facilitate authentic learning experiences.

These aims provided a basis for Maffra's commitment to using ICT for studies of Asia and the teaching and learning of Mandarin, with significant changes observed throughout the school.

*Developing a meaningful sister-school relationship ... was achieved by physically visiting the school [in China] on two occasions. The primary visit established a connection that was strengthened by a return visit months later. During the second visit, we were able to assist the [Chinese] teacher and school to set up ICT capabilities that allowed our teachers and students to connect [with the sister-school] in real-time.*

*Upon our return, timetables were analysed to find a mutual time to communicate on a weekly basis. Timetables were modified and students withdrew from other classes to continue the project. These measures were resource heavy, time demanding, and required the cooperation of numerous stakeholders.*

*The investment of such substantial resourcing was the most significant change to our school, because no other project or initiative has had such significant resourcing invested: return trips to China by multiple staff; timetables being changed to suit the project; and staff being released from classes to work on the project; all significant investments for the purpose of communicating with people from another country.*

Nathan Wallace, Maffra Secondary College, VIC

The cognitive and affective benefits gained from interaction with a sister-school via a blended approach (synchronous and asynchronous) were also observed at Maffra.

A whole array of ICT tools — from the most basic to the more advanced and collaborative — were utilised to ensure that students would achieve positive learning outcomes.

*Email was used to make initial connections between pen pals. Skype was used to connect teachers and students in real-time on a weekly basis, with project group leaders asking and answering questions about their group's research tasks. Final presentations were also made to the sister-school via Skype.*

*Wikispace was used as the platform to share research questions and findings, and to store the finished projects ... Inspiration 9IE was used to concept-map ideas for the project.*

Nathan Wallace, Maffra Secondary College, VIC

The cognitive and affective benefits gained from interaction with a sister-school via a blended approach (synchronous and asynchronous) were also observed at Maffra.

*We wanted students to be able to talk in real-time, record their interactions, and allow them to post responses that could be replied to when convenient. The use of ICT to interact with students in another country improved the speed of communications and their authenticity, thus improving the excitement and engagement of students.*

Nathan Wallace, Maffra Secondary College, VIC

At Maffra, redesigning curriculum and pedagogy to accommodate the use of ICT for studies of Asia and the teaching and learning of Mandarin involved an array of processes and activities. These included curriculum planning, visiting the sister-school, and professional learning around the technology, ICT pedagogy and how students learn in an online environment. Importantly, the school was intent on ensuring that transformative learning would result from the use of ICT.

*With ICT being an interdisciplinary domain of AusVELS, we wanted to provide our students with the tools to transform their learning and to enrich their learning environment.*

*This project provided them with the knowledge and skills to: communicate locally and globally to solve problems and to share knowledge; develop more productive ways of working and solving problems individually and collaboratively; and understand the implications of the use of ICT as well as their social and ethical responsibilities as users of ICT. We also wanted to ensure that the focus for this project was on student learning, rather than on the technology ...*

Jennifer Jurman, Indonesian language teacher at Illawarra Sports High School, NSW, described how the use of ICT has 'brought the world into their classrooms'.

*Visiting China allowed our teachers to understand the barriers their peers faced in the use of technology. We were able to up-skill them in the Web 2.0 tools used for the project and, through support from their regional bureau [in China], software was also upgraded to accommodate the project.*

*After the initial professional learning on how to use relevant tools, the intercultural learning progressed significantly. Like any relationship, our connection strengthened with each communication.*

*Nathan Wallace, Maffra Secondary College, VIC*

The multi-faceted approach to improving the use of ICT to develop students' Asia-relevant capabilities at Maffra resulted in positive learning outcomes for students.

*Students in both countries became astute in communicating using ICT, with many now interacting from home. Students now have a greater understanding of Chinese culture. Their focus shifted from just communicating with students in China, to genuinely wanting to learn more about their daily lives. Students now feel more confident to broaden their horizons and interact with other students outside their own school.*

*Nathan Wallace, Maffra Secondary College, VIC*

The use of ICT also led to changes in how learning was assessed.

