School Connections: Using ICT to engage students in learning

Microsoft Partners in Learning
New South Wales Connected Learning Schools Project

A collaboration between Microsoft, NSW DET, dk2 and ACER

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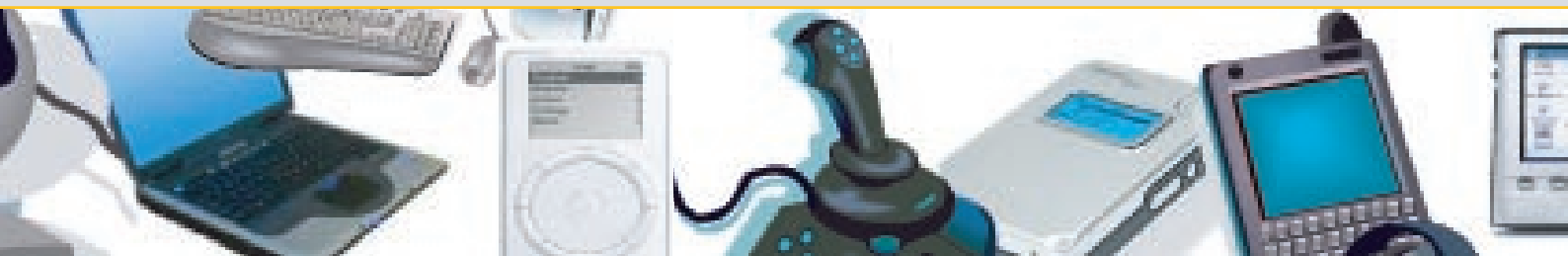

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The concept

In 2006, one school team from each of the ten NSW Department of Education regions were nominated to participate in the Microsoft Partners in Learning (PiL) Connected Learning Schools Project.

With reference to their unique context, each school developed and implemented a project that involved teachers using Information and Communication Technologies (ICT) in their teaching and learning to engage middle-year students in their education, and to connect more authentically with students' learning experiences outside of school.

'Using technology has helped me in many ways … i didn't know much before about technology before but know I understand lots about it'

The NSW Partners in Learning project was a research and development project. The aim was to investigate how children in the middle years (Years 5 to 9) can shape their own learning. It sought to bridge the disconnect between ICT used at home and in school. Between 2006 and 2008 the ten teams of schools implemented their projects with a view to enhancing students' engagement, pedagogy and teacher capacity.

The project was evaluated by ACER using 2006 and 2008 surveys that identified the extent to which digital technologies helped students engage with school. Data was collected from students, teachers, parents (in 2006) and students, teachers and principals (in 2008). The 2006 survey gained new insights into how middle-year students use ICT to engage with school in comparison with how they engage with ICT out of school. It also provided an insight into effective strategies for using new and emerging ICT (such as Communication and Social Software/Web 2.0 tools), teacher and student perceptions of engagement and teacher confidence, and knowledge and skills levels in using ICT. The results of the evaluation were fed back to schools and helped inform their project plans.

The second round of research conducted in September 2008 allowed a comparative study of the relative impact of the school projects. It provided an evidence base for identifying key insights from the work done as part of each school's project.

This report presents the high-level results of this research based on an analysis of the survey data. It builds on the 2006 survey results, 2008 reports to schools, and a presentation at the final NSW Partners in Learning conference in December 2008.

As the report suggests, the development and evaluation have contributed to the global PiL initiative that is designed to help increase technology access for schools, foster innovative approaches to pedagogy and teacher professional development, and provide education leaders with the tools to envision, implement, and manage change. It is hoped, as a result, that the project has developed more innovative learners.

The impact of ICT on student learning

Background perspectives from existing research

ICT has been used in educational settings since its inception, but recent empirical research has affirmed that it plays a vital role in high-quality learning and teaching. Such research insights have shown that advances in technology have opened up new possibilities for the way in which teachers educate their classes, giving potential for innovative ways to encourage students to become more engaged in their schooling. To enable the best possible outcomes for their students it is vital that schools are able to keep up with this progress.

'I have enjoyed using ICT because of new and better technology and to learn new things and having fun'

The 2008 Melbourne Declaration on Education Goals for Young Australians (MCEETYA, 2008: 6) affirmed the importance of ICT literacy within the classroom, stating that:

> *rapid and continuing advances in information and communication technologies (ICT) are changing the ways people share, use, develop and process information and technology. In this digital age, young people need to be highly skilled in the use of ICT. While schools already employ these technologies in learning, there is a need to increase their effectiveness significantly over the next decade.*

As was sensed in the NSW context, there is growing evidence in the international research literature that certain classroom uses of ICT increase students' motivation to learn, engagement in learning, and their independence in learning. A UK review of such studies found a correlation between using ICT in schools and student academic achievement across a range of subjects. The clearest benefit was when ICT was integrated across all subjects, and was part of everyday classroom activity (Condie & Munro, 2007). In an extensive review of the ICT and performance levels in the UK, Cox et. al. (2003) found evidence of positive effects on achievement levels in students across a wide range of subjects, with particularly large effects in English, mathematics and science. There has been a greater focus of the development of subject-specific ICT resources to support learning and teaching in these areas.

