THE IMPACT OF WEB 2.0 TECHNOLOGIES IN ASIAN LANGUAGES CLASSROOMS

NATIONAL ASIAN LANGUAGES AND STUDIES IN SCHOOLS PROGRAM
ICT LANGUAGES PROFESSIONAL LEARNING PROJECT - 2011

Evaluation Report
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EXECUTIVE SUMMARY

Background and Research Approach

The National Asian Languages and Studies in Schools Program (NALSSP) was designed to increase opportunities for school students across Australia to become familiar with the languages and cultures of China, Indonesia, Japan and Korea. In Victoria, the NALSSP ICT Professional Learning Project (ICTPLP) was conducted over two years. It aimed to increase the proficiency of teachers in using Web 2.0 technologies in the targeted Asian languages classes (Chinese, Japanese and Indonesian) and ultimately expand the use of these technologies as a teaching and learning tool within Asian languages education. Fifty one schools, drawn from government and non-government sectors in Victoria, participated in 2010 while a further forty one government schools participated in 2011.

This evaluation report focuses on the activities and outcomes generated by the schools participating in the 2011 NALSSP ICTPLP. The evaluation followed a very similar approach to that conducted in 2010. It was designed to address the following: ‘Are student learning outcomes improved through the integration of Web 2.0 technologies in languages education? If so, to what extent, in what ways and under what circumstances?’ A mixed method approach resulted in an extensive range of data collected from principals, teachers and students across all schools. More focused studies were also conducted in three selected schools.

The Impact of NALSSP ICTPLP on Teaching Practice

Across the participating teachers, the level of experience in teaching languages ranged from less than 3 years to over 20 years. Half rated themselves intermediate users of ICT/Web 2.0 technologies in their teaching, but over 30% were new users. Their project plans were comprehensive, in many cases underpinned by current research. The technologies most frequently selected for these projects were iPads, used in conjunction with a range of different applications and software. Blogs, wikis and web conferencing also featured strongly, as did the Interactive Whiteboard, which provided various opportunities for whole class and group activities. Although the goals and focus of the projects differed across schools and a range of technologies and applications were used, at the end of their project, all teachers believed that using Web 2.0 technologies aligned well with their planning and implementation of VELS, their specific teaching goals, the Principles of Learning and Teaching (POLT) and the e5 Instructional Model.

For many teachers, the change in their teaching practice over the project period was extensive. The nature of the technologies meant that classes were less structured and less teacher directed and learning became more student driven and self-paced. This also encouraged more effective collaborative learning amongst students. Relationships between teachers and students also changed as they explored the potential of the Web 2.0 technologies together and as these technologies created new options for student directed learning and assessment.

The capacity for teachers to address individual learning needs was enhanced through the technologies. Self-paced, scaffolded applications were used to develop students’ skills in reading, writing, speaking and understanding the language. While the opportunities for student self-assessment were extensive, the technologies also provided the teachers with ongoing records of student achievement. The use of Interactive Whiteboards (IWBs) in some classes, often in conjunction with the individual learning devices, enabled targeted, small group learning, as well as whole class learning activities.

Many teachers were also extending their students’ learning environment beyond the classroom. This resulted in communication with the teacher and between peers, both in and out of school hours. In some classes, opportunities to interact with students learning the language in neighbouring or more distant Australian classrooms were also established and, for some, communication links were created with ‘sister’ schools in the relevant Asian country. Blogs, wikis and video conferencing, typically established through the Ultranet, enabled the majority of these interactions. These sites also opened opportunities for principals and the parents to view the activities of the class, generating increased interest in languages education across the school community. Although technical issues with the Ultranet hindered progress in some schools, once working effectively, it provided reassurance that the interactive sites would be safe and secure.

The Impact on Student Learning

As teachers introduced these new approaches in their teaching practice, their classroom environment changed substantially, leading to a significant and positive shift in the students’ attitudes to learning and learning outcomes.
They were more motivated and engaged in their learning and were building new knowledge. Teachers were also seeing notable increases in the extent to which students were becoming more creative in their learning processes, were problem solving and were working more cooperatively in teams or pairs. Their growing support for one another, particularly in regard to the use of the technology but also in developing language skills, was also noted by many of the teachers.

Most striking was the extent to which the students were becoming independent learners. They were initiating and taking responsibility for their learning and were increasingly reflecting on the quality of their learning, the process of learning and the most appropriate way to present their learning. This, according to many of the teachers, was because of the ‘learning together’ environment that had been established.

Importantly, most teachers were confident that their new approach to teaching languages was leading to increased skills in their students’ ability to learn the language, particularly in regard to understanding spoken language, speaking the language more fluently and confidently, writing the language, and showing deeper understanding of the language and culture.

The Circumstances Influencing Impact

The range of assistance and support, received through the NALSSP ICTPL Project, provided insight into the circumstances that influenced the significant changes that were seen in the participating schools.

As many of the teachers had not used technologies in their teaching, prior to their involvement, they had limited understanding of what technologies were available and how they could be used in the classroom. The funding they received enabled time release for planning and preparation. In addition it gave them time to attend professional development activities that provided support, information and guidance regarding the use of technologies in languages education, the approaches to take and, where needed, information on the technologies available and how to access them.

The funding for the technologies was particularly important in schools where languages classes are not seen as a high priority when allocating technology resources. It also provided scope to purchase very new technologies, such as the iPad 2, which could be used for with a wide range of appropriate applications.

The extensive planning and reporting requirements encouraged teachers to focus on their goals and objectives and the extent to which and ways in which these would be addressed. The provision of a Project Framework and Curriculum Planning documents guided their development of detailed plans and gave teachers a strong foundation for implementing their projects. As they implemented their project, participants also highlighted the importance of Principal support and technical support in the success of their projects. In primary schools particularly, the support of the classroom teachers was also important in reinforcing the language learning activities.

Taking the Learnings Forward

This second phase of NALSSP ICTPL projects across Victorian schools reinforces the findings from the 2010 phase, providing clear evidence that the effective use of Web 2.0 technologies in Asian languages education can very positively impact on student learning outcomes. Further insight into what is possible and how the evolving technologies can be applied to specific teaching and learning needs has also been gained.

In addition, the project has further highlighted that, in order to introduce, enhance and support the effective integration of ICT and Web 2.0 technologies across Asian languages classes, schools need access to resources, professional development, examples of best practice and adequate time and support to learn about and effectively implement these new learning approaches.

With these needs in mind, there is also substantial scope to harness and build on the enthusiasm, knowledge and experiences of the NALSSP ICTPL participants, in order to extend the effective use of technologies across many more Asian languages classrooms in Australian schools.
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NALSSP ICTLP ePOTENTIAL DATA SUMMARY
1 INTRODUCTION AND CONTEXT

1.1 The Program

The National Asian Languages and Studies in Schools Program (NALSSP) is designed to increase opportunities for school students across Australia to become familiar with the languages and cultures of China, Indonesia, Japan and Korea. Funded by the Federal Government, it is a four year project that stems from a recognition that Asian languages and studies of Asia are important in equipping students with the skills needed to compete in a globalized economy in the future.

The objectives of the program are to ‘significantly increase the number of Australian students becoming proficient at learning the language and understanding the cultures of the four NALSSP target languages’ and to ‘increase the number of qualified Asian languages teachers’.  

In Victoria, NALSSP has involved a number of broad initiatives that address the objectives above, each consisting of a range of targeted projects. The ICT Professional Learning Project (ICTPLP), which sits within the ICT Professional Learnings Initiative, is one such project. It aims to increase the ICT proficiency of teachers in the targeted Asian languages, and to expand the use of Web 2.0 technologies as a teaching and learning tool within Asian languages classrooms. The effective use of these technologies is seen as a way for teachers to provide students with classroom based and real life opportunities to interact, collaborate and learn with and from their Asian counterparts, as well as increasing the demand and making explicit the need for engagement, understanding and communication skills with China, Japan, Indonesia and Korea.

1.2 NALSSP - ICT Languages Professional Learning Project 2011

In this second year of the NALSSP ICTPLP in Victoria, languages teachers from 41 government schools were selected to participate, following the submission of a detailed plan for their project.

While overseen by the Languages Education Unit within the Department of Education and Early Childhood Development (DEECD), a Project Team from the Faculty of Education at Deakin University was responsible for the management and coordination of the 2011 program. This team included the Director of the Centre for Teaching Asian Languages and Cultures, a Project Coordinator from the Centre and seven academic staff from different Schools and Faculties. The Project Manager from the DEECD Languages Education Unit liaised with the Deakin team and also those involved from the DEECD eLearning Unit and Ultranet Team.

The multi-pronged data collection approach used in 2010 was also instigated in this second year. It was designed to ascertain the approaches used, the effectiveness of the project, the outcomes for students, teachers and the schools and the implication for future languages programs. This involved a range of strategies:

- Surveys, in which teachers gave pre and post project ratings on the value of Web 2.0 technologies in languages education and provided quantitative data in regard to:
  - Student impact (related to academic achievement, attitude to learning and behaviour).
  - Degree of difficulty in implementing Web 2.0 technologies (related to resources, time, IT skills required and ease of integration into the curriculum).
  - Scope of application of the Web 2.0 technologies (related to the scope for adaptation, understanding of the concept, relationship to other practice and recognition of the potential).

- Pre and post data on the technology skill and usage levels of participating teachers, collected via the ePotential survey and collated by DEECD.

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2 Conducted by Deakin University
3 ePotential Survey – collected and collated by DEECD
An action research approach to the class projects, involving teachers in the establishment of their own processes for measuring and reporting on the project outputs. They presented their reports in digital form at the end of project period and also provided a written report.

In addition, an overarching independent evaluation project was conducted by Salt Group. This evaluation has drawn on the data mentioned above, as well as collecting additional qualitative and quantitative data from a range of sources. As in 2010, it was designed to address the following:

‘Are student learning outcomes improved through the integration of Web 2.0 technologies in languages education? If so, to what extent, in what ways and under what circumstances?’

This is the final report on the outcomes of this second phase evaluation. It covers all projects conducted over the NALSSP ICTPLP Phase 2 period from May to December 2011.

2 THE EVALUATION APPROACH

A mixed methods approach was used for this evaluation to ensure that multiple perspectives were gained and rich and reliable data was captured. The strategies, which were closely aligned to those used in the 2010 evaluation, included the following:

- Building contextual understanding, through analysis of documentation relating to the NALSSP project.
- Review of the project plans from all participating schools, including their project focus, goals and strategies and the specific Web 2.0 and other technologies used.
- Review of pre and post teacher survey ratings in regard to student impact, degree of difficulty and scope of application.
- Review of the ePotential Survey levels of participating teachers (pre and post project).
- Observation and discussions with participating teachers at the project events.
- Observation of online discussion forums established for participating teachers via the Project Wiki and the Elluminate Sessions.
- Review of student assessment data, collected by selected participating teachers as part of their action research.
- Review and analysis of the written reports, digital stories and other relevant documentation developed by the participating schools.
- Development and conduct of online surveys for participating students, teachers and principals in each school. These were conducted at the completion of the project to gather quantitative and qualitative data.

Response rates were as follows:

<table>
<thead>
<tr>
<th>Respondent Category</th>
<th>Total</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals</td>
<td>81% (33 responses)</td>
<td>58% of responses</td>
<td>42% of responses</td>
</tr>
<tr>
<td>Teachers</td>
<td>85% (35 responses)</td>
<td>49% of responses</td>
<td>51% of responses</td>
</tr>
<tr>
<td>Students</td>
<td>88% (36 schools) (600 responses)</td>
<td>56% of schools responding</td>
<td>44% schools responding</td>
</tr>
</tbody>
</table>

The conduct of Case Studies in three schools. This involved school visits (to observe related activities and student work samples data and interview and/or conduct focus groups with principals, teachers, students), follow up phone discussions and review of student work and other forms of student activity such as blogs, recordings of activities and discussions. These case studies are documented in Appendices 1-3. They include a Secondary college teaching Indonesian, and two Primary Schools, one teaching Chinese and the other Japanese.
3 NALSSP PARTICIPANTS, REQUIREMENTS, SUPPORT AND FOCUS

3.1 The Schools

The schools participating in this second phase of the NALSSP ICTPLP were drawn from across all Regions within Victoria, although the majority of these schools were based in the metropolitan area. They represent a wide range of school sizes, locations, and demographics, from a small, rural primary school to a large, metropolitan, multi-campus college catering for students with a diversity of cultural backgrounds. As indicated in Table 2, the languages being taught were Japanese, Chinese or Indonesian. Classes ranged from Year 2 to Year 11.

<table>
<thead>
<tr>
<th>Language</th>
<th>All schools % of total</th>
<th>Primary Level % of total</th>
<th>Secondary Level % of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>17 (41%)</td>
<td>10 (53%)</td>
<td>7 (32%)</td>
</tr>
<tr>
<td>Japanese</td>
<td>15 (37%)</td>
<td>8 (42%)</td>
<td>7 (32%)</td>
</tr>
<tr>
<td>Indonesian</td>
<td>9 (22%)</td>
<td>1 (5%)</td>
<td>8 (36%)</td>
</tr>
<tr>
<td>Total</td>
<td>41 schools</td>
<td>19 Primary schools</td>
<td>22 Secondary schools</td>
</tr>
</tbody>
</table>

3.2 The Teachers

The extent of experience in teaching languages varied across the cohort of teachers. There was also wide variation in their level of experience and expertise in using technologies in their language classroom. In a small number of the schools, the introduction of an Asian language in their curriculum had only commenced that year so, as described by one teacher, they were ‘starting from scratch’.

The level of experience in teaching languages across the participating teachers was spread evenly, from 3 years or less through to 20 years, while a small percentage (6%) had been teaching Asian languages for over 20 years.

Although half of these teachers rated themselves ‘intermediate’ users of technology in teaching, a significant 32% were ‘new’ users when they commenced their NALSSP project. A small percentage considered themselves to be advanced in their use of technology.
Their reasons for participating varied. Many had begun to recognise the importance of using technology in teaching and learning and were keen to introduce it into their classes. For some, technology was being used in other classes across the school but as languages teachers they did not have the same level of technology access or it was considered too difficult to set up within the time and space available. Funding for technology resources was therefore important. It enabled them to access resources dedicated to language learning and, importantly, maintain control over these resources. For others, there had been previous pressure to introduce new technologies in their class but they had lacked the confidence and understanding to do this effectively. NALSSP was seen as an opportunity to explore the possibilities and learn how to use the technologies effectively in their classroom. Awareness of the positive outcomes from the 2010 NALSSP project had also generated further interest and encouragement.

3.3 Information, Support and Sharing Opportunities

The 2011 Project commenced with a two day Professional Learning Induction Program, conducted at Deakin University, whereby Faculty of Education Staff from the university spoke on areas relating to languages education, the effective use of technology in teaching and learning and the conduct of Action Research. Practical aspects relating to the conduct of the NALSSP ICTPLP and the data collection and reporting required were also covered.

Over the project period, participants were kept informed and supported as they implemented their projects. They were offered online opportunities, through a NALSSP ICTPLP discussion site, for sharing experiences, outcomes, ideas and issues arising. Initially this was set up on the Ultranet, but was subsequently transferred to Edmodo due to Deakin staff not being able to access this secure site. Visitor access to the Ultranet was problematic during the initial stages of the project.

Elluminate Sessions also provided training in the use of the Ultranet. In addition, email was used to notify participants of upcoming related events, such as regional languages education forums and also the NALSSP related events and requirements. The Project Manager was also readily accessible to assist with individual requests for information and issues arising.

3.4 The Planning and Preparation Requirements

Following the Induction Program, detailed plans were developed, documented within the templates provided and submitted by all participating teachers. These included a specific action research question that formed the focus of each teacher’s project, the predicted outcomes and outputs, the strategies for evaluating these and the extent to which their plan would address the Victorian Essential Learning Standards (VELS) outcomes and be guided by the e5 Instructional Model\(^4\) of teaching and learning. The teachers were also required to explore and detail current research and academic rigour that underpinned their plans, as well as the appropriateness of their technologies and activities in terms of cyber safety issues and practices. Care and security of the technologies and equipment to be used also required consideration.