*Assessment for the project included: presentation via Skype; Survey Monkey as a self-assessment tool for students; teacher and student reflection; building connections and collaboration tracking sheets; and a teacher rubric.*

*All four classes (Years 7 and 8) will have Skyped Changshu and participated in a bilingual quiz; Year 8s will have posted an oral presentation in Mandarin on the Wikispace for peer-feedback (in English) from their 'pen pals' in Changshu; Year 8s will have given their 'pen pals' in Changshu feedback on their English oral presentations (in Mandarin or English). And, it is anticipated that a final presentation of the project will be posted on iLearn.*

*Nathan Wallace, Maffra Secondary College, VIC*

Jennifer Jurman, Indonesian language teacher at Illawarra Sports High School, NSW, described how the use of ICT has 'brought the world into their classrooms'. Focusing on its Indonesian language and studies of Asia programs, the school utilised a combination of ICT tools, including iPads, Smartboard lessons, and collaborative learning tools, to engage with its BRIDGE partner school.

**It has been a total change in mindset. We have moved away from teacher-centric lessons to more student-centric classes. Asian Studies is now student-research based.**

*Jennifer Jurman, Illawarra Sports High School, NSW*

A paradigm shift around pedagogy was necessary to embrace the use of ICT in the classroom. In its Asian Studies Enrichment Program, the focus is now on students as researchers, with one of the cross-curricular research topics being 'Environmental Issues'.

*The most significant change for teachers was the confidence to use Web 2.0 tools in teaching the Asian Studies Enrichment Program. It has been a total change in mindset. We have moved away from teacher-centric lessons to more student-centric classes. Asian Studies is now student-research based. This change has been significant for our students, as they have been used to having information presented to them.*

*We are teaching the students how to research for themselves. The students are now organising the information and presenting it to the class, demonstrating logical thinking ... there is less focus on the teacher presenting content, and students are challenged to question information. They need to edit their own work and self-reflect since assessment is [now] project-based.*

*Jennifer Jurman, Illawarra Sports High School, NSW*

The push towards using ICT for studies of Asia and the teaching and learning of Indonesian is part of the school's broader commitment to the policy around building Australia's Asia-relevant capabilities through schooling. This commitment has produced striking and inspirational results.

*Our school is embracing the Australia in the Asia Century White Paper. It has come a long way considering that in 2011 no Asian languages were offered to students. In 2012, the study of Bahasa Indonesia became mandatory for all Year 8 students. In 2013, the Asian Studies Enrichment Program is being implemented for Year 7 students. This is significant and progressive for our school. Indonesian and Asian Studies are our most popular subjects as students are engaged in the use of ICT in lessons.*

*Jennifer Jurman, Illawarra Sports High School, NSW*

Collaboration, creativity, and ready access to resources to facilitate intercultural understanding and the learning of Indonesian were primary reasons for the use of ICT at the school.

The motivation behind the use of iPads in the Indonesian classroom is all about creativity. Students are using animation and digital story-telling to share with the school and our BRIDGE partner school.

Jennifer Jurman, Illawarra Sports High School, NSW

*The motivation behind the use of ICT was to provide our students access to resources they did not have at home. We also wanted our students to work collaboratively. The motivation behind the use of iPads in the Indonesian classroom is all about creativity. Students are using animation and digital story-telling to share with the school and our BRIDGE partner school. Our focus on ... Asia allows students to research cultural factors and relate it back to their own world.*

*Jennifer Jurman, Illawarra Sports High School, NSW*

### Consider the research

Although designed initially for literacy in the context achieving universal goals for reading and writing, the UNESCO approach to using ICT to develop literacy can be adapted to suit broader literacy contexts. For instance, being literate about Asia is an important step to developing Asia-relevant capabilities and one that can be enriched through the use of ICT in the classroom. The five key ways that ICT can be used to support literacy initiatives are:

- Enhancing learning
- Broadening access to literacy education
- Creating locally appropriate content
- Professional development of teachers
- Cultivating a literacy-conducive environment (UNESCO, 2006b)

The rethinking of curriculum and pedagogy has resulted in changes in how students learn Mandarin, both individually and collaboratively, as well as improvements in their confidence levels and overall output.

### > The Southport School, QLD

Beyond facilitating student learning through the use of ICT is the need to conceptualise the teaching and learning process to support deeper learning. Teachers can use, for example, synchronous (e.g. web conferencing) and asynchronous (e.g. LMS) technologies, as well as interactive activities (e.g. games) to value-add to what students might otherwise already learn via more conventional means (UNESCO, 2004, 2011)

Enabling and utilising a pure blended learning environment — involving the seamless integration of ICT-based and face-to-face teaching — is essential to this approach. The approach also requires teachers to possess autonomous professional learning skills focusing on quality ICT-based pedagogy (both subject-specific and generic). This level of comprehensive ICT engagement, specifically for the teaching of Asian languages, has been demonstrated by SIDE, WA, in one of the *What Works 4* video illustrations <http://www.asiaeducation.edu.au/ww4side>.