3.5 The Goals and Focus of the Projects

Across the range of projects undertaken by NALSSP teachers, the most common broad goals involved the following:

- Increasing student engagement in learning a language.
- Improving and extending student proficiency in reading, writing, speaking and/or understanding the language.
- Improving student attitudes to learning a language and increasing their confidence and desire to continue learning languages, therefore improving the retention rate for languages at the higher levels.

More specific objectives included:

- Extending the learning of languages beyond the classroom through opportunities to continue learning outside of school hours and school boundaries.
- Enabling direct interaction with speakers of the specific Asian language.
- Interacting directly with students in other schools who are learning the language or in schools within the relevant country.

\(^4\) http://www.education.vic.gov.au/proflearning/e5
Accommodating the diverse needs and abilities of students in learning a language.

Increasing the students’ capacity for independent language learning.

3.6 The Technologies Used

The technologies used in the 2011 NALSSP projects differed from those used in the 2010 projects. Whereas devices such as iPods were most commonly used in 2010, with a few classes having access to the iPad1, the recently released iPad2, was selected in around 70% of the 2011 participating schools. This change occurred as the increasing portability and connectivity of the iPad was becoming evident and as the number of programs and applications that could be downloaded for language learning continued to increase. Designed to enable voice recording, create videos using iMovie and provide opportunities to establish video links within Australia and overseas, the iPad provided a range of ways for students learn and to present their learning. The survey responses from many of the teachers using iPads highlighted the potential for using them in a range of different ways in the teaching of languages. For example:

‘The iPads have been a great tool for my students. They are engaging. The apps (that I have found and purchased so far) have more than surpassed my expectation. The tactile nature of iPads is most effective for my students to learn to write Chinese characters’.

‘The iPads applications are relatively inexpensive and there are constantly new ones available’.

‘iPad 2 has multiple functions such as video and cameras and lots of free download programs’.

‘During this project, only one aspect of iPad was explored, but many possibilities were evident in terms of language teaching.’

Some of the teachers using iPads also allowed their students to search for new applications that were appropriate for languages learning and then trial them and provide feedback.

Other devices used across the NALSSP schools included iPods, Quizdom, Nintendo DSi and Flip Cameras. The use of multiple Web 2.0 devices and applications was also common across many of the schools, particularly as teachers introduced additional language games and activities, established language related blogs and wikis and/or introduced Skype and emailing activities. Different software, such as Garageband, iMovie, Voicethread, Voki and Rosetta Stone, were also used in a range of contexts and with different devices.

In many of the classes, the devices chosen were also used in conjunction with the Interactive Whiteboards (IWBs) available in their classrooms. This enabled whole class activities for specific teaching as well as medium through which students could present their learnings to the class.

3.7 Reporting Requirements

At the completion of their project, the teachers were required to provide both a digital story and a written report on their project progress, achievements and learnings. They attended professional development sessions at the Australian Centre for the Moving Image (ACMI) where they received information and assistance in developing their digital stories. This not only provided them with the skills and understanding to creatively present their NALSSP experiences but also introduced them to new ways for presenting information and learning that could be used with their students in the future. Their written reports provided detail on the process and outcomes of their NALSSP action research projects.

4 THE FINDINGS

4.1 Introduction

In this second year of the NALSSP-ICTPLP, the participating teachers included a larger group of ‘new users of technology’ compared to the first year. Some were aware of the NALSSP ICTPLP undertaken in the previous year and saw this as an opportunity to access the technology required and trial its use in a planned and supported context. For the more advanced technology users, NALSSP ICTPLP allowed them to build on and expand the scope of the technologies and software used and the type of activities that these technologies enabled.

Over the five month period, the teachers developed and implemented their projects. During this time, the significant changes in regard to the way Asian languages were being taught and the outcomes for the students replicate many of
the findings from the 2010 NALSSP ICTPLP. But they also highlight the different opportunities and outcomes that stem from the ongoing emergence of new and updated technologies and the requirements for sustaining and building on their effective use in teaching and learning.

This section draws together the qualitative and quantitative data gathered across all participating schools over the trial period, along with more detailed data provided by a small selection of schools participating in more focused case studies.

4.2 Relevance of the Web 2.0 Technologies

At the completion of their trial, the teachers agreed, most very strongly, that their projects had enabled them to successfully meet the teaching goals they had set. The teaching approaches they had used aligned well with the Principals of Learning and Teaching and the integration of their project had addressed their targeted requirements across both dimensions of the Languages other than English (LOTE) VELS Domain – ‘Communicating in a Language other than English’ and ‘Intercultural Knowledge & Language Awareness’.

![Figure 3: Extent to which trial projects were relevant and supportive of curriculum and teaching & learning requirements](image)

4.3 Structuring Teaching and Learning within Models of Best Practice

In structuring their projects, teachers considered ways in which they would address both the e5 Instructional Model\(^5\) and the six Principles of Teaching and Learning. As summarized below (with more detail provided in Section 4.3), there was strong evidence that these had underpinned the teaching and the learning activities that were then implemented across the NALSSP, schools resulting in what were, for some of the teachers, extensive changes in their teaching approaches.

4.3.1 Alignment to the e5 Instructional Model

The e5 Instructional Model provides teachers with ‘a framework that informs conversations, guides the observation and reflection of classroom practice, and also informs teachers’ performance and development needs. It involves five domains of instruction (Engage, Explore, Explain, Evaluate and Elaborate) and key capabilities that enable teachers to improve their instructional practice and engage students in intellectually demanding work\(^6\).

At the completion of their projects, many teachers expressed confidence in the extent to which the Web 2.0 technologies, when used in concert with their new approaches to teaching, as detailed above, had created the opportunities and motivation for students to **engage** in their learning and **explore, explain, elaborate, and evaluate** through their learning process. As detailed below, this model was used by the NALSSP teachers in both the planning and the delivery of their project.


\(^6\) [http://www.bastow.vic.edu.au/leadership-development/models/Pages/e5-instructional-model.aspx](http://www.bastow.vic.edu.au/leadership-development/models/Pages/e5-instructional-model.aspx)
Engage
For many of the teachers, the use of Web 2.0 technologies was considered key to the engagement of their students in learning a language. Firstly it stimulated their interest and excitement in the learning activities. This was reinforced in many classes by the fact that, together with their teacher (who was often new to these technologies) they were exploring and discussing the applications and their possibilities and often eliciting their prior knowledge of ICT. It frequently led to greater participation in the planning and preparation of their learning activities. This involvement stimulated greater enthusiasm for learning and a clearer understanding of their learning goals and assessment requirements. Many of the technologies also enabled learning activities that connected to ‘real life experiences’. Blogs and wikis, web conferencing and the internet, for example, opened opportunities for interaction with native speakers and links to cultural activities and experiences. Teachers also believed that the providing scope for individualised learning and more choice in demonstrating their learning increased the capacity to engage students in their learning.

Explore
Students were encouraged and supported to explore the scope of different technologies to determine the most appropriate and effective ways to develop, communicate and demonstrate their skills and knowledge. In some classes, teachers were also generating discussions and establishing tools and procedures that would guide their students’ exploration and organisation of the information and ideas.

The capacity for students to revise and reflect on their learning was encouraged and made possible through the technologies. Instant responses in some of the applications created opportunities to identify misconceptions and resubmit their solutions and presentations. Audio and/or visual recording of their language skills provided opportunities for students to review and in many cases compare their skills with those of native speakers in order to make improvements.

Teachers were also providing a range of tasks that encouraged students to consider and explain their understanding as well as expanding the opportunities to address individual student needs through the development of individualised activities coupled with individualised support and intervention to address learning gaps.

Explain
For many of the teachers, the NALSSP ICTPLP created what was described by one teacher as ‘a shared teaching and learning experience for all’. Positive relationships between teachers and students and between students ‘made it easier to develop shared expectations for learning and interacting’. While independent learning featured in many of the activities, the teachers were also providing opportunities for explicit teaching of skills, together with the provision of modeled experiences. The Interactive Whiteboard was considered particularly valuable as a means to present modulised online activities when introducing new skills and concepts to a whole class or a targeted group of students. This was often followed by additional differentiated online activities to support students with different learning requirements.

Students were also able to use the technologies in a range of what were often creative ways to represent and/or demonstrate their ideas and understanding, as well as new skills and learning. Using audio and image technologies they developed work products that demonstrated their capacity in reading, writing, speaking and listening.

This also provided teachers with the capacity to progressively assess students understanding and abilities and structure individualised learning opportunities to address specific learning needs. Students could also use these work products to share their learning with their peers.

Elaborate
The NALSSP ICTPLP opened new opportunities that encouraged and enabled students to extend their language skills and understanding. This was, for example, occurring as students developed iMovies that would be displayed on the Ultranet site or as they prepared to use the language in their interactions with students in their sister school. Prior to these activities, some teachers were also establishing progressive language development activities that encouraged their students to work towards more public and authentic demonstration of their learning.

Students were also working through the individualised games and activities, progressively building on their language learning as they extended themselves to reach the next level. In some primary schools, the language teachers were downloading the student work completed in the language class, increasing the classroom teachers’ understanding of
the scope of activities conducted within the language class, and encouraging them to build on this learning within the more general classroom activities.

**Evaluate**

The detailed development and planning of their individual NALSSP ICTPL projects provided each teacher with a strong foundation on which to evaluate the impact on their teaching practice and their students’ learning. Many of the detailed final reports reflected the extent to which the teachers’ planning and implementation of the project involved monitoring their progress and reflecting on the value of the strategies used as the project progressed. Student progress over the project period and the impact of the technologies on their learning was also closely monitored and ongoing collection of a range of data, showing evidence of student progress and outcomes against learning goals, was collected. Student self and peer assessment was also included and students were responding to surveys that provided feedback on the value of their project. In some schools, parent feedback was gathered to further inform the value of the project.

**4.3.2 Alignment to the Principals of Teaching and Learning**

Many teachers indicated that the use of the technologies had provided them with the stimulus and the means to do this more effectively.

**The learning environment promoted independence, interdependence and self-motivation.**

As the Web 2.0 technologies were new in teaching and learning, often for the teacher as well as the students, the learning environment became one on which they were ‘learning together’. As one teacher commented, their role ‘became one of facilitator rather than instructor’. Students in many classes were working either independently or, more typically, in groups. In some classes they were encouraged to research the possible ICT tools that could be used. In others they were given a choice of options in regard to how they approached their learning task or presented their learning outcomes. Self-paced activities, accessed through different applications on the iPads, were used by students across a large proportion of the classes to develop skills in listening, writing, reading and speaking.

**Learning connected strongly with communities and practice beyond the classroom**

Many of the technologies opened possibilities for extending the learning beyond the classroom. Online links to a school in the relevant country enabled them to interact with native speakers of the language. Links, via Skype, Blogs and Wikis were also established with languages classes in other Australian schools in order to practice communicating in the language and share their learnings. The technologies also enabled students to access and continue their language learning outside of the classroom and outside school hours.

**The learning environment was supportive and productive**

Both the technologies being used and the opportunities for more student driven, individual and group learning tasks, encouraged and supported students to take responsibility for their learning. The structured group work and ‘learning together’ environment also generated increased collaboration and contribution to joint learning. Students in many classes were more involved in decisions around what and how they learn and were being given greater freedom in regard to how they learned. In many classes students with particular strengths were drawn on to assist others.

**Assessment practices are an integral part of teaching and learning**

Teachers were ensuring that the assessment criteria for the learning tasks were clearly defined and in some classes the students were contributing to the development of these assessment practices. These varied as students were challenged to use very new avenues for developing and presenting their learning. In most classes, multiple assessment practices were used that targeted specific skills and outcomes. Reflection, self-assessment and peer assessment were also included. Some of the technologies used provided students with inbuilt and often instant assessment. Others, such as those with camera and recording applications, encouraged review and self-assessment of their progress as well as creativity and effort in presentation of their learning outcomes.

**Students were challenged and supported to develop deep levels of thinking and application**

Many of the learning activities were more authentic and ‘public’ encouraging greater self-scrutiny, thoroughness and effort in presenting their best work. As much of the work was self-directed, students were encouraged to use their
initiative, discuss and reflect on their work and take risks in their learning. They were supported in dealing with some of
the challenges met and in achieving high level learning outcomes. Also notable was the connection of their learning to
a wider range of skills and attributes as they worked through the use of new technologies and created work products
that would demonstrate their learning in new and often complex ways that required creativity, problem solving skills
and persistence.

**Students' needs, backgrounds, perspectives and interests are reflected in the learning program**

The use of the Web 2.0 technologies in their language learning was well aligned to the students’ growing interest in
and involvement with technologies in their everyday life. The self-paced nature of many of the technologies were also
providing students with the scope to work at their own pace and, depending on the particular task, address their
learning needs and interests in their own way.

### 4.3.3 Addressing Curriculum and Teaching and Learning Goals

The Curriculum Plans developed by each of the participating teachers included a rationale for using the chosen Web 2
technologies, the targeted academic areas, the background and requirements of their cohort of students, the teaching
and learning strategies and the predicted outcomes, both academic and attitudinal.

In general, more teachers in this years’ cohort indicated earlier and stronger understanding of the potential of the
technologies and their applications in meeting their curriculum needs. For many, decisions on which technologies to
use were based on specific curriculum requirements and a clear understanding of how the various technology options
would meet these requirements. For example:

- ‘To improve the knowledge and ability of students to write sentences and short stories in Japanese, students could create digital stories on the iPad and publish these to iBooks.’

- ‘My goal was to improve my student's speaking skills. Students created a VOKI character and used voice recording to create a self-introduction for their character’.

- ‘With Year 9 students, the technology was used to develop fluency in spoken language and Chinese writing. Moreover, the technology would even broaden their vocabulary and understanding and grammar through self-paced learning and materials on Ultranet as well as the school intranet’

- ‘With the aid of an iPad, students would be more willing to speak in Mandarin, be aware of character writing, learn new vocabulary and apply it into their daily conversation’.

In some schools, more practical issues also influenced the decisions:

- ‘Using DSi consoles avoids any need for the school technician and also a class set can be purchased so that no child has to wait for a turn’.

- ‘With the introduction of iMovie in iPad2, students are now able to film, edit and narrate digital presentations that do not limit them to a classroom. The added battery power and light weight of the technology aid portability. The touch screen supports kinaesthetic learners that are less engaged with keyboards’.

The need to stimulate student interest in learning a language had been the key driver for many of the teachers
participating in NALSSP. The effective use of technology was seen a way to address this. For example:

- The potential of touch screens for Chinese language symbols will be of interest in this research. iPad2 technology and the options that this provides for students to present in multiple ways, may help us engage many students at Year 8 in languages learning and encourage them to not only work more effectively but raise aspirations for success in languages.

- The goal of my project is to encourage students to continue their studies on Indonesian. (I will) use Web 2.0 technologies to create meaningful, individualised learning experiences.

- ‘Assisting my students in producing a hands-on project could increase their willingness to learn a language and model to my students that learning something new and difficult can be fun’.

- ‘The use of an iPad with the help of an Interactive Whiteboard will extend the function and make learning more fun and effective’.
4.4 The Impact on Teaching Practice

Involvement in NALSSP was impacting on the teachers’ understanding of and approach to the way they structured their learning experience and the impact this had on their students. The detailed planning requirements and the associated planning template focused their thoughts on the purpose and nature of the technologies to be used and the learning that would be enhanced by their use. The teachers were also required to explore current research that would inform their approach. This knowledge building was reflected in their detailed planning documents, their project implementation and their final reports.

4.4.1 Teaching Approaches Used

As shown in the Figure 4, below, the effective use of the Web 2.0 technologies provided substantial opportunities for scaffolding student learning. All responding teachers had included strategies for scaffolding learning in the project, most to a large extent. Teachers also highlighted high levels of student self-assessment and peer assessment. (55% to a large extent and 39% to a medium extent) and the use of assessment criteria that was specific and known to the students. The various approaches taken across all classrooms involved the development of inquiry and problem solving skills in their students. Group work and opportunities for students to learn through current and authentic activities also featured strongly.