Like SIDE, The Southport School (TSS), QLD, provides another useful illustration of how successful blended learning environments can be structured. Through use of asynchronous tools — the Moodle e-learning platform and Mahara e-portfolio system — and a BYOD (Bring Your Own Device) program that commenced in 2013, the school is rapidly evolving its approach to developing students' Asia-relevant capabilities, with a focus on its Mandarin program.

*As every boy now comes to class with his individual device, it is essential to make the most of this opportunity for technical innovation in our classroom. Coursework for the Chinese program in Years 7–12 is provided online through Moodle, and student work is recorded and presented online using Mahara.*

*Lisa Miller, TSS, QLD*

The rethinking of curriculum and pedagogy has resulted in changes in how students learn Mandarin, both individually and collaboratively, as well as improvements in their confidence levels and overall output.

*In the modern world, it is increasingly rare for anyone to communicate using handwritten Chinese. While we consider it important for the boys to understand the structure of Chinese characters — they still practise handwriting when learning new characters — many do not practise enough to write neatly in tasks or assessments.*

At TSS, the objectives of using ICT for studies of Asia and the teaching and learning of Mandarin extend beyond Asia literacy. Competencies such as higher-order thinking skills and the need to prepare future-ready individuals are at the forefront of the school's thinking.

*Allowing students to use their devices for class work, research, homework, and assignments, enables every student to improve their level of written communication using pinyin inputs. They can increase their vocabulary by looking up unknown words online.*

*Every boy accesses coursework through the Learning@TSS Moodle site, and continuously updates his work as a series of web pages in Mahara ... Moodle allows students to revise material viewed in class and access extension materials about Chinese culture at any time.*

*The Jinbu textbook used in Years 8–10 is also provided online. This supports student development by providing students with flexible means to revise, research, practise, extend and express themselves successfully in Mandarin Chinese.*

*When preparing speaking tasks, students are able to learn cooperatively and share scripts. They thoroughly enjoy creating podcasts and movies of their work, using a variety of devices, including their own phones or cameras, and uploading the recordings to their web pages. This has led to increased engagement for students, a higher level of motivation, and an overall improvement in the level of work presented.*

*Lisa Miller, TSS, QLD*

At TSS, the objectives of using ICT for studies of Asia and the teaching and learning of Mandarin extend beyond Asia literacy. Competencies such as higher-order thinking skills and the need to prepare future-ready individuals are at the forefront of the school's thinking.

*Our program prepares them for study and work in a future where technology is an integral part of their everyday lives. We intend to make the most of students' devices, broadband Internet, and technological innovation, to improve their higher-order thinking skills and accelerate their class work and participation.*

*Lisa Miller, TSS, QLD*

With these goals in mind, the school developed a comprehensive pedagogical framework to support the intercultural learning experience.

*TSS has developed a pedagogical framework based around Bloom's Taxonomy, and incorporating the work of Frangenheim (Thinking Skills), Costa (Habits of Mind), McRel (Classroom Instruction that Works) and CCEs (Common Curriculum Elements from the Queensland Studies Association). This framework is used in curriculum development and lesson planning, and will aid the implementation of the Australian Curriculum: Languages.*

*Lisa Miller, TSS, QLD*

The use of ICT at TSS for the teaching and learning of Mandarin has resulted also in marked changes to the way student learning is assessed and the quality of student work submitted for assessment.

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*The quality of assessment has improved across the board ... some students excel, extending their learning to comprehensive Mahara pages, while others, at a more basic level, are nonetheless able to complete the tasks successfully and build confidence.*

*In speaking assessments, students no longer stand at the front of the room to perform nervously once-off in front of their peers; they are now practising and preparing short movie clips — with costumes, props, and subtitles — and sharing these on their Mahara pages.*

*Listening and reading tests can be undertaken as online quizzes, and Moodle has the capacity to assess and record results for individual students using the Gradebook tool. Teacher and peer feedback is provided through messaging online and during lesson time.*

*Lisa Miller, The Southport School, QLD*

The skills that students at TSS have developed through the use of ICT in their Mandarin language classroom are utilised in an authentic intercultural learning context through the school's Australia–China BRIDGE program. Through interactions with the BRIDGE partner school the relevance of the students' learnings is further reinforced.