Figure 4: Specific teaching practices included in the implementation of the trial projects

4.4.2 Changes in Teaching Practice

For many of the teachers involved in the project, the change in their teaching practice was considerable. One teacher described it as ‘monumental’. As indicated in Figure 2, the introduction of technology was, in itself, very new for 32% of the teachers but this use of technology in the teaching of languages also led to, and typically necessitated, new approaches to teaching and learning. This included significant changes in classroom set up, management and interaction as learning included more opportunities for student collaboration and teamwork and greater student choice and independence in how they worked towards the achievement of their learning goals. The teachers’ comments provided further insight into the teaching practices that were used, as well as the impact that teachers were seeing as a result of these changes.
Independent, Student Centered Learning

Most notable was the change in classroom dynamics. Learning was becoming ‘more student centric’ and students were becoming independent learners - taking ownership of their learning, driving their learning, and planning and collaborating with their peers to achieve the required outcomes. Self and peer assessment was also increasing.

Many of the languages teachers were both amazed and excited by these changes:

‘Students become more independent learners when using iPads for their LOTE learning. They make their plans, set the time line for their project, and explore and extend their language knowledge while completing different tasks’.

‘Students had to think for themselves because iPad2 is new for everyone’

‘Students are now more independent learners. Having the Web 2 technologies and skills at their fingertips enables them to access information and resources on their own. This makes it possible for students to extend and individualise their learning’.

For some teachers, a major shift in their teaching approach was required. In many cases this was a change from whole class teaching, which some felt had been the only way to manage the short, once a week period with their class, to a more individualised approach in which students were given greater responsibility for their own learning:

‘I have been teaching Japanese for over 15 years and using technology opened my eyes to a new way of teaching and engaging children in the LOTE classroom’.

‘I had to learn to teach not using pen and paper activities and to integrate more technology into the classroom. I also had to let students guide themselves in their learning’.

The development of class goals, understandings and expectations in regard to the appropriate use of the technologies and the focus of the learning was an important component in supporting student driven learning. In one class, for example, expectations and goals were decided on and agreed to as a class. Using a Think-Pair-Share style discussion in groups’ they thought through how the iPad should be used in class, the expectations and requirements for using an iPad, what limitations, if any, should be placed on their use and how and when students would be able to access them. With agreement that ‘the iPad would be an educational tool, which will provide opportunities for us to learn independently and collaboratively’, the class then settled on a ‘set of rules’ that focused on using the iPad for the task that was set, accessing it only when instructed and respecting and caring for it, with specific requirements regarding storing, charging and operating it appropriately. Both the goals and expectations for its use were written in English and then Indonesian and prominently displayed in the classroom over the project period.

Creating Opportunities to Cater for Individual Learning Needs

With this shift towards more independent student learning, teachers were also able to increase their targeted teaching and support and the time they could offer on an individual and small group basis:

‘Working in small groups allowed me to spend more time with students needing speaking practice’.

‘I could provide step by step instructions and modeling for those requiring it’.

‘Incorporating iPads made a huge impact on classroom organisation in the LOTE class by allowing me to have three different learning stations at once. Initially, I planned rotation activities to enable students to have turns using iPads, but shortly after running the program I noticed that the time I could spend with each student had been increased and I could see the individual needs to be met’.

This capacity for teachers to individualise language learning was particularly relevant in classes with students who already had experience in the language. In a school that included a large percentage of students from Chinese backgrounds, for example, the Chinese language teacher believed she was now catering more effectively for her diverse group of students:

‘My teaching approach has been modified to cater more for individual needs. Basically, Chinese background students and non-background students have the chance to participate in ways that will meet their different needs’.
The self-paced, individualised activities also addressed the issues facing teachers when new students arrived at the school with no experience in the language. This was particularly important in a school with high student turnover. As detailed in Case Study 2, students were arriving at the school in Year 6 with no experience in the Japanese language. Through the self-paced and engaging activities provided on the Nintendo DSi, they were participating alongside the other students, but at an introductory level. In other schools, applications on the iPad were also effective in introducing new students to the language as well as catering for very different learning levels:

‘New children to the school found the iPads a great way to help them with their hiragana and their results and confidence in Japanese have improved greatly’.

‘Every year, we have a few new students to the school and they often are disheartened as they feel they are a long way behind other students who have been learning Japanese for years. Many parents request interviews with me to address this problem. But (by using the technology) ‘new students to the school were able to work at their own pace with the iPads and not feel overwhelmed’.

The surprising fact I found was that the iPads helped extend children in the classroom who already knew their hiragana and they could learn the next part of the alphabet. This is something I have never done when teaching Japanese in the class, due to time constraints and trying to keep everyone at the same level.

‘I used the iPads in class and this enabled children to work at their own level in the classroom and not have to keep up with what everyone else was doing. I found the iPads could be used for extension with my more advanced children and also help new children to the school to learn the hiragana alphabet. It seemed like I had lots of extra Japanese teachers in the classroom helping me. Fantastic!’

The capacity to track the progress of their students through these self-paced activities provided the teachers with assurance and understanding in regard to individual student progress. As one teacher explained: ‘students were working at their own, yet monitored pace’. The individual needs of students were increasingly being addressed as teachers and in many cases the students discovered and worked on new applications for speaking, writing and understanding the language.

Observing the extent to which students were responding positively and responsibly to the self-paced activities, teachers were inspired to explore new opportunities involving technology that encouraged student learning. Many expanded the activities that were documented in their initial plans:

‘After introducing the topic, I became facilitator rather than instructor, with students working independently on their project. I also began to consider other ways that students could take greater responsibility for their own learning and other ways in which iPads could be used in my language classes’.

The teachers also saw the students enthusiastically exploring the possibilities:

‘Having the Web 0.2 technologies and skills at their fingertips enabled students to access information and resources on their own. This made it possible for students to extend and individualise their learning’.

**Increasing Collaborative and Cooperative Learning**

The ‘learning together’ approach that teachers adopted as they explored the scope and possibilities of the technologies changed the teacher/student relationship. Students were keen to trial and report back on the value of the applications for their learning. They were also sharing their learnings with the class and were assisting one another in the use of the technologies rather than relying on the teacher. This was generating a more collaborative learning approach to languages, which for many of the teachers was very new.

In some cases, the increase in collaborative learning had stemmed from a need to increase students’ access to a limited number of technology devices. Working in a group, rather than individually, enabled students in these classes to share a device as they worked on a joint project. Teachers were also increasingly recognising the value of having students work in teams. ‘Students were taking on responsibilities and roles in their teams and extending their language abilities throughout the communication’.

Examples of students helping each other to recall the lines that they needed to remember and pronounce or write words correctly were also frequently highlighted and observed by teachers as ‘great reinforcement for both students who could remember the line easily and students who had difficulty improving the oral skill’. Teachers were also keen to increase the extent of collaboration further as they observed the enthusiasm for learning that was generated as
students worked together ‘It was great to see students not only improving their language skills but also social skills with other students’.

Even when used in individual learning activities, the nature of the device was generating a more flexible and collaborative classroom environment. One teacher, for example, found that: ‘iPads tend to lend themselves more easily to more sociable interaction in the classroom. They are easier to hand from person to person, so students are not bound to the location of the computer, they can amble about the classroom with them and pass them round’. This, she felt, saved a lot of time and led to equal access for each student. Another created a system which she felt increased student willingness and discipline in regard to sharing the devices. ‘They learnt to work independently on the device and when necessary switch from iPad to other classroom activities on cue (a kitchen timer was used to ensure that everyone can have a go during a session whenever possible)’.

Through their strategic planning of the learning and assessment tasks, teachers were also encouraging students to coordinate and share the technology devices. These tasks included a range of activities that required different ways for students to present their learning. Students could, for example, work on aspects that did not need the technology ‘until it was their turn’ for the iPad or other device. They would then complete the task and pass the technology device on to the next student.

Opportunities for group and whole class collaborative learning were also generated through the use of the Interactive Whiteboard (IWB). Across different year levels and languages, these IWBs were used successfully for a range of activities. They were easily linked to the iPads, and other devices, such as the Nintendo DSI, allowing teachers to explicitly introduce, teach and demonstrate new content and/or skills, extend the learning through supplementary activities or detail and demonstrate the assessment requirements for an activity. Students could also use them to present their work to the class.

‘The use of an IWB to teach a large amount of new vocabulary and grammar was very worthwhile and rewarding for both the students’ language uptake and my own personal skill development. The Web 2.0 tool supported whole-class activities extremely well and the popularity amongst students to participate in moving language around to match items, make sentences, answer questions and group words, was very apparent. Students were wholly engaged .... There was an increased level of excitement in the learning process’.

‘Students could also present their learning to the class by connecting their iPad to the IWB. The creative use of technologies such as Vokis and iMovie for these presentations further captured students’ attention and interest across the class or group, extending the opportunity to engage students in the language and ‘promote a social classroom’.

Extending the Learning Environment

Through Web 2.0 technologies, teachers were able to extend their students’ learning environment beyond the classroom. For some, this generated communication between peers and across the school community. It was occurring both in and out of school hours. In other schools, opportunities to interact with languages programs in neighbouring or more distant Australian schools were established and in several schools, communication links were created with ‘sister’ schools in the relevant country.

Blogs, wikis, and video conferencing enabled the majority of these interactions. The Ultranet was used effectively by many of the teachers to set up these forms of communication. It provided secure access to sites that were also designed to increase the communication between the students, their classroom teacher, the principal and the parents, therefore raising the profile of languages education and ‘actively involving the entire school community’ in language learning. In one school, for example, the teacher designed a space to ‘create a language environment for students to learn the language outside the classroom’: This, she found, had ‘significantly improved the students’ performance and also built a bridge between teachers and parents’.

In another school, a digital camera, video recorder and webcam enabled the teacher and her students to ‘create a space that provided an exciting and rich source of information’. Her students were using it frequently. As well as providing information, it also engaged students in language learning activities and was seen as a space where they could ‘find readings and demonstrations in the language, share and discuss ideas and practice what they learned’. The inclusion of a class blog, through which students could ask questions and discuss their learning and progress, added further value.
Importantly, teachers found that these interactive spaces created more time for students to immerse themselves in and learn the language. As one teacher highlighted, this addressed concerns that often students were only in class for an hour a week: ‘There are so many things to teach but so little time to do it…and not enough time for one-on-one practice in the class due to the insufficient teaching time. Students don’t know how to practice what they have learnt on their own and where to ask questions about language and Chinese culture’. She is also intending to expand the site to include links to a recently established ‘sister’ school in China.

In some schools, using the Ultranet to set up the collaboration spaces proved difficult, so alternatives such as Edmodo were used successfully. In Case Study 1, for example, a restricted classroom social network blog was set up on Edmodo. It was used for online discussions and a range of collaborative learning activities. Students could access Podcasts, quizzes, YouTube clips and research sites. It was also a place to submit their work and receive feedback from the teacher. Peer feedback also featured as students were collaboratively viewing and critiquing each other’s work. According to the teacher ‘a great advantage of this media was that students were able to view tasks and work from anywhere. As students completed their work at home, the separation between schoolwork and homework became smaller’.

Some of the schools with Interactive Whiteboards also extended this ‘social classroom’ by introducing web conferencing using ‘Blackboard Collaborate’. In an Indonesian class, for example, this enabled them to link to their sister school in Jakarta, providing an authentic opportunity to converse in Indonesian and subsequently increase their language skills in listening and speaking. It also enabled her students to ‘learn firsthand about the culture of Indonesia’. This was followed through with ongoing social networking via a blog on Edmodo.

For another teacher, who had established similar links to a ‘sister’ school, the value of the experience and the potential for future teaching of the language was very clear:

‘Web 2.0 technologies enable us to communicate with native speakers in their country. This creates authentic learning experiences and allows students to truly apply their knowledge and skills’.

Teachers also found that links to relevant internet sites increased students’ understanding of the life and culture within the country being studied. In one class, for example, the teacher had established a Chinese language web page that included links to and information on Chinese Festivals, Folk Tales, events in history, and ‘geography, along with ‘Chinese Tea Ceremonies’ and ‘Chinese arts and crafts’. Also included were Chinese songs and their National Anthem.

**Monitoring and Assessing Student Progress**

For many of the teachers, the technologies opened a range of new strategies for assessing student learning. The self-paced activities were creating opportunities for instant feedback, guidance and self-assessment, while the move to more collaborative and authentic learning activities was leading to increases in both self and peer assessment. The technologies also changed the nature of the work products presented by the students and the extent to which these were more widely displayed. At the same time, the teachers generally felt very confident that they were able to monitor individual progress and address individual learning needs as students used these technologies.

Where students were using the self-paced application with inbuilt scoring systems, teachers were able to monitor progress and provide support and assistance when needed or extend those students who were ready for a higher level of learning. These self-paced games and activities provided clear indicators of student accuracy, prompting students to use the correct stroke order, pronunciation or spelling. Such opportunities for self-assessment were, for many teachers, a major shift in their teaching practice but they were quick to see the benefits as their students took more responsibility for ‘monitoring and improving their own progress’. Typically, teaching had also become ‘less formal’ when using these Web 2.0 technologies, enabling ‘more movement around the class’ and more opportunities for the teachers to ‘work with individuals and groups to provide targeted assistance where needed’.

The Interactive Whiteboard (IWB) was also used for explicit teaching, sometimes for the whole class and at other times to address the needs of a small group of students while the remaining students worked independently on alternative activities. In some classes it was used in conjunction with Quizdom (an Audience Response or Interactive Voting device). This allowed teachers to monitor the responses of individual students and, using the IWB, show graphs of the class feedback as well as being able to assess the different needs of each student. It provided a strong basis for discussing the reasoning behind the responses and identifying areas requiring further learning and effort. Students found the activity to be ‘valuable’, ‘lots of fun’ and ‘a way to make you concentrate’.
Students were able to present their learnings in a range of ways, allowing scope for individual choice and capacity and adding interest and other skills and understanding to the learning product. Software such as iMovie and Voki and equipment such as headsets and audio recorders, flip cameras and movie cameras provided opportunities for recording and demonstrating their creative use of the language. The more ‘public’ nature of the work they produced was encouraging students to practice and perfect the pronunciation, fluency and accuracy of their recordings.

For one teacher, the use of iPads in her students’ learning provided a new, more effective and efficient way to assess her student’s oral skills:

‘Students took a video of their speaking task and saved it in iPad and then I transferred the files in the hard disk and assessed them later. Compared to the time when I used to assess oral skill one by one using class time, having digital records saved my time and made assessment easier’.

This also provided her with ongoing records on each student that could be sorted and filed to enable her to follow each student’s progress over time. Peer assessment also became an easily managed feature in her classroom. At the completion of their work, each group viewed another group’s work on the iPad, providing feedback and suggestions. This according to the teacher was a valuable addition to her students’ learning process.

Class wikis and blogs also became a repository for students’ work, providing access to the teacher and the class and consequent opportunities for feedback, discussion and ongoing support and improvement amongst peers.

4.4.3 Teacher ICT Development

As indicated in Figure 2 above, 32% of teachers considered themselves ‘new users of technology’ and only 18% rated themselves ‘advanced users’. However, their involvement in NALSSP gave them the confidence and the skills to develop and implement their projects most successfully. As they implemented their projects, many of them continued to explore the possibilities. They were developing new understanding about the impact of these technologies on their students learning, giving them further insight into what was possible and also how the technologies could be applied to their specific teaching and learning needs:

‘It cannot be underestimated the learning curve that I have experienced and my growing confidence in using an IWB. I am aware that there are many and varied ways in which I can incorporate an IWB into my pedagogy and I plan to expand my use of it to a Year 10 class next year’.

‘I discovered how many fantastic apps are out there. They are all designed specifically for educational use and greatly target learning skills such as listening, speaking, writing and reading. When I discovered all of these I can’t wait to let my students try out the different apps’.

‘For the last 3 weeks of Term 3, the students got to explore the “iMovie” app by creating a group space movie. I found the students actually took less time with “iMovie” than using other devices, such as video camera and flip camera to create a movie because they don’t need to upload the movie to a computer or laptop to edit or add music, etc. They can do everything just within the app’.

‘I have learned about and introduced some highly developed apps on iPads, and these resources have saved my preparation and planning time in making flash card, power point, and creating games etc. I can’t recall ever enjoying teaching mandarin so much as this year. And my enjoyment came about because I recognised and experienced the tremendous potential of the IWB and the iPad as a teaching resource. The students’ great performances in their tests have confirmed this belief’.