*In Year 9, students have created Mahara pages about their life on the Gold Coast to share with students at our Australia–China BRIDGE partner school, Tsinghua Middle School, Chaoyang. In Year 10, students are presenting pages with detailed itineraries, blogs, pictures, advice and podcasts about a sojourn in China. They support their responses to the task with a variety of multimedia.*

*Lisa Miller, The Southport School, QLD*

## Consider the research

Using ICT to enable transformative learning is about making schools relevant to learners in the 21st century. Schools have now witnessed two generations of 'digital natives'. Failing to acknowledge this fact, and restructuring pedagogy and curriculum accordingly, runs the risk of student disengagement. Educators have to evolve rapidly in order to make teaching and learning relevant to their students (see, for example, Chen, 2010; Whitby, 2013).

Nonetheless, using ICT in classrooms is a multi-stage process, and the building of teacher capacity is essential to supporting the end goal of developing innovative learning environments that transform thinking. These stages include:

1. *Survival* — characterised by teachers' struggles against technology
2. *Mastery* — characterised by teachers developing coping strategies, with increased tolerance, technical competence and engagement
3. *Impact* — characterised by a learning-centred classroom, with the teacher as a facilitator of learning through a technology-enhanced curriculum
4. *Innovation* — characterised by the restructuring of curriculum and learning activities, and modifications to the learning environment (UNESCO, 2005, citing Bond, 2005)

Transformative thinking about cultural diversity in today's world is a core goal of developing students' Asia-relevant capabilities (AEF, 2013; Hassim, 2013). Hence, innovative ICT use needs to be a core feature of an Asia capable classroom (see Halse et al., 2013).

Teachers can follow some simple guidelines to ensure innovative and transformative use of ICT in Asia-related learning contexts. Two key questions to ask include:

- What is the actual learning that this ICT-based activity is fostering despite the level of technological sophistication?
- How does the use of ICT help to achieve, or extend on, the learning objectives? (The logic is that not every tool is right for every learning context.) (UNESCO, 2005, citing Bond, 2005).

A BYOD program also contributes to the whole intercultural and interpersonal learning experience. BYOD caters to individual preferences in technology, and the device a student uses is often a matter of personal choice that reflects their identity (Wever, 2012).