The ePotential Teacher ICT Capabilities Survey Data

The pre and post ePotential data provided a clear picture of the advances made in teacher technology use and confidence over the project period.

Figure 5 provides an overview of these shifts. As shown, advances were made in all areas, although two ‘key areas’ have shown particularly strong shifts - ‘Assessment & Reporting’ (19 points) and ‘Learning & Teaching’ (18 points). Appendix 3 provides more detail on the ePotential pre and post outcomes, including movement of each of these key areas across the phases of teacher learning (Foundation –Emergent –Innovative –Transformative). Assessment &

Reporting for example, shifted from Emergent to Innovative, while “Learning and Teaching moved from the lowest to the highest level of the Innovative Phase.

Figure 5: Pre and Post ePotential Data across Key Areas

More detail on how this is achieved within each key area is also highlighted in Appendix 3. Most notable was the extent to which the languages teachers had increased the extent to which they were supporting and encouraging students to use ICT to:

- share ideas or solve problems with groups beyond the school’. (up 25%)
- plan and monitor projects. (Up 21%)
- hypothesise, synthesise information and create new knowledge. (Up 21%)
- communicate internally and externally to the school. (Up 29%)
- practise skills, develop strategies and solve problems. (Up 26%)

These teachers were also collecting digital evidence to showcase learning. (Up 26%) and using ICT to map a student’s preferred learning style and identify areas for improvement. (Up 25%). There were similar increases in the teachers’ use of mobile devices (e.g. iPods, smartphones) for assessment, recording student progress and reporting. Students were also given the opportunity to generate digital learning portfolios and were encouraged to use ICT such as iPods or digital cameras for self-assessment, and reflection. (Up 33%)

The use of ICT for personalised learning had also increased as students participated in online collaborative activities, and were involved in a combination of individualised small group and whole class activities that catered for different learning styles and needs.

‘Safe & Responsible Use of ICT, shifted from the Innovative to Transformative Phase over the project period and ‘Resources’ shifting from the Emergent to Innovative Phase. Also notable was the increased value respondents are gaining from their own professional development, over the project period. In many cases this was also resulting in a greater leadership role in regard to using ICT in the classroom, as they:

- Explored and demonstrated new and emerging technologies in the classroom.
- Led and/or developed peer coaching and/or mentoring programs in their school.
- Actively contributed to the development of a vision for ICT integration in my school.
- Ensured staff and students were safely and responsibly using ICT.
4.5 The Impact on Student Learning

As teachers adopted the new approaches to their teaching practice, their language learning environment was changing substantially. This created a significant shift in the way students were learning and led to equally significant and very positive student learning outcomes.

All teachers responding to the survey believed (most of them strongly), that as a result of the changes in their teaching practice, their students were more motivated and engaged in their learning. In addition, as indicated in the graph below, almost all believed that their students were building new knowledge and they were also seeing notable increases in the extent to which students were becoming more creative in their learning processes and were initiating and taking more responsibility for their own learning.

Figure 5: The impact of the Web 2.0 Technologies on Student Learning – Teacher Perspective:

| Students are more motivated and engaged in their learning | 35% | 65% |
| Student’s work products are of a higher quality | 10% | 45% | 42% |
| Students are building new knowledge | 29% | 68% |
| Students are initiating and taking more responsibility for their own learning | 10% | 29% | 58% |
| Students are reflecting more on their learning and their learning process | 13% | 48% | 36% |
| Students are demonstrating greater critical thinking | 29% | 42% | 26% |
| Students are demonstrating more creativity in their learning processes and products | 6% | 19% | 68% | 3% |
| Students are communicating their ideas and opinions more clearly and confidently | 6% | 52% | 39% |
| Students are collaborating and cooperating more effectively | 6% | 35% | 55% |
| Students are transferring their skills and knowledge to other aspects of their learning | 22% | 55% | 23% |

Increases in the extent to which students were collaborating and cooperating more effectively and were increasing their problem solving skills were also evident as they worked together in teams or pairs. The growing support for one another, particularly in regard to the use of the technology but also in developing language skills, was also noted by many of the teachers, even where the activities were more individualised.

Most striking, in the eyes of some teachers, was the extent to which the students were becoming independent learners. They were initiating and taking responsibility for their learning and were increasingly reflecting on the quality of their learning, the process of learning and the most appropriate way to present their learning. They were also communicating their ideas and opinions more clearly and confidently. This, according to many of the teachers, was because of the ‘learning together environment that had been established’ and the fact that students felt more capable of initiating and taking more control of their learning.

While the nature of the new technologies typically required students to take greater responsibility for their learning the teachers were also beginning to more clearly see the potential of the technologies in generating independent learning. They were therefore increasingly providing the structures and opportunities to ensure that this occurred.

Importantly, most teachers were confident (selecting agree or strongly agree) that, where applicable (their focus was not always on this skill, resulting in ‘unsure’), their new approach to teaching languages was leading to increased skills in their students’ ability to learn the language, particularly in regard to:
understanding spoken language,
- speaking the language more fluently and confidently,
- writing the language, and
- showing deeper understanding of the language and culture.

Figure 6: The Impact of the Web 2.0 Activities on Student Language Skills – Teacher Perspective:

In addition, **all** teachers agreed, most very strongly, that as a result of their new teaching practices the learning needs of students across the full range of learning abilities, backgrounds and learning styles were now being catered for in their languages classes.

4.5.1 Nature of the Impact on Students

Teacher survey comments and discussions reinforced the ratings above.

**Increased Student Engagement and Motivation**

The power of the Web 2.0 technologies to motivate and engage their students in their learning was highlighted by many teachers but they also recognised that the technologies had significantly changed their teaching approach, enabling them to offer their students more exciting and authentic learning opportunities:

‘**Since this research, students view the Internet not just as a social media or merely a place to source information. Rather, they now see that these technologies can be used for interactive and participatory learning**’.

‘**Most of my students agreed that Blackboard Collaborate technology generated interest in their study, enhanced learning and understanding of lesson content, provided useful feedback on assignments and improved interaction between students and their peers and teachers**’.

‘**Engagement escalated due to interest in the use of iPads. Students’ personal and interpersonal communication skills and confidence grew. Students’ overall ability to generate, write and articulate simple Indonesian sentences improved and, so too, students’ willingness to use the language in the classroom**’.

Their general behavior had also improved, as a result of these changes:

‘**Students loved the sound coming from the iPad through the IWB. There was no need for constant spoken instructions like “repeat after me!” Students were pronouncing the words and repeating them again and again after hearing the voice from the iPad. They were showing great interest and attention”**.'
For some teachers, the decrease in ‘interruptive behaviours’ that had resulted from his new approach to teaching had opened up many more learning opportunities for their students. For example, in one class the new approach to learning had addressed the issue of poor behaviour and lack of motivation:

‘As the tasks cater to different learning styles and levels of intelligence, all students are able to work at their own capability and pace. There are no ‘failures’ in this approach and everyone is able to produce work, and this builds student confidence’.

In another class, a student with a ‘strong dislike’ for languages responded particularly well when using an iPad. As detailed by his language teacher, he willingly used an iPad to write a story about his passion - animals. This opportunity to type rather than produce handwritten characters ‘held great appeal for him’ To embellish his story, he added photographs of his toy animals, taken with the iPad. As this was a student who ‘would normally complain about or refuse to complete the work’ the finished product was, according to the teacher ‘far above his usual standard of work’.

For many of the other teachers, the changes in student behavior, engagement effort and output was equally notable. For example:

‘I have not had major behaviour problems since the commencement of the project. They learnt to get on with their tasks, regardless of the nature of activities (iPad or worksheet) straight away. They were more cooperative than before and had learnt to take turns with limited devices both cooperatively and politely’.

**Increased Drive and Independence in their Learning**

The extent to which students were putting more effort into their work and taking responsibility for their own learning, when using the technologies, was significantly changing the language learning environment. Many students were confidently leading their learning. As one teacher stated ‘there was a “want to learn” attitude when they used the iPads’. Others noted that their students were ‘quickly settling into their allotted tasks’. They were ‘asking more questions’ and ‘showing a keenness to learn and improve’.

Underpinning this motivation to learn was an ongoing increase in student confidence as they used the technologies to work on their learning tasks and were achieving positive outcomes. In many cases it was the lower achieving students who showed the greatest improvement:

‘The technology seemed to help my weaker students work independently and I was surprised to see many of them make very good progress. Many who previously lacked engagement became more focused and their speaking skills improved. The need to plan, rehearse, perform and showcase their work also saw these reluctant learners speaking not only more fluently but going out of their way to find and use new vocabulary’.

‘By removing the need to hand write sentences, students could focus on sentence construction and, accordingly, they were more willing to write sentences using the Japanese language’.

‘Students are no longer afraid of writing Chinese characters instead they have become enthusiastic about it. They are now willing to take challenges and willing to learn from their mistakes and improve’.

In some classes, the students’ willingness to build on their learning was also evident:

‘They are willing to try new things. They ask more questions, show their keenness to learn and improve and support each other in using the technologies and apps.’

‘Students are displaying greater interest in the learning process.’

‘Students have become more confident and motivated. They know where to look for help and become braver and more active in asking questions, giving feedback and seeking more knowledge via the class website space.’

The fact that students were involved in assessing the effectiveness of the learning activities encouraged them to ‘think more about how they were learning and the extent to which they were learning’. This, according to some teachers, was leading to more active engagement in the learning process. For one teacher, the fact that students were involved in assessing the effectiveness of the learning activities ‘was leading to more active engagement in the learning process’.
Another was seeing significant advances in the extent to which her students were communicating more effectively with each other (with or without the target language), and also demonstrating improved capacity to think critically, negotiate and make decisions.

**Increased Collaborative and Cooperative Learning**

Many teachers were also observing increases in cooperation and collaboration as students shared their learnings, explored applications together, taught one another new skills and provided feedback on each other’s progress and work products:

‘Students were able to share their knowledge of the technology with each other. They were working very cooperatively and I noted that problems between students began to disappear as they realised how much fun they could have by working together’.

‘It is great to see that the confident users are helping out and showing their partner how to use certain functions so that the project that the pairs are working together on can be completed successfully’.

‘Students share their ICT skills - those who know more show those who know less’.

‘Students were able to work collaboratively with other members of the class using technology as the medium of collaboration’.

‘They support each other in using the technologies and apps’.

**Language Skill Development**

Improvement in attitudes and outcomes for students who had been negative towards learning languages or lacked confidence in their language abilities was leading to increased efforts to learn and to practice their learning. This was resulting in notable improvements in their assessment tasks.

The use of Web 2.0 technologies had opened opportunities for students to interact with and respond to a wide range of individualised, self-paced games and activities. These could be selected according to the specific needs of the students, progress could be monitored by the teachers and it was increasing the level of targeted assistance that teachers were giving their students. The instant feedback was also increasing the extent to which students were focused on improving their language learning, with the incentive to ‘move to the next level’. Many were continuing their learning beyond the language classroom and beyond school hours, keen to improve their scores.

Teachers highlighted significant changes in the way students were learning and in their learning outcomes as they used the different technologies and applications. Examples were given of students:

- learning and retaining vocabulary and recognising and understand grammar requirements through the use of eBeam on the Interactive Whiteboard
- speaking more fluently and confidently as they ‘self assess themselves in Voicethread’.
- interacting in the language (both writing and speaking) ‘via email and PowerPoint "conversation models”.
- recording themselves speaking and then correcting their pronunciation
- ‘generating, writing and articulating simple Indonesian sentences’ and showing greater willingness to use the language in the classroom.
- learning to write Japanese or Chinese characters with accurate shape and stroke order, and self-correcting where needed, using the different applications available for iPads and other hand held devices.

This, their teachers believed, was generated through the strategic use of the technologies:

‘Even those students who often feel that Chinese character writing is difficult and are not much interested are trying very hard to practise using their fingertips. They are fascinated by the way that character writing can be learned through using iPad’.

‘The shy students are often intimidated by speaking directly to the class for fear of making mistakes. When using an iPad to do their work, their voices are recorded. They are not afraid of talking to a device. If any mistakes are made they can simply delete it and record it again. To my surprise, one of my shyest students
also wanted to share her work with her class. Obviously, she is very proud of her work and her ability to use iPad to complete the work’.

‘Prior to using iPads in Indonesian, many students considered themselves to be weak at language, and therefore unable to continue their studies through to VCE. Using iPads in Indonesian has moved students away from thinking this, and has seen an improvement in students continuing to study Indonesian’.

The growing student independence that stemmed from the use of these new technologies also supported and generated the development of language skills:

‘Students immediately conveyed their enjoyment of the authentic Chinese voices and visual displays. Soon afterwards I noticed that they were imitating the pronunciation they heard while watching and listening to the various apps. Their pronunciation improved even further through the use of repetition’.

‘It would be an understatement to say that they took to the iPads like fish in water. They were focused and really engaged in using the iPad to learn Chinese. They have even trialed other Chinese apps and recommended them to me……I can confidently say that my students’ ability to write Chinese characters in the correct stroke sequence and correct stroke direction has improved out of sight since’.

**Increased Intercultural Knowledge and Understanding**

Intercultural knowledge and language awareness was developed through technologies that enabled them to interact with other students in the targeted country. The ‘LiveMocha’ social network site, for example, was used effectively with a class of students, via the Ulantranet:

‘Students enjoyed using this account because there are a lot of exercises and activities drawn from reading, listening, speaking and writing in target language, and they are able to correct the language use of other members. My students can actively do their homework and practice their language skills. They find it very useful. (They are) able to interact with their new friends around the world using the target language, and help other members with their English. They have improved their listening and speaking skills’.

The establishment of blogs and wikis and the direct contact via web conferencing also allowed students to collaborate and establish relationships with students in the targeted country, exchanging ideas and increasing understanding of the differences and similarities between their cultures and way of life:

‘My students have had real time web conferencing with their peers from other schools. They have produced a strong sense of community amongst participants and high levels of engagement. The topic was “School”. They ask and answer questions about school subjects, likes and dislikes, timetables and their teachers.’

The internet also provided languages students with insight into life and culture in the country they were studying:

‘Students were able to use the devices to further their knowledge of the Japanese Culture. Through investigation via the internet, they gained language awareness and understanding of cultural diversity. YouTube is a great tool to introduce students to the ‘Real Japan’. It gave them an insight into daily life in Japan’.

**Increased Student Commitment to Continuing with Languages Study**

For some of the languages teachers, the need to generate student interest in continuing with language study when it became an elective subject had been a key driver behind their participation in NALSSP. In their final report, many of these teachers highlighted the increases in their students’ confidence and commitment to continue learning a language past Year 9. This was highlighted in Case Study 1.

It was also evident in other classes. For example, referring to a Year 9 Chinese class, the teacher noted that the introduction of iPads in their learning had increased their motivation and confidence in learning Chinese: At the beginning of Semester 2, they lacked inspiration and found great difficulty in studying Chinese. Furthermore, they had gained little knowledge and practical skills. However, the iPads supported them in a positive approach to learning Chinese. At the beginning of the Semester ‘only 12.5% of the students were interested in continuing Chinese in Year 10. At the end of the Semester ‘44% of students indicated that they would now like to further their studies in Chinese’.
For some students, the changes had been significant, impacting on their attitudes not only towards learning a language but also to school more generally. They had developed ‘greater self-belief and motivation’ through the activities in their languages classrooms.

4.5.2 Overall Changes in Achievement, Attitude & Behaviour

Data collected from teachers through the NALSSP pre and post evaluation surveys reinforced the above increases in student achievement, attitude and behaviour in the NALSSP ICTPL projects. On a scale of 1:5 (where 5 = high and 1 = negative) teachers were asked to rate their students’ achievement, attitude and behaviour prior to commencing their projects and following the projects. The graphs below show the increases in each aspect. These increases occurred across each of the languages.

Figures 9-11: Pre and Post Teacher Ratings on Student Achievement, Attitudes and Behaviour

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9 Collected and collated by the Centre for Teaching Asian Languages and Cultures, Faculty of Education, Deakin University
4.5.3 The Student Perspective

In surveys conducted at the completion of their NALSSP projects, students were required to think about the activities they had undertaken using the Web 2.0 technologies and compare this with languages classes in which they were not used. Their responses, as shown in Figure 12 below, show positive shifts (selecting ‘more than in previous classes’) for a significant percentage of students across most areas, particularly regarding the extent to which they:

- Enjoyed doing the work (65%)
- Collaborated with other students (65%)
- Put a lot of effort into their work (60%)
- Took responsibility for their own learning (60%)
- Gained confidence in their ability to complete the tasks (59%)
- Were creative in what they produced (54%)

While often dependent on the specific focus of their learning, many felt that their ability to understand the language (55%), speak the language (53%), and write the language (51%) had improved more than in previous languages classes.

Figure 10: Student perceptions of learning languages with Web 2.0 technologies compared to previous language learning

<table>
<thead>
<tr>
<th>Perception</th>
<th>More than</th>
<th>About the same</th>
<th>Less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoyed doing the work</td>
<td>65%</td>
<td>33%</td>
<td>12%</td>
</tr>
<tr>
<td>Was motivated to complete the tasks</td>
<td>47%</td>
<td>40%</td>
<td>3%</td>
</tr>
<tr>
<td>My ability to understand the language improved</td>
<td>55%</td>
<td>39%</td>
<td>6%</td>
</tr>
<tr>
<td>My ability to speak the language improved</td>
<td>53%</td>
<td>43%</td>
<td>4%</td>
</tr>
<tr>
<td>My ability to write the language improved</td>
<td>51%</td>
<td>42%</td>
<td>7%</td>
</tr>
<tr>
<td>I increased understanding of the LOTE country &amp; culture</td>
<td>46%</td>
<td>47%</td>
<td>7%</td>
</tr>
<tr>
<td>I put a lot of effort into my work</td>
<td>60%</td>
<td>38%</td>
<td>2%</td>
</tr>
<tr>
<td>I produced high quality work</td>
<td>50%</td>
<td>46%</td>
<td>4%</td>
</tr>
<tr>
<td>I collaborated with other students</td>
<td>65%</td>
<td>32%</td>
<td>23%</td>
</tr>
<tr>
<td>I was creative in what I produced</td>
<td>54%</td>
<td>43%</td>
<td>3%</td>
</tr>
<tr>
<td>I had to take responsibility for my learning</td>
<td>60%</td>
<td>37%</td>
<td>9%</td>
</tr>
<tr>
<td>I gave feedback on other students’ work</td>
<td>34%</td>
<td>56%</td>
<td>10%</td>
</tr>
<tr>
<td>I learnt from and/or collaborated with people outside my school</td>
<td>29%</td>
<td>50%</td>
<td>21%</td>
</tr>
<tr>
<td>I gained confidence in my ability to complete the tasks</td>
<td>59%</td>
<td>37%</td>
<td>9%</td>
</tr>
</tbody>
</table>

The Positives

When asked to consider what they liked about using Web 2.0 technologies in the languages classes, over 30% of the responding students indicated that it was a ‘fun’. But frequent reference was also made to the fact that this new ‘fun’ way of learning was increasing their skills in speaking, writing and/or understanding the language and, for many, it was increasing their knowledge and understanding of the culture of the country.
Those using different applications and games on iPads and other hand held devices, provided detail on their skill development. For example:

‘I could listen to things over and over again’.

‘I could improve my pronunciation and spelling’.

‘It helped me sound words out properly’.

‘It helped us to remember the strokes and characters -the touch screen gives you a great visual on the Japanese characters’.

‘I could look up a word’.

‘It helped me expand my vocabulary’.

‘The best things in my opinion about using the iPads are that I got to record videos of me speaking in mandarin, I could look up a word that I didn’t understand and I could find out how to pronounce it’.

Many students highlighted the interactive nature of the technologies, referring to it as a more ‘exciting’ way to learn, which encouraged them to focus on their learning. Some who were using games on an iPad referred to the way it improved their learning, as their actions and decisions generated immediate feedback and opportunities to make changes when needed. One student added that the games can also ‘show you how much you know and what you need to improve on’. Another felt that, ‘by using these technologies, he had ‘learned differently, better and more than writing it out... Seeing images and hearing sounds also better improved my learning’.

Those using the Interactive Whiteboard were also engaged and focused:

‘We were able to see how sentences are put in order and understand how they are pronounced. The interactive whiteboard has helped me a lot’.

‘I loved the interactivity with the whiteboard as it uses physical input such as using the pen to match words’

‘I am a visual learner, so I prefer to see and interact with the whiteboard for activities. I like to have a turn with matching up Japanese and English words to help me learn better’.

Students also appreciated the interaction with their peers and teachers and with a wider community. Wikis and blogs provided opportunities to ‘discuss assignments and communicate with the other students’ out of class hours. They also provided a forum for collating ideas ‘which allowed each of us individuals to learn from each other – not just having our own ideas to base our learning on’. They could also look up things that were missed if they were absent from class. Students in a senior level class found their blog valuable when completing homework and studying out of school – as it was ‘a way to work together’, contributing our individual ideas without wasting class time. This was also seen as a way to research the topics discussed in class and then share the information with others.

Through exposure to websites, podcasts and videos, that demonstrated and provided information about the culture, features, language, music and lifestyle of the targeted country, students also felt they were becoming more informed and more interested in the country and its language. For some schools, this was followed through as they interacted with students from that country via video conferences, wikis or blogs.

Teachers spoke frequently of the ease with which their students adopted and became comfortable using the technologies in their learning. Comments by some of the students reinforced this:

‘I feel that the best thing about using Web 2.0 technology is that in this modern day of age, where technology is used every day, it motivates us a lot more. I think that my fellow students and I have put a lot more effort into our work because we are using technology we are comfortable with. There are also a lot of great applications for the iPod that helps us with writing characters and games that are in our learning capacity’.

‘Using the internet is a great way to motivate students to work harder. Being that most teens use the internet every day, this is a great way to really grip their attention and make them more interested in the work that is provided for us’.
The Negatives

When asked to list the ‘worst things’ about using technology, almost 25% of the students replied ‘nothing’. Around 40% highlighted various technical issues that had hindered their progress, particularly in regard to establishing and sustaining internet connection during lessons, but also due to computers ‘crashing’ and ‘running out of batteries’. A further 22% raised the fact that they did not have enough access (typically in classes using iPads) as there were only a small number available so they needed to be shared across the class.

A small number of students indicated that they did not enjoy using the iPads and/or did not think it helped with their learning. For example:

‘I kept getting distracted and strayed from my original purpose’.

‘Some tasks were boring and un-enjoyable because they were being repeated’.

‘The applications were too easy for my knowledge’.

‘I preferred writing characters with my own hand’.

4.6 The Principal Perspective

Principals of the NALSSP schools indicated that their key reasons for participating revolved around the need to strengthen both the teaching of languages and the profile of languages education in their school. They believed that the effective use of technologies in teaching and learning would increase student engagement and proficiency in learning a language and for this reason NALSSP aligned well with their school’s vision and strategic planning. The funding and teacher support and guidance provided through NALSSP was seen as most important in helping them to achieve this.

Some also saw their involvement as an opportunity to raise interest and knowledge in the use of technology in teaching and learning across the school, while for others it was a way to include languages education in what was becoming a strong thrust towards greater technology use across their classrooms.

4.6.1 Factors Supporting the Implementation of NALSSP

In their survey responses to the question ‘What factors have supported you and your school to participate effectively in the NALSSP Web 2.0 Project? many of the Principals, as represented in the selection of quotes below, nominated the enthusiasm, effort and commitment of their languages teacher as a key contributing factor:

‘A passionate and enthusiastic teacher who valued the initiative, led and shared with other teaching staff, promoted to the community and celebrated success’.

‘A very engaged teacher, who proactively looks for opportunities to improve LOTE teaching and learning’.

‘The drive and dedication of the teacher involved’.

‘Enthusiasm and willingness of LOTE staff to research, share knowledge and support this initiative’.

For some, the support and encouragement that was provided by the classroom teachers was also seen as an important element in the success of their projects. They spoke of ‘enthusiastic and supportive classroom teachers’ and ‘a high level of teacher interest and commitment across the whole school’. The expertise and support from ICT staff was also raised as a key element in the success of their project and one Principal highlighted the importance of ‘the networking of languages teachers from neighbouring schools’.

But also coming through very strongly was the importance of the funding and the professional development and support that was provided through the NALSSP ICTPLP. As one principal stated: ‘Having generous funds made available to us was the main factor affecting the outcome of this project’. This funding was seen as vital in providing both the technologies required and the time release for professional development. It was used:

‘to release the teacher for professional development and funds to purchase equipment’.

‘for more up to date technology e.g. iPads’.

‘to purchase up to date technologies, increasing the level of student engagement and learning’.
to enable the teacher involved to increase her knowledge and understanding of the use of Web 2.0 technologies and in particular how they can be used in a language program.

Principals also highlighted the value of the professional development provided for their language teacher:

‘The professional development opportunities provided for the mandarin teacher at Deakin University were excellent’.

‘A number of very valuable professional learning sessions were attended through participation in the program - (the language teacher) gained confidence in implementing ICT’s into her program’.

‘Excellent support has been given in terms of technology tools and time for professional learning to improve skills in using these tools’.

The majority of Principals felt that the impact of NALSSP had extended beyond the languages classrooms. In some schools it had raised awareness and interest in the use of Web 2.0 technologies across the staff:

‘We have been made more aware of the huge benefits to be had by on line learning and collaboration amongst students whilst learning a language’.

‘Seeing the teacher's enthusiasm and learning through the project, as well as the increased learning and engagement for students, has certainly increased our interest in using Web 2.0 technologies’.

‘The approach being trialled offers both high engagement and rigor, and fits with the school priority on the importance of feedback in developing confidence and depth in learning’.

In other schools, it was already leading to the development of plans and some changes in the teaching and learning across the school:

‘Due to the modelling from (the language teacher) of what can be done and what is available we have now purchased iPads for all teachers’.

‘Teachers have seen new and effective strategies working and are adapting them to their programs’.

‘The positive responses and enhanced learning outcomes will ensure that the use of Web 2.0 technologies becomes a school wide initiative’.

‘Having seen the use of web 2.0 technologies ‘modelled’ in our language program we now have equipment, the expertise amongst staff and students and the confidence to take this next step’.

‘We were already using many web 2.0- technologies - this has expanded the possibilities’.

4.6.2 The Challenges

While some Principals saw no major challenges arising from the NALSSP project, many were keen to look at how the enthusiasm generated through the project could be sustained and extended to other languages classes. They recognised the need for more time to share the learnings with other staff. They also hoped to increase the ratio of devices (particularly iPads) per student in order to build on the learnings and maintain and extend the program. Some, however, expressed their concern that it would be difficult ‘within the current budgetary constraints’.

The Ultranet10, which had recently been introduced in schools across Victoria, was also regarded by many of the Principals as valuable, particularly in providing a safe and secure environment for the online interactions that were established as part of their NALSSP ICTPL Projects. It had opened opportunities for interaction between students and also enabled parents to view and participate in the activities, raising the profile of languages education across the school community. However, as it was relatively new, technical difficulties arose in some schools, highlighting for Principals the need to reassess their infrastructure requirements and also their level of technology support to enable the effective use of technology in their languages classes.

The growing interest in using the technologies across the school, particularly as teachers saw the positive impact of the activities on the students who were involved in the NALSSP project, was seen by the Principals as very positive.

They understood the need to build on these positive outcomes from their NALSSP project by exploring ways to manage the costs associated with the use of technologies in the classroom and the time needed to do this effectively.

### 4.6.3 Overall Outcomes

The Principals’ final comments highlighted the very positive and enduring impact that NALSSP has had, not only on language teaching and learning but also across the whole school:

‘It gave us the boost to start to identify what is possible, trial programs and stimulate learning in LOTE’.

‘It has breathed extra life into the LOTE program!’

‘A great initiative, with positive visible outcomes, which have seen transferability across a range of discipline areas’.

‘Our senior students have really enjoyed taking part in the project and I am sure that our school will be reaping the benefits of participation in the project for many years to come’.

‘A wonderful opportunity that will strengthen staff and school capacity to meet the learning needs of our children’.

‘It has had very positive outcomes, not only for our students and our LOTE teacher but our other teaching staff and other programs throughout our school. We are very appreciative of this wonderful opportunity.

‘The project enables children to connect and learn at any time and effectively gives much greater exposure to the new language and chances to reinforce all that happens in the 1 hour per week program at school. It has made a very significant difference to our progress and to the profile of our LOTE program in the school community. We are very grateful for the grant and opportunities it provided’.

‘It has been a very exciting project for our school and has led to our staff to reflect upon how best to work with such tools and how they can assist with providing for a differentiated curriculum’.

### 4.7 Future Plans and Needs

Both the Principals and the teachers signaled a strong commitment to the effective use of Web 2.0 technologies in their future languages classes.

#### 4.7.1 Teacher Plans

Buoyed by the impact of their NALSSP activities, in their final survey responses all teachers indicated strong intentions to continue using Web 2.0 technologies in the future. Many highlighted plans to continue building on and implementing the knowledge they had gained from their experiences. For example:

‘As I explored the device for this project, I realised there are many possible uses of iPads in Japanese classrooms. For example, students can film their role-play in the target language and a series of recordings may be made into a film using iMovie all on one device. There are several apps where students can create books…. and I have already started creating a book in Japanese to be used in my teaching. This book will be shown to the students through an interactive whiteboard and will be shared on the five iPads for the students to read individually. Students can also learn Japanese individually via podcast, or even create some podcasts for several purposes’.

‘In the future, my challenges are to explore a variety of ways to utilise the devices across all year levels of LOTE learning, to explore different avenues to acquire more devices for LOTE and to incorporate a variety of meaningful activities despite the limited number of the devices for the time being’.

‘Although the action research has been successfully concluded, there is huge potential for iPads to improve student’s writing and listening skills in Japanese class which I have not explored yet. My next goal will be to build more resources for speaking tasks as well as the other language skills in Japanese with iPads’.

Teachers also detailed what they might do differently next time. Many hoped to use different Web 2.0 technologies having seen and heard the outcomes of some of the other NALSSP projects. Some spoke of refining some of the
activities that they had used to make them more effective and others looked towards being more organised in the way they would approach the activities. One teacher, for example, intended to ‘change the way the course is written and develop a scope and sequence which promotes the use of technology more fully rather than having it as an “add on”.

Many had new ideas for using Web 2.0 technologies in the future and some were already ‘searching out new technologies that might be appropriate’. They planned, for example, to:

- ‘Include parents in the classroom Edmodo blog so they can have access to students’ work. Also, include Indonesian teachers and students from neighboring schools into this Edmodo blog so that we can communicate with students from other schools’.
- ‘Use the development of student designed computer games to promote and encourage student learning’
- ‘Set up a virtual class and a blog for LOTE’.
- ‘Develop the process further so that students are not only creating stories but also reading and recording stories on the iPad to share with others’.
- ‘Create apps to support the specific language taught in my classroom’.
- ‘Develop a program combining the use of Web 2.0 technologies together with specific interactive content generators, such as Fuse Generator, and the Ultranet. This would be along the lines of an online course’.

4.7.2 The Principal Plans

Through their involvement in the NALSSP project, almost all Principals now had an increased interest in using Web 2.0 technologies across their school in the future. As indicated in Figure 8, most indicated very strong interest:

Figure 11: Extent to which NALSSP increased interest in using Web 2.0 technologies across their school in the future?

- Not at All: 3%
- Small Extent: 3%
- Medium Extent: 26%
- Large Extent: 68%

Future Needs

When asked what would be required to sustain and build on Web 2.0 practices within Asian languages classes at their school, the need to continue the professional development, support and networking was most frequently suggested by the Principals. Reflecting on the increasing interest in using technology that had been stimulated by the activities in their languages classes, one Principal commented ‘We now have the technology…further PD for very willing staff is what we need now’. Another believed that funds to support staff Professional Development was a key factor to consider in relation to sustaining and building Web 2.0 practices in the LOTE program’ while a third commented that ‘maintaining and extending the network of languages teachers, and their collegiate sharing about their success and problems in implementing the Web 2.0 practices, will be the key determinant’ in progressing the use of technologies further across the languages classrooms.