- Asia Education Foundation. (2011). *National Statement on Asia Literacy in Australian Schools 2011–2012*. The University of Melbourne: Asia Education Foundation.
- Asia Education Foundation. (2012). *Building Demand for Asia Literacy: What works*. The University of Melbourne: Asia Education Foundation.
- Asia Education Foundation. (2013). *What Works 3: Achieving intercultural understanding through the teaching of Asia perspectives in the Australian Curriculum: English and History*. The University of Melbourne: Asia Education Foundation.
- Australian Curriculum, Assessment and Reporting Authority. (2013). The Australian Curriculum v5.0 Retrieved 3 June 2013, from [www.australiancurriculum.edu.au](http://www.australiancurriculum.edu.au)
- Australian Government. (2012). *Australia in the Asian Century White Paper*. Canberra: Department of Prime Minister and Cabinet.
- Australian Government. (2013a). *Australia in the Asian Century White Paper Implementation Plan*. Canberra: Department of Prime Minister and Cabinet.
- Australian Government. (2013b). *Better Schools: A National Plan for School Improvement*. Canberra: Department of Prime Minister and Cabinet.
- Bell, L. (2001). Preparing tomorrow's teachers to use technology: Perspectives of the leaders of twelve national education associations. *Contemporary Issues in Technology and Teacher Education*, 1 (4), 517-534.
- Chen, M. (2010). *Education Nation: Six leading edges of innovation in our schools*. San Francisco, CA: Jossey-Bass.
- Corio, J., Knobel, M., Lankshear, C., & Leu, D. (Eds.). (2008). *Handbook of research on new literacies*. New York: Laurence Erlbaum.
- Davies, R., & Dart, J. (2005). The Most Significant Change (MSC) Technique: A guide to its use Retrieved 25 February 2013, from [www.clearhorizon.com.au](http://www.clearhorizon.com.au)
- Grant, C. A., & Brueck, S. (Eds.) (2010). *Intercultural and Multicultural Education: enhancing global connectedness*. Hoboken, NJ: Taylor & Francis.
- Halse, C., Kostogriz, A., Cloonan, A., Dyer, J., Toe, D., & Weinmann, M. (2013). *Asia Literacy and the Australian Teaching Workforce: Summary Report*. The University of Melbourne: Asia Education Foundation.
- Hassim, E. (2013). An 'Intercultural understanding' view of the Asia priority: Implications for the Australian Curriculum. *Centre for Strategic Education Occasional Paper*, 131(July).
- Henderson, D., Allan, C., & Mallan, K. (2013). Towards Asia Literacy: The Australian Curriculum and Australian-Asian Children's Literature. *Curriculum Perspectives*, 33(1), 42-51.
- Lee, J. (2008). Towards Democracy: Social studies and PPCK. In the AACTS Committee on Innovation and Technology (Ed.), *Handbook of technological pedagogical content knowledge (TPCK) for educators*. New York: Routledge.
- Mansilla, V. B., & Jackson, A. (2011). *Educating for Global Competence: Preparing our Youth to Engage with the World*. New York, NY: Asia Society.
- Miike, Y. (2003). Beyond Eurocentrism in the intercultural field: Searching for an Asiatic paradigm. In W. Starosta & G. M. Chen (Eds.), *Ferment in the intercultural field: Axiology/value/praxis* (pp. 243-276). Thousand Oaks, CA: Sage.
- Ministerial Council for Education, Early Childhood Development and Youth Affairs. (2008). Melbourne Declaration on Educational Goals for Young Australians Retrieved 25 February 2013, from [www.mceecdya.edu.au/mceecdya/melbourne\\_declaration,25979.html](http://www.mceecdya.edu.au/mceecdya/melbourne_declaration,25979.html)
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A new framework for teacher knowledge. *Teachers College Record*, 108 (6), 1017-1054.
- Oakley, C. (2011). *The Impact of Web 2.0 Technologies in Asian LOTE Classrooms: National Asian Languages and Studies in Schools Program ICT Professional Development Project – 2010 Evaluation Report*. Melbourne, VIC: Department of Education and Early Childhood Development.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Sinha, C. (2010). *Languages, Culture and Mind. 10 lectures on development, evolution and cognitive linguistics*. Beijing: Foreign Language Teaching and Research Press.
- So, H. J., & Kim, B. (2009). Learning about problem based learning: student teachers integrating technology, pedagogy and content knowledge. *Australasian Journal of Educational Technology*, 25(1), 101-116.
- United Nations Educational, Scientific and Cultural Organization. (2004). *Building Capacity of Teachers/Facilitators in Technology-Pedagogy Integration for Improved Teaching and Learning: Final Report*. Bangkok, Thailand: Asia and Pacific Regional Bureau for Education, UNESCO Bangkok.

- United Nations Educational, Scientific and Cultural Organization. (2005). *Integrating ICTs into the Curriculum: Analytical Catalogue of Key Publications*. Bangkok, Thailand: Asia and Pacific Regional Bureau for Education, UNESCO Bangkok.
- United Nations Educational, Scientific and Cultural Organization. (2006a). *UNESCO Guidelines on Intercultural Education*. Paris, France: UNESCO.
- United Nations Educational, Scientific and Cultural Organization. (2006b). *Using ICT to Develop Literacy*. Bangkok, Thailand: UNESCO Bangkok.
- United Nations Educational, Scientific and Cultural Organization. (2011). *UNESCO ICT Competency Framework for Teachers (ICT-CFT) and Institutional Strategy for Teacher Training on ICT-pedagogy Integration* [PowerPoint slides] Retrieved 15 May 2013, from [www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/wsis/UNESCO%20ICT-CFT\\_FC%20Miao\\_UNESCO\\_15May2011.pdf](http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/CI/pdf/wsis/UNESCO%20ICT-CFT_FC%20Miao_UNESCO_15May2011.pdf)
- United Nations Educational, Scientific and Cultural Organization. (2013). *Intercultural Competences: Conceptual and Operational Framework*. Paris, France: UNESCO.
- Wever, C. (2012, November). Bring it on. *Education Review Tech Guide*, 14–16.
- Whitby, G. (2013). *Educating Gen Wi-Fi: How to make schools relevant for 21st-century learners*. Sydney, Australia: Harper Collins.



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