Accessing funds to ‘purchase, upgrade and maintain ICT equipment’ was a key consideration. Some recognised the increasing demand for technology and saw a need to commit funds to both the purchasing and updating of their technology resources. Concern was expressed regarding the extent to which this would be possible, with suggestions that financial support from the Department would be valuable. The need for increased technical support and
associated funding for upgrading and maintaining the technology resources was also highlighted, and the importance of ‘appropriate infrastructure’ was raised by some, including those who had experienced difficulties with the Ultranet.

4.8 The Circumstances Influencing Implementation, Outcomes and Sustainability

The Principal responses above, together with the very positive feedback from teachers, reinforce the value placed on the opportunity to be involved in the NALSSP ICTPLP. In particular, the funding for equipment and time release and the teachers’ involvement in professional development and collegiate discussions provided a strong foundation on which to develop and implement their projects. Implementation, as discussed in the previous sections, typically involved significant changes to both teaching and learning within the languages classrooms. The resulting impact on the students, in terms of vastly improved attitudes to learning a language and the development of language skills and understanding has ensured that the teachers involved are committed to taking this new way of teaching forward. The Principals have also indicated that they are very keen to ensure that the learnings are sustained, built on and expanded to other areas across their school.

In order to extend these learnings beyond the NALSSP schools, the circumstances that supported the successful implementation of Web 2.0 technologies in the languages classrooms need to be considered and assessed in terms of their viability and impact. These include funding for technology resourcing, the level and type of school community support provided, the approach to and time for teacher development and the planning and implementation of effective practice.

4.8.1 Funding for Technology

As in the 2010 NALSSP, the funding to purchase technology resources dedicated to language learning was a key factor enabling schools to participate in the NALSSP ICTPL Project. Technology for languages programs can be a low priority in schools as they consider the allocation of technology funding. This is particularly the case in Primary schools, where languages teachers have the students for only a short time each week. Even when they conduct the language program in a classroom with access to computers, the language teacher finds it difficult to install the language applications on the classroom computers and prepare for a technology based session. However, as the Principal responses indicate, the outcomes of the projects have stimulated strong commitment, across many of the schools, to continue the integration of Web 2.0 technologies in language learning.

In this years’ program, iPads were predominant, chosen in most cases for their portability, and for the range of applications that could be used with them. They were particularly practical for languages teachers who moved between classrooms to deliver their language program. The cost of these iPads did, however, mean that in many cases there were only four or five devices available for sharing across the class. This limited the individual time available on the devices, which impacted to some degree on the organisation and outcomes of the learning experience. Some classes worked in groups, using one iPad per group, while others established different activities across the class, with a small number of students undertaking the iPad activity each lesson. These options stimulated collaboration and sharing between students, but some of the teachers expressed their ‘wish’ for higher levels of resourcing in order to increase independent learning and maximize the learning outcomes that were increasingly evident through the use of these devices. Finding ways to most effectively address the technology resourcing issues is an ongoing consideration for many of the schools that were involved.

4.8.2 Professional Development, Preparation, Support, and Sharing

The organisation and management of the NALSSP ICTPL Project ensured that the teachers involved were provided with the structures and support needed to implement their projects effectively.

Preparation and Planning

A two day induction program, conducted at Deakin University at the commencement of the project, provided the participating teachers with new ideas and understanding. They came away feeling ‘enthusiastic’ about the possibilities but also ‘apprehensive’ about the task ahead. The program had helped them to focus on the notion of action research, encouraging many to investigate in more depth the learnings from related research and activities that would inform the planning and implementation of their projects. It had also raised their awareness of the scope of the technologies available, opening many new possibilities that had not been considered previously.
The provision of structured Project Framework and Curriculum Planning documents guided the development of the each participants project plan. They encouraged teachers to consider and define a range of aspects in their planning, including the overarching research question, project goals, the alignment of the project to their schools strategic plan and the extent to which the plans addressed specific VELS outcomes, the e5 Instructional Model of teaching and the Principals of Teaching and Learning.

This planning process provided a strong basis on which to implement their projects, with clear goals and understanding of the specific student needs they wished to address. It also provided the scope for them to be flexible as they increasingly saw the potential of the technologies and the extent to which they opened opportunities for more independent and student driven learning.

Support and Sharing

A NALSSP Collaboration space was established on the UltraNet at the beginning of the project. It was to be used by teachers for ongoing discussion and sharing of ideas. An Elluminate session was conducted to assist teachers in its use. However, due to some technical difficulties that were experienced with the UltraNet this was eventually transferred to Edmodo. Although it was to be used for interaction between the participants and between the participants and the Deakin Team, use by the participating teachers was minimal and as a consequence, group emails were used by the Deakin team to notify participants of upcoming events and information.

Although the avenue for interaction was available, in their final survey comments a number of the teachers indicated that they would have liked more interaction with the other NALSSP participants. The need for more ideas was highlighted by some, who felt that the sharing of information on applications available or innovative ways to use the technologies would have assisted them.

Sharing applications was seen as ‘a way to reduce the time searching for new ones’ and one teacher added that she would have liked to hear, prior to starting her project, more about what had been done in the previous year. This she believed would have enabled her to add ‘more strategies’ into her research project. The need to continue with further professional development on new and innovative ideas for the future was also raised.

4.8.3 School Community Support

The level of support and encouragement offered to the NALSSP teachers within their school varied, but was generally positive. Support from the Leadership team, the ICT Coordinators and the classroom teachers was noted by some participants, along with references to parent support which was often generated by the nature of the technologies being used. Support was often aligned with the priority that was being given to the integration of technology across the school, although in schools where technology was relatively new in teaching and learning, the program sometimes generated interest and enthusiasm as the school community began to see the possibilities.

Leadership Support

90% of participants appreciated the support provided by their principal (with 53% indicating it was ‘very useful’). Several participants believed the encouragement and support they received from their Leadership team, in applying for and conducting their NALSSP project, underpinned its success. In some cases, where the school supported a ‘whole school approach to eLearning and teaching’, the strong drive towards the effective use of technology in the classroom meant that NALSSP was a seen as the catalyst needed to include language programs in this approach. In schools that had not extended their technology use to include Web 2.0 technologies, some of the leaders were supportive and interested in the outcomes and their implications for more widespread use across the school.

Classroom Teacher Support

Where there was a whole school approach to using technology in teaching and learning, teachers were typically receiving strong support from other teachers, who were attuned to and supportive of the technology based learning that was occurring in the language classroom. This was particularly pertinent in the primary schools as it enabled a strong link between the learning occurring in the classroom and the language activities. One language education teacher, for example, spoke of the ‘the great ICT environment that lets the NALSSP project run smoothly’, detailing the opportunities to share ideas with the classroom teacher and integrate the learning occurring in the classroom by ‘making links to other key learning areas’. For many of the classroom teachers, the increased student enthusiasm for language learning was becoming very evident, sparking their interest in and support for the teaching practices that were being used in the language classroom. Around 80% of the NALSSP participants (both secondary and primary)
felt that the other teachers in their school were supportive of the activities their students were undertaking in the language classroom.

**Technical Support**

Where technical support within the school was readily available, the languages teachers, particularly those very new to the use of technology, gained confidence as they implemented their learning activities. 83% felt the technical support was either ‘very useful’ or ‘useful’. It was greatly appreciated, and in some cases seen as vital, in the set up and support of their projects. As highlighted in Section 4.5.1, many of the Principals also recognised the need for this technical support, particularly where their languages teachers were not high level technology users.

**Parental Support**

Some teachers also spoke of the increasing interest and support from the parents of their students. This was particularly strong in the classes that set up blogs and wikis through which the students were posting their work and their ideas and discussions. Parents were also able to access these sites, providing them with greater understanding and increasing interest and involvement in their student’s language learning.

### 4.8.4 Time

Following the induction session in May, most teachers were ready to commence their projects early in Term 3. The ‘Performance of Understanding’ event, in which participating teachers presented their final project outcomes through a digital story, was conducted in November.

The time involved in planning and documenting the approach to their project and the investigation, selection, purchase and set up of the most appropriate technology resources, was considerable. Added to this were the letters of consent, and the evaluation and reporting requirements. The time release provided as part of the NALSSP was therefore important in supporting this process. It also provided them with the opportunity to attend the professional development activities at the commencement of the project and some teachers also undertook supplementary professional development linked to the particular technologies they had selected to use.

Time constraints were, however, the most notable challenge raised by the teachers, particularly those who were ‘managing a very heavy teaching load’. Many spent considerable time, outside of school hours, researching and uploading suitable applications, purchasing equipment, developing interactive sites on the Ultranet and interacting with students on these sites. Some teachers noted that a longer timeframe for the project would have provided more comprehensive data on its impact.

### 4.8.5 Increased Use of and Confidence in Web-based Interaction

The increase in the use of blogs, wikis, web conferencing and interactive activities within the NALSSP classrooms, as detailed above, opened opportunities for authentic learning as students conversed with students from the relevant country or linked to organisations within the country to learn more about the culture of the country. They were also communicating with students in other Australian schools who were learning the language. Teachers were also providing feedback on student work that was uploaded onto the site and students within the class were discussing work between themselves or completing group projects online out of school hours. The Ultranet, although problematic for some schools, provided many teachers with the structure to achieve this. Importantly, it provided teachers and Principals with confidence that the interaction would be secure and appropriate for student use. Also important was the scope for parents to link into some of these activities, providing them with similar assurances that it was safe and secure, as well as stimulating greater interest their child’s learning of an Asian language.

## 5 EXTENDING WEB 2.0 TECHNOLOGY USE ACROSS ASIAN LANGUAGES EDUCATION

This second phase of the NALSSP ICTPLP has reinforced many of the positive outcomes that were identified in the first year of implementation. Different technologies were used and some new approaches were undertaken across the schools, providing additional, strong evidence that the effective use of Web 2.0 technologies does address the NALSSP aim to:

’Significantly increase the number of Australian students becoming proficient at learning the language and understanding the cultures of the NALSSP target languages’.
The factors that influenced and supported languages teachers to change the way they teach and the way their students learn Asian languages were closely aligned to those that were identified in the 2010 projects. They included the following:

- Opportunities for ongoing teacher development and understanding in the use of technologies for language learning,
- Access to information on the technologies and applications available and ways in which they could most effectively be used to address language learning needs,
- Sufficient funding for and access to the required technologies,
- Extensive teacher planning, preparation research and reporting,
- Leadership support,
- Technical support.

Ensuring that learnings from the NALSSP ICTPLP extend beyond the NALSSP schools requires consideration in regard to how the above factors could be addressed on a larger scale. The following may provide a basis on which to commence building interest across schools.

5.1.1 Ongoing Teacher Development and Collaboration

The two cohorts of NALSSP Participants, numbering around ninety languages teachers, provide a strong basis on which to establish an active and productive languages education online network on, for example, the Ultranet or through a dedicated Ning on the Educators Guide to Innovation site.

The different approaches and strategies used across the schools provide a rich source of language teaching ideas, plans and approaches, information on the most appropriate technologies available and, more practically, how and where to access them and how they can most effectively be used for language learning.

Targeting some of the more enthusiastic NALSSP participants to ‘drive’ the activity on a NALSSP network would strengthen the activities. The involvement of the Centre for Teaching Asian Languages and Cultures within the Faculty of Education at Deakin University would further enrich the value of the network.

5.1.2 Showcasing Teaching Resources and Planning Documents

The planning, research and reporting requirements that underpinned the NALSSP ICTPLP played an important part in increasing teacher awareness and understanding of the purpose and outcomes of the technologies, how students learn a language and ways in which the individual learning needs of students can be addressed. This resulted in significantly different teaching approaches that had a strong impact on the NALSSP outcomes within each school. These outcomes were documented in the participant teacher reports and digital stories. Showcasing and providing access to a selection of exemplary curriculum plans, reports and digital stories would both inspire and support other languages teachers to adopt, and/or build on some of these approaches. Teachers could also access practical information on where to purchase the technologies, best prices, and how they can be used effectively in languages classrooms. These could be posted on the network site above or could be added to current sites providing such information, for example, DEECD support services\(^1\) and eLearning\(^2\) sites or FUSE\(^3\). The range and type of information provided could be drawn initially from the NALSSP ICTPLP, but it should be maintained as a dynamic site which reflects the rapidly changing technologies and the evolving possibilities for using them in the classroom.

Elluminate sessions, languages education conferences and languages association activities would also provide opportunities for NALSSP participants to formally present their learning to a wider audience.

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5.1.3 Technology Infrastructure, Equipment and Support Requirements

A major obstacle in extending the NALSSP learnings across other schools is the need for an increase in funding in order to adequately equip the languages classrooms with the required technologies. As evident in both the 2010 and 2011 schools, increases in technology, also place additional demands on the school’s technology infrastructure and the technical assistance required, particularly where languages teachers are new users of the technologies and therefore require assistance in their purchase, set up and implementation.

The introduction of the Ultranet has opened new, authentic opportunities for languages students to interact with speakers of the language. It has also provided more secure access to other language learning opportunities on the internet, as well as extending the learning beyond the classroom and outside of school hours. Access for parents has increased interest in language education across school communities. As schools learn more about the scope of the Ultranet its potential to enhance language learning will become evident.

The sharing of ideas for its use and solutions for some of the common technology issues arising would assist schools as they adopt the Ultranet in their languages classrooms. A NALSSP Teacher support network could provide the avenue through which this could occur. Technology support personnel within schools also need access to some of the information discussed in the Asian languages education networks, as well as opportunities to pass on their expertise in relevant areas.

The cost of the technologies will also influence the extent to which other schools are willing to adopt the approaches that were seen in the NALSSP schools. Purchasing some of the hand held devices and software used in the NALSSP projects, for example, was considered expensive. While the iPads have many advantages in the teaching of languages, there is also a need to promote other technologies that may provide Language teachers with less expensive alternatives. For example, the Interactive Whiteboard has scope to involve a larger group of students in the technology based activities and there are other individual devices, such as the DSI (as detailed in Case Study 2) and iPods, that can support similar applications to the iPads but are less costly. Where possible, avenues through which the equipment can be purchased at reduced or bulk prices could be promoted, particularly if Asian Language networks or associations create the base through which interest can be established and purchases made.

5.1.4 Increasing Leadership Interest and Commitment

Leadership Support is a key factor in extending the use of Web 2.0 technologies in languages education beyond the NALSSP schools. However, for some schools that have experienced existing pressures on their school technology budgets, the resourcing of languages programs can sometimes be a low priority. The very positive responses from Principals involved in the NALSSP ICTPLP this year, highlight the need to inform leaders from other schools about the benefits of using Web 2.0 technology in Asian languages classes. Encouraging participating Principals to share their NALSSP experiences during appropriate leadership forums may stimulate interest and discussion in terms of the outcomes and benefits for schools, the approaches used and requirements and practical considerations around the use of Web 2.0 technologies in Language classrooms.

In addition, the Languages Regional Project Officers could also play an important leadership role in extending interest and understanding beyond the NALSSP schools. With access to some of the exemplary NALSSP plans, written reports and digital stories, they could both motivate and support the Language Education teachers and their leadership teams to adopt these new approaches to teaching and learning Asian languages.

6 CONCLUSION

This second phase of NALSSP ICTPL projects has reinforced the positive impact of Web 2.0 technologies on languages education. For many of the teachers involved, the changes to their teaching practice have been immense. The extent of this impact was highlighted in the final comments of one teacher who had participated in NALSSP across the two years. Noting the importance of the funding for resources and the professional development that provided her with the knowledge to use these resources effectively, she detailed what she referred to as a ‘profound impact’ on her role as an Asian language teacher:

*It has increased my engagement in teaching. My ICT skills have improved to such a level over the past 2 years that I am now seen as an ICT leader in our school. I help to promote and implement ICT in all of our school, provide ICT Professional Development to not only staff at our school but LOTE teachers in our*
networks. I am very pleased that I took myself out of my comfort zone and commenced using Web 2.0 technology… It is quite motivating to use different methods in one’s teaching practice and has definitely been a productive process for me’

For another teacher, the opportunity to participate provided the impetus to commence the change ‘from a content rich to a context and concept rich curriculum’. Reflecting on his NALSSP ICTPLP, he acknowledged: ‘my students and my school and I, we had our first taste of sweet innovation’. His commitment to fully embrace the concepts and understandings that he had gained over the period was strong.

Notably, all teachers indicated that they intend to continue using the technologies in their classrooms. In many cases they feel they have only ‘just begun’ but are now ready to build on what they have learnt to date. They will continue exploring the potential of Web 2.0 technologies in their teaching and learning and many already have plans to include new learning activities, to extend the use of the technologies across other year levels they are teaching and to try out new technologies and applications that have been identified and demonstrated by other NALSSP participants.

By strategically harnessing the enthusiasm, knowledge and experiences of the 2010 and 2011 NALSSP ICTPLP participants (and their Principals), the scope to extend the effective use of technologies across Asian languages classrooms is substantial. Many of these participating teachers are keen to maintain contact with each other and share and build on their learnings. Supporting such networking and knowledge building will provide a strong foundation for changing the way students learn a language. Importantly, as described by one teacher, it will ‘push LOTE into the limelight’, ensuring that students are equipped with the skills needed to ‘compete in a globalised economy in the future’.
APPENDICES

APPENDIX 1: CASE STUDIES

- CASE STUDY 1
- CASE STUDY 2
- CASE STUDY 3

APPENDIX 2: NALSSP ICTPLP ePOTENTIAL DATA SUMMARY
**The Approach**

In this secondary school, located in the outer suburbs of Melbourne, Year 9 is considered ‘a time of great opportunity’ for students to develop ‘a self-disciplined and more independent learning style’. As detailed in their website, learning is underpinned by the need to ‘foster a strong sense of self-worth, self-confidence and the capacity for building fulfilling relationships with others’. With increasing recognition that the use of technology in learning was a key element in achieving this, in 2011 each Year 9 student was given access to a Netbook that would be available for their ongoing use throughout the year, both at school and at home.

Keen to harness this increase in technology access, the Indonesian language teacher saw the NALSSP Project as an ideal opportunity to introduce Web 2.0 technologies in her Year 9 class. The need to increase interest and engagement in learning a language was particularly pertinent in year 9 as there has been a low take up of Indonesian studies past year 9. Indonesian is one of the two languages offered in the school and not many students see the importance or relevance of continuing with language study in VCE. The teacher therefore designed her NALSSP project with a view to building ‘more positive attitudes to learning Indonesian’, by capturing and sustaining student interest and engagement in the language, and ‘ultimately encouraging the continuity of their Indonesian studies through to Year 12’.

**Planning and Implementation**

The teachers’ planning was extensive. She designed and documented a comprehensive unit plan that was ‘VELS compliant’, while ‘sensitive to Blooms Taxonomy and Gardner's Multiple Intelligences’ and the e5 Instructional Model of teaching. This unit, to be conducted over a term, focused on endangered animals in Indonesia. It strategically incorporated a range of Web 2.0 technologies but it also involved activities with strong links to topics, themes and skills that the students would be studying in other key learning areas, as well as current issues and events that were discussed in the media. This, she believed, would increase the relevance of language learning for her students.

The activities catered for the range of students’ interests and learning styles within her class. They included Indonesian music, dance, food, environment and current events. This supported and encouraged the students to develop new ideas and understandings, and explain and apply these ideas and concepts within a range of situations. Self-evaluation and peer evaluation was also encouraged throughout the activities.

Importantly, her comprehensive plan was also given to the students and discussed. They could clearly see where they were heading and also the expected outcomes and benefits of the activities they would undertake. Within this plan there was substantial scope for student choice. Each student could select and focus on areas of particular interest to them, addressing the wide range learning styles and levels within the class. This, the teacher believed, was important in addressing the issue of poor behaviour and lack of motivation. ‘As the tasks cater to different learning styles and levels of intelligence, all students are able to work at their own capability and pace. There are no ‘failures’ in this approach and everyone is able to produce work, and this builds student confidence’.

They could also use the technologies and approaches that were most appropriate for their needs. As well as their Netbooks, they had access to a range of additional technologies, such as, iPads, video cameras and headsets, audio recorders and data projectors, enabling them to collect data in and out of the classroom and present it in a range of ways that suited both their learning styles and the nature of the project they had chosen.

At the same time there were many additional activities in which students would work in pairs, groups or as a whole class. These provided ongoing opportunities for collaborating and supporting one another, sharing their learnings, and gaining peer feedback and input. Central to this was the establishment of a class blog, a restricted site through which the teacher could upload learning resources, notices and homework tasks and students could upload and submit their work, share and discuss ideas and progress and gain support and feedback from their peers and the teacher. Although initially planned for the Ultranet, technical difficulties encountered at the beginning of the project meant that the blog was transferred to the ‘Edmodo’ site. Over the project period, this online learning community was further expanded to include students in neighbouring schools who were learning Indonesian.
The Learning Outcomes

From the outset, the teacher began to see positive changes in her students’ attitudes to learning Indonesian. This included increasing initiative and responsibility for their own learning, more confidence in their ability to learn the language and greatly improved quality in the work they were producing. They were working on projects that involved research into the endangered species within Indonesia, the various cultural and environmental influences and the activities around protection and conservation of the endangered species. Access to the internet, podcasts, YouTube clips and reference sites, provided them with different sources of information and a range of opportunities for interaction with the Indonesian language and culture.

They also used a range of technologies and software. This enabled them to present their learnings and work products in a variety of ways, including visual, musical, artistic and oral presentations and also activity based displays. Importantly, discussions with the teacher and the students highlighted that these technologies were seen as tools through which they were learning Indonesian and demonstrating their outcomes. While they added fun, problem solving and creativity to the tasks, they also provided students with the opportunity and desire to explore the correct structure of sentences, pronunciation of words and appropriateness of the words used. The authenticity and the more ‘public’ nature of some of the activities further increased their incentive to review and improve their work products. They were required, for example, to do a written and oral presentation, which they then uploaded via Edmodo.

Students were becoming more comfortable as they improved these aspects. Notable, for example, was the change they made over time in regard to their use of Vokis. They began by using the ‘Voki avatar voice’ which picked up the written Indonesian text they had provided, but gradually became confident enough to create the Voki by speaking the words themselves.

Over the project period they were also expanding the technologies used to present their learnings. One student, for example, used the software ‘GameMaker’ to develop an online game in Indonesian. This involved poachers in pursuit of palm oil versus animal rescuers protecting the orangutans. He felt this had increased his interest and ability in learning Indonesian: ‘It made me think about the language … got me interested in it … I could use my own learning style and it was fun’. Another worked on the development of an online comic strip, written in Indonesian, to present his learnings on endangered species.

Providing opportunities for students to explore and choose the different options for learning about and presenting their project findings was seen by the teacher as a significant factor in some of the attitude and behavioural changes evident in her class. ‘They have been given more choices in their learning and, as a result, are taking more responsibility for their learning’. They were becoming independent learners and driving their own learning and, as a consequence, they ‘stayed focused and were not distracted to play online games or waste time… It was a pleasure to see students getting on with their tasks as soon as they came in and work till the bell’.

For some students, the changes were marked. One for example, who had previously shown no interest in learning a language, became engrossed in learning about the plight, rehabilitation and protection of the orangutans. She was able to connect to an orangutan rehabilitation group via their website, which allowed her to follow the development and recovery of individual orangutans. Through this interaction, her desire to work with an orangutan protection group in the future grew, giving her a strong incentive to learn the Indonesian language.

Making their own decisions about their learning also meant that the breadth of student learning was expanding. They were becoming more fluent in their Indonesian communication skills, listening, speaking and writing and their knowledge of Indonesian culture, geography and history was also increasing as they researched their particular focus of work.

The Edmodo Blog provided them with an online collaborative community through which they could express themselves in Indonesian. Together with the teacher they posted messages and chatted online in Indonesian, both in and out of the classroom. The students also found the online quizzes and activities uploaded by the teacher to be ‘fun and a great way to learn Indonesian’. They continued to post messages to the teacher and their classmates in and out of school time creating an ongoing liaison which extended ‘even into school holidays’.

They were also very supportive as a class, keen to help each other with both the technologies and the language. Some took on a leadership role, assisting those needing help. As noted by the teacher, this growing camaraderie was particularly evident in the activities in which they used Vokis: ‘I noted students voluntarily helping their friends to do these Voki tasks. I was amazed at their planning and preparation. So much thought had gone into it … As a class we then reviewed each Voki production using the data projector. Everyone was so engaged and excited.’
The teacher also noted the students’ new level of willingness and ability to self-evaluate: ‘They recognised where they needed to improve – which led them to driving their own learning’. The development and effective use of rubrics provided students with an effective tool for self-assessing their learning and highlighting their learning needs. There was also a marked increase in the student’s determination to work through the tasks and present high quality work. ‘They were very persistent… When things did not work out as planned they looked for different ways to approach the task’. Peer evaluation had also become a natural part of the classroom. This was generally coupled with a willingness to offer support and constructive suggestions for improvement.

**Widening the Collaborative network**

An overseas visit to their Malaysian sister school, later in the year, provided the group of students who were able to attend with further incentive to improve their language skills and increase their understanding of the country and its culture. Malaysia’s national language, Bahasa Melayu is similar to Bahasa Indonesia. Even though there are differences in spelling, pronunciation and vocabulary, speakers of Bahasa Melayu and Bahasa Indonesia can readily understand each other. For those unable to attend, the class blog provided an avenue through which could maintain communication and collaboration with those participating in the trip.

The teacher’s strong involvement with a local network of Indonesian teachers has also broadened the opportunities for student interaction and collaboration. The Edmodo blog will be opened to students learning Indonesian in these schools to encourage shared learning activities and collaboration.

Towards the end of their project, a group of Principals and Education Department officials from Indonesia visited the classroom to view the activities in this Indonesian language classroom. The teacher noted the confidence and competency of her students as each interacted with one of the visitors, talking with them in Indonesian and working with them to produce video recorded conversations and also oral presentations using vokis. The visitors were impressed and had gained new ideas for language learning, while the confidence of the students in their ability to communicate in Indonesian was boosted significantly.

**The Overall Impact**

The principal in this school regards Year 9 as ‘a time where young people, through the decisions they make in selection of studies and their level of commitment to learning, are able to develop greater self-confidence and sense of purpose’. She sees this as ‘vitaly important in preparing students with the key tools to be successful learners through the final stages of schooling - the better prepared, the greater the opportunities for the future’.

The value of the work undertaken in this Year 9 Indonesian language class has had a very significant impact on the participating students. It has been underpinned by the teacher’s detailed planning, strategic implementation and constant monitoring of the activities throughout the NALSSP project period. Most striking is the change in student attitudes to learning Indonesian. The students are now confident in their ability to learn. Importantly, no longer is Year 9 seen as their final year of language learning – 88% of the participating students who will be at the school next year have committed to continuing Indonesian in Year 10 and have also expressed interest in continuing with this study through to Year 12.
CASE STUDY 2

**The Approach**

Given its diverse and often transient student population, the principal and staff at this primary school, on the outskirts of Melbourne, recognise the importance of engaging students in their learning and catering for their individual learning needs. For the language teacher, who taught the students Japanese in a one hour session each week, gaining and maintaining the students’ interest in learning a language had not been easy. This was particularly notable in the more senior classes, where student absences were frequent and where the regular arrival of new students, typically with no previous exposure to Japanese, would widen the diverse levels of experience and abilities within the class.

Involvement in the NALSSP ICTPL Project provided the language teacher with an opportunity to address this issue within her Year 5/6 class. She believed that ‘ensuring school is a place that students want to be’ required strategies that made them feel ‘more comfortable and connected in school’. Introducing the Nintendo DSI, a hand gaming held device in which the students could have ‘mastery, ownership and expertise’, was seen as a way to achieve this.

This device not only had the potential to provide students with an age appropriate and culturally appropriate ICT tool with which to learn Japanese, it also addressed some of the technology issues previously faced. When allocating technology resources across the school, the year level classrooms were given priority over the languages classroom, which students attended for only an hour a week. As a consequence, the technology use in language programs had been frustrated by the limited ratio of computers per student, the age of the computers, the associated difficulties with the software and the limited technical support. Using a class set of Nintendo DSi consoles was seen as a way to provide a device for every student with little or no need for technical assistance. Although considered ‘old technology’ when compared with an iPod and iPad, the teacher felt these consoles were very suitable for her students. They enabled a range of activities that would enhance the writing, listening and reading of Japanese and were also relatively inexpensive and therefore far more accessible in comparison with a class set of computers.

**Planning and Implementation**

The teacher designed her project with a view to achieving greater personalisation of learning across her classroom and more positive student engagement in learning Japanese. Each student was allocated a specific Nintendo DSi console, which allowed them to record their progress and pick up where they left off in the previous lesson. Over the first month, the various functions available on the consoles were explored, detailed, discussed and demonstrated, often through a link to the interactive whiteboard. The rules and expectations around the use of the consoles were also discussed and set in place at this stage.

Anticipating that security might be an issue ‘because the consoles are small enough to fit into a student’s pocket’, the teacher appointed security monitors in each class, with responsibility for checking that consoles were correctly turned off and packed away in a strong box at the end of each session. However, as the project proceeded she observed that all students were demonstrating care and responsibility for the consoles, as they considered themselves very privileged and ‘lucky’ to be using them.

The students used the consoles to participate in a range of individual and group learning activities. As they are made in Japan, the devices come equipped with a Japanese keyboard. Through the ‘Pictochat’ texting function, the students could read and write Japanese. The application ‘Flipnote’ enabled them to not only write and draw on the screen but also include photographs, sound effects, music and special animation effects. This resulted in the creation of a range of products that represented each student’s individual learning. The creative and ‘play based’ nature of the consoles added further depth and enjoyment to their learning. The teacher saw these activities to be ‘truly encompassing Gardiner’s theory of multiple intelligence as it allowed students to develop a wide variety of talents’.

Over the project period, the students continued to advance their skills in the use of these DSI consoles as they worked on their set learning tasks. The teacher recognised the importance of ‘praise, encouragement and recognition of achievement in bringing about a change in student motivation’. She also noted that, as she implemented the project, she ‘did not need to spend time disciplining students because they were all happily engaged in learning Japanese’. This was changing her approach to teaching:
I found that I was able to engage the students easily and they were able to help each other. I could therefore take a few steps back and look for students who needed me rather than being bombarded with a line of students all needing help at once.

During both the planning and implementation period, the Elluminate Sessions, made available as part of the NALSSP project, provided valuable support and information for the teacher, who considered them ‘good for boosting my confidence using technology in a way that was outside my normal comfort zone’. The links to the NALSSP network site (via the Ultranet and then Edmodo) also provided her with ideas and support, building her confidence as she used technology in ways that were ‘outside’ her ‘normal comfort zone’.

**Student Learning Outcomes**

This new approach to learning a language had significant impact on the students. All were far more engaged in their work (including some who previously had both engagement and attendance issues). They were working together more effectively and confidently and producing improved learning outcomes, particularly in terms of their ability to read and write in Hiragana/Katakana/Kanji.

Class discussions at the conclusion of every session provided these students with an opportunity to identify and discuss new learning and share their experiences with others. These discussions highlighted changes in the students’ attitudes to and interest in learning the language. In one, for example, they were identifying what makes a good Flip Note. This led to joint negotiation of the assessment criteria for a set Flipnote learning task and as a result, stimulated greater student interest in and responsibility for their own learning.

The teacher was seeing marked increases in the confidence and capacity of her students to produce higher quality work as they worked on their DSI consoles. Flipnote had enabled the students to demonstrate that they were using correct stroke order and all students, including new students, were ‘now aware that stroke order was an important part of spelling words in Japanese script’.

Importantly, the teacher noted that their perception of the Japanese writing system became very clear to them through their use of the DSI consoles:

‘They were able to use animation to create a “symbolic model” of a Japanese word, showing stroke order, stroke direction, meaning and pronunciation. For the first time, most of my students could show their understanding of the similarities and differences between “spelling” in English and “spelling” in a character-based alphabet. Their retention of the act of spelling in Japanese had been aided through the use of mastery experiences provided through experimenting with writing on the DSI consoles’.

This increased understanding and interest was reflected in the comparison of VELS outcomes prior to and after the introduction of the Nintendo DSI. As detailed by the teacher, in previous years, the VELS for Year 5 and 6 students for Communicating in LOTE (linguistic skills) and for Intercultural Knowledge and Language Awareness had ranged from 3.0 to 4.0. With only one Japanese lesson per week, only five or six students each year had ever attained a VELS score of 4 by the end of Year 6 and no student had received a VELS score in any LOTE domain above 4. However, since the introduction of the Nintendo DSI consoles, ‘a significant number of Year Six students were showing skills in Japanese at or above level four and those that did not manage to reach VELS level four by October showed a marked improvement in their Japanese ability’.

The students were also reporting that they felt ‘more relaxed’ when working on the DSI consoles and ‘enjoyed using them to learn Japanese’. The teacher observed that those known for their ‘too cool for school’ attitude were also ‘staying on track’ for longer periods and it was noted that the attendance of one of the students, known to be frequently absent from school, had improved since the Nintendo DSI was introduced.

Praise, encouragement and recognition of achievement were also considered by the teacher to be important factors in bringing about the change in student motivation. She also recognised that by providing students with an opportunity to help each other, they ‘seemed to feel good about themselves…I didn’t need to spend time disciplining students because they were all happily engaged in learning Japanese’.

In their response to the student surveys all students indicated (most to a great extent) that compared to their previous language classes, where the Nintendo DSI was not used, they enjoyed the work more, were more motivated and had increased their ability to understand, speak and write the language. They were also more motivated, were putting more
effort into their work and felt they were producing higher quality work. Their confidence in their ability had also increased.

**Overall Impact**

For the teacher, the changes in student attitudes had led to changes in her role:

‘My students have become more cooperative and small disputes between students have stopped as they have become so engrossed in their work. They have been helping each other with new ICT skills on the consoles and I have had time to look for students who need my help instead of disciplining students or having students waiting for me to assist them’.

The effective use of the Nintendo DSi was, according to the teacher, inexpensive, easy to manage, effective as a teaching and learning tool and appealing to the students. The opportunity to trial it in her language classroom has provided her with strong incentive and new ideas for expanding their use in her future languages classes.

There has also been a ripple effect through the school. Technology and developing skills that students need in the 21st century are part of the school’s 2011-15 Strategic Plan. Therefore, from the Principal’s point of view, the activities in this language classroom have many implications for future teaching and learning across the school. ‘As other teachers see and learn from those using new technologies, they are inspired to try new things as well’.

But in particular, he has noted changes in student attitudes and learning outcomes within the NALSSP class:

‘The students have not only shown evidence of factual learning, they have also broadened their social and emotional learning during the project. Using the DSi consoles placed the students into a situation that reduced stress, sharpened concentration and helped them to manage emotions and behaviours. The absenteeism data showed that students with truancy problems were attending school more often on LOTE days’.

This, according to the principal, is most significant for their whole school community: ‘I am sure that our school will be reaping the benefits of participation in this project for many years to come’.
**The Approach**

In this primary school, located in the outer Eastern suburbs of Melbourne, the teaching of Chinese Mandarin was very new. It was introduced into the curriculum, at Levels 2 and 4, at the commencement of 2011. Their involvement in NALSSP at this early stage of implementation was, however, seen as an opportunity to establish the teaching of Mandarin within a research based approach that used technology in ways that will engage the students in their language learning and provide them with the skills and capacity to continue learning the language beyond the classroom.

Their project focused on the Year 6 students. As most were from English speaking backgrounds with no Chinese spoken at home, their skills at the beginning of the year were minimal. Developing their speaking and listening skills, in particular, was a priority. Increasing their independent learning skills was also considered important in preparing them to continue learning a language beyond primary school.

Central to this approach was the use of iPads, chosen for their capacity to host a range of applications for developing language skills as well as enabling interaction, via the Ultranet, to blogs, wikis and Elluminate. The iPads also had the potential to provide new ways in which the students could present their learnings. Although they would not be taken home, many students had access to either iPads or, more commonly, iPhones and iPods on which similar applications could be loaded. This was seen as an important factor in bridging the gap between learning at home and learning at school.

**Planning and Implementation**

There were delays in the purchase and set up of the iPads and, once received, time was needed for students to become familiar with them, identify and learn about the various applications and undertake appropriate cyber safe activities. This meant that the planned technology activities, to be included in the topics ‘Weather’ and ‘Chinese Restaurants’ were delayed until the middle of Term 3. However, in the period prior to this, the vocabulary related to the topics was being taught without the technologies in what became the ‘engage’, ‘explore’ and ‘explain’ stages of the e5 Instructional Model of teaching and learning.

With the introduction of the six iPad2s, the students became involved in the ‘elaborate’ and ‘evaluate’ stages. For example, they had, in the previous term, been learning a range of vocabulary associated with the weather and in particular the most appropriate ways to report on the weather. With access to the iPads, they were now able to consolidate, demonstrate, review and extend their learning.

Working in teams (one iPad per team) the students used different audio, flashcard and pronunciation applications, introducing them to new vocabulary and enabling them to practice and consolidate their speaking, reading, and listening skills. These often involved game based activities. As detailed by the teacher, for example, Flash Card applications ‘always include sound, picture and games. Students can say the words by listening to them, understand words by watching the pictures and reading English translations, and consolidate the words by playing games’.

Using the software Garage Band, the students created a ‘weather song’, applying their knowledge of the weather and its associated Chinese vocabulary as well as focusing on its use in music. They also worked in teams to create weather forecasting programs. Using iMovie they took on the role of ‘newsreader’ and ‘weather commentator’ to present the news and weather in Chinese, developing and practicing their lines, filming the presentation, reviewing and refining it until they were satisfied with the final product and then presenting it to the class, who then provided constructive feedback on the presentation. The review and refining process was an important factor in the use of accurate vocabulary, sentence structure and pronunciation. The Chinese/English dictionary application was used to search new words and ensure the accuracy of the language being used. Pronunciation was reviewed and further developed through the use of the Pinyin Chart application.

The arrival of the iPads had created significant changes in the way the students were learning and, in the initial stages, required the teacher to review and set in place new rules and expectations for the students to ‘let them know what they use the iPads for and how to use them in a sensible way’. The applications to be used with the iPads were detailed
and carefully monitored and routines and appropriate behaviours to be abided by were discussed and implemented, resulting in significant improvement in the students approach to their learning.

Although the new languages room was substantial in size and had some breakout areas, the various team activities now being used in class also required students to acknowledge and accommodate the needs of other teams, particularly when they were recording or filming as part of their project. The purchase of earphones and headphone splitters later in the project assisted in reducing the noise.

**Student Learning Outcomes**

Using the iPads and its associated applications, the students were immersed in a range of activities. They were, according to the teacher ‘consolidating the new learnt phrases and sentences’ and ‘recycling the words and sentences they had learnt through terms one and two’ as well as developing new skills and understanding. Increased confidence in their ability to speak and understand Mandarin was clearly evident when they were using technology. At the same time, they were also ‘developing team work skills and increasing their ability to learn independently’.

The ‘Pinyin Chart’, for example, enabled students to ‘become familiar with the four tones and some of the other difficult sounds’. The teacher noted that, over the project period, the students learnt to pronounce 85% of the words correctly ‘including the four tones, which used to be the hardest part in Chinese language pronunciation system’. When compared with her previous teaching method which involved ‘reading after the teacher once and once again’, she felt the iPad2 was proving to be far more effective.

Selected audio applications provided new and more time effective opportunities for student to practice and develop their speaking skills. Previously, role play, one to one talking and games were used, with the teacher providing feedback and correcting their pronunciation on a 1:1 basis. Within the weekly languages session this limited the time that could be spent with each student. With the iPad2, however, students were recording their voice, enabling the teacher to review it after each lesson and provide feedback and support as follow up. Students were also encouraged to self-assess their recordings before sending it to the teacher and peer assessment could be included, whereby students would listen to the recordings and discuss their strengths and the areas for improvement.

The nature and authenticity of the group activities also encouraged students to review and analyse the quality of their work. The development of the weather reports, for example, which were to be presented to the class, required the students to write their script, practice the presentation, and record it. Both the practice and the review stage provided opportunities for the students to improve and refine the accuracy of the language and its pronunciation.

Over the project period, the teacher was particularly surprised by the improvement in her students’ ability to write in Chinese. She regarded the required stroke order, writing shape and proportion as one of the most difficult skills to learn and a key reason for her students’ loss of interest in learning Chinese. However, some of the iPad game applications, which were used independently by the students when they had finished their set work, generated a growing interest and ability in writing the characters correctly. Learning these skills through a competitive game has, she believes, been a far more effective approach for these students.

By the end of the project, the teacher was very confident that ‘the students’ listening and speaking skills had improved through using iPad2 as a learning tool’. The students, too, were proud of their achievements. The teacher noted that 80% of her students indicated that their speaking in the target language had improved through using iPad2s. For the remaining 20% it had remained the same. Further survey responses indicated that when compared to the work they did without the iPads, 90% were enjoyed learning Chinese more, had increased their ability to understand the language and now had greater confidence in their ability to continue learning the language. This was further emphasised in their comments:

‘It is fun and you actually want to do the work! It is also very easy to use.’

‘When we use the iPads we always get to look at new words

‘The best thing about is that it helps me’

‘My mandarin vocabulary has increased’.

‘Well I like using the iPads because they’re fun and they also have stories in them for people to read.’

‘The best things in my opinion about using the iPads are that I got to record videos of me speaking in mandarin, I could look up a word that I didn’t understand and I could find out how to pronounce it’.
‘I really like using the iPads to do our work. My friends and I are loving it and having heaps of fun’.

The teacher highlighted notable changes to three of her students over the project period. Prior to the introduction of the iPads their attitude to learning a language had been ‘very low’ but this had now increased to the point where they were fully engaged in their project work. ‘They shared their ideas and worked actively in groups with minimal directions’.

**The Overall Impact**

From the Principal’s perspective, the project has been most successful.

‘The students are increasing their independent learning strategies and are using a broader range of technical knowledge to enhance their creativity. Interest and engagement has increased noticeably… their vocabulary has increased over time and confidence in their oral language has grown’.

She recognises the importance and value of the funding provided and also the professional development undertaken by the language teacher as it ‘gave her greater knowledge and confidence using the new digital technologies with her students’. She has also noted the increased interest of other staff in the effective use of technology in teaching and learning.

*The NALSSP project has provided this school with a strong start to the implementation of Mandarin within their LOTE program. Although the timing did not allow for exploration of some of the other plans and possibilities for using the iPads, including the capacity for interaction and authentic LOTE learning through wikis and blogs, it has highlighted the impact of technology on the students’ learning and engagement in LOTE and the factors that support its effective use in the classroom. Importantly, it has provided a sound basis on which to extend the Mandarin program across other classes in the future.*
APPENDIX 2
ePOTENTIAL DATA SUMMARY REPORT

NALSSP-ICT Languages Professional Learning Project
ePOTENTIAL Data Comparison Report - 10 Nov 2011

ePotential is an online tool developed to address the need for teachers and schools to have a benchmark of their ICT capabilities and to provide teachers with resources for their ongoing professional learning in ICT.

The ePotential Teacher ICT Capabilities Survey data collected from the start and end of the NALSSP Project have been compared to identify the key findings from the research project.

Respondents
June 2011: 38 (93% response rate)
November 2011: 36 (88% response rate)

Survey Results

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This bar represents the 4 Phases: Foundation, Emergent, Innovative, Transformative

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Key Findings

Below are the most notable differences between the Teacher ICT Capabilities Survey at the beginning and end of the project.

General

- All of the key areas have shown positive movement from between 10% and 19%.
- The Learning & Teaching and Assessment & Reporting key areas have shown the greatest shift, with the former increasing by 18% and the latter by 19%.
- Of the 7 key areas 3 progressed to the next phase. Assessment & Reporting shifted from Emergent to Innovative, Safe & Responsible Use shifted from Innovative to Transformative, and Resources from Emergent to Innovative.

Key Areas

Learning & Teaching

The most notable finding from the Learning & Teaching key area for the NALSPP Project is the strong growth across nearly all of the responses for this entire area, but especially regarding the development of student thinking processes and communication.

The most significant increases at the end of the project in Learning & Teaching – Supporting Students were:

- I encourage students to use ICT in clarifying thoughts for the purposes of reflection and evaluation. ↑19
- I support students to use ICT to plan and monitor projects. ↑21%
- I support students to use ICT to share ideas or solve problems with groups beyond the school. ↑25%
- I support students to use ICT to hypothesise, synthesise information and create new knowledge. ↑21%
- I support students to use ICT to improve their digital literacy skills. ↑21%

The most significant increases at the end of the project in Learning & Teaching – Frequency of Classroom Activity

- Use of instant messaging for communicating internally and externally to the school. ↑29%
- Use of ICT games for practising skills, developing strategies and solving problems. ↑26%
- Collecting digital evidence to showcase learning. ↑26%
- Uses of ICT to map a student's preferred learning style and identify areas for improvement. ↑25%

Assessment & Reporting

The most notable finding from the Learning & Teaching key area for the NALSPP Project is the increase in the use of ICT for assessment and reflection by both students and teachers.

The most significant increases at the end of the project in Assessment & Reporting were:

- Use mobile devices (e.g. iPods, smartphones) for assessment, recording student progress and reporting. ↑25%
- Use student generated digital learning portfolios. ↑22%
- Encourage and promote the use of ICT for student self-assessment, enabling deeper reflection. ↑25%
- Encourage students to use audio or video recorders, e.g. iPods or digital cameras, to record feedback for further reflection. ↑33%

Classroom Organisation

The most notable finding from the Classroom Organisation key area for the NALSPP Project is the greater use of ICT for personalised learning.

The most significant increases at the end of the project in Classroom Organisation were:

- Combinations of student groupings for learning, such as individual, small groups and whole class. ↑21%
- Online collaborative activities. ↑20%
- Catering for different learning styles and needs. ↑20%

Safe & Responsible Use

The most notable finding from the Safe & Responsible Use key area for the NALSPP Project is the increased leadership taken by the respondents to ensure staff and students are safely and responsibly using ICT.

The most significant increases at the end of the project in Safe & Responsible Use were:

- I ensure equitable access to ICT for all students. ↑14%
- I lead and co-ordinate the school's ICT practice to ensure that our online presence, and our external communications, comply with appropriate copyright and privacy policies, and safe and responsible use of ICT. ↑18%
- I promote the importance of safe and responsible practice in the use of ICT to my school community. ↑15%
- I support students’ access to ICT anytime, anywhere safely and responsibly. ↑17%
Resources
The notable findings from the Resources key area for the NALSPP Project are the increased use of both software and hardware in the classroom, as well as respondents’ active creation, usage, and promotion of digital resources.

The most significant increases at the end of the project in Resources were:

- eduSTAR. ↑27%
- Discussion Forums, Chat and RSS Feeds. ↑19%
- Digital Tools for Science e.g. digital probes and digital microscope. ↑13%
- Tablet e.g. iPad. ↑30%
- eBook Reader e.g. Amazon Kindle. ↑13%

The most significant increases in Resources – Utilisation and promotion of resources were:

- I can locate and use ICT tools and resources for my classes. ↑15%
- I can create effective ICT student resources for my classes. ↑18%
- I actively promote the use of ICT resources within my school for learning and teaching. ↑15%
- I share and promote the use of ICT resources beyond my school. ↑14%

ICT Professional Learning
The most notable finding from the ICT Professional Learning key area for the NALSPP Project is the increased engagement respondents are having with their own professional development.

The most significant increases at the end of the project in ICT Professional Learning – ICT Professional Learning Activities were:

- I maintain a digital professional portfolio. ↑14%
- I undertake ICT Professional Learning to lead the use of ICT to strengthen pedagogy and practice within my school. ↑18%

The most significant increases at the end of the project in ICT Professional Learning – ICT Professional Learning Methods were:

- I learn about ICT independently. ↑11%
- I undertake professional learning activities that are external to my school. ↑12%

ICT Leadership
The most notable finding from the ICT Leadership key area for the NALSPP Project is the increased responsibility taken by respondents to take the lead both in the classroom and with their peers.

The most significant increases at the end of the project in ICT Leadership were:

- I explore and demonstrate the use of new and emerging technologies in the classroom. ↑22%
- I lead the development, implementation and review of eLearning planning. ↑16%
- I lead and/or develop programs of peer coaching and/or mentoring in my school. ↑22%
- I lead in development and actively contribute to the development of a vision for ICT integration in my school. ↑22%