The ICT Impact Report (Balanskat, Blamire & Kefala, 2006) indicates that in European schools ICT has positively enhanced performance in the primary years, particularly in the primary language of the country. Schools that have greater ICT infrastructure perform more highly than schools with less developed ICT infrastructure. Higher motivation is reported, particularly for primary students, with the use of ICT such as interactive whiteboards. The majority of teachers report that students are more highly motivated, which in turn affects behaviour and communication when using computers and the internet in class. In order to reach European targets set for the year 2010, the numbers of computers in schools have increased dramatically in recent years (Balanskat & Blamire, 2007). Higher broadband penetration has been reported in schools, with 70 per cent of schools using broadband connections. Seventy-four per cent of teachers report using ICT in their classrooms, however this varies across countries, ranging from 35 per cent in Latvia, to 96 per cent in the UK. Two thirds of teachers report being very confident in their usage of word processors, and a third feel that they have the necessary skills to develop electronic presentations. Almost all teachers in the UK and Denmark report using ICT regularly as a teaching aid, whereas in other countries such as Greece or Latvia, only a third of teachers report doing so.

'Using ICT really helps my learning in school work.'

Similar findings can be found in research from the USA involving the Tennessee EdTech Launch, a program to encourage ICT usage in school (Lowther, Inan, Strahl & Ross, 2008). The program utilised full-time on-site technology coaches to educate teachers on how to prepare lessons that increase student learning through engagement with computers. The program resulted in teachers integrating technology into their classroom lessons with higher confidence, although performance on high stakes tests for students in these classes compared to a control group, were mixed.

In relation to ICT usage in Australian schools, the Programme for International Student Assessment (PISA) ranks Australia highly among OECD countries, both with the number of students per computer at school, and with the number of students with computers at home (OECD, 2005). Australia is one of only a few countries where all students reported having access to computers at school. Approximately 69 per cent of 15 year old students have used computers for longer than five years, more than the majority of OECD countries (Thompson & De Bortoli, 2007). Consequently, Australian students were on average more confident in performing various routine computer tasks, with a substantial majority more confident in their ability to perform internet tasks (Ainley, 2007). As the tasks become more high level, the confidence levels of the students dropped. Given that the vast majority of Australian students (87 per cent) indicate they use computers frequently outside of school, compared to at school (59 per cent), suggests that linking the sorts of ICT activities used at home with the classroom setting may provide a way to encourage engagement in learning tasks.

'Our school has changed the way our technology by getting new objects and other features that will help us learn more.'

Focusing on students of a similar age to those in the current study, assessments of ICT literacy were carried out for Years 6 and Year 10 in 2005 (MCEETYA, 2007). Forty-nine per cent of Year 6 students were found to meet the proficiency standards (representing a challenging but reasonable expectation for the students appropriate for their year level), compared with 61 per cent of Year 10 students, implying a growth in ICT proficiency for students between these years. Students were more likely to use ICT as communication and research tools, and less likely to use applications that involved creating, analysing or transforming information, which was reflected in their performance in these aspects of ICT literacy.

Research conducted by the Le@rning Federation, which provides online curriculum materials to Australian teachers, has found that Australian schools show a relatively low adoption of ICT, which may be due to various factors, including a lack of alignment between curriculum, pedagogy, assessment of students' performance and high stakes testing. (Freebody, Reimann & Tiu, 2008). Their evaluation found that teachers reported using ICT learning objects as an orienting or task-focussing device, which can be used to model activities that are not normally possible in the classroom. The learning objects help students develop new knowledge, concepts and skills and allow them to work at their own pace and level. Teachers expressed support for the notion that these materials provide value for student learning and engagement. Eighty per cent of teachers surveyed considered the learning outcomes of the objects in allowing students to learn factual content and direct content, reach conceptual understandings and to build new concepts and apply knowledge to new settings. Students nominated the most helpful features of the learning objects to be 'providing opportunity to work at my own pace', 'getting feedback that tells me if I am right or wrong' and 'getting information that tells me how to do the activity better'. Teacher familiarity and professional development with materials were found to vary, with low levels of professional development reported.

Research insights on teacher professional learning and ICT

A survey conducted by education.au (2008a, 2008b) found that primary teachers rated infrastructure, bandwidth, equipment reliability and access, alongside limited access to computers or internet connection as barriers to using online technology. Secondary teachers nominated infrastructure, bandwidth, equipment reliability and access as well as blocking or filtering of internet content as their most common barriers. However, perhaps the greatest barrier for most teachers in adopting ICT for their classroom was their lack of understanding of the new technology. Teacher familiarity and professional development with ICT has been found to be low (Freebody, Reimann & Tiu, 2008).

'Using the ICT has made learning much more fun instead of the usual boring classes'

There is evidence that supporting professional development for teachers in relation to ICT leads to changes in teacher knowledge, practices, and beliefs (Mouza, 2006). For instance, Timperley, Wilson, Barrar and Fung (2007) identified a number of contextual conditions for professional development that are needed to promote student learning of content in the necessary depth. They are:

- consistency with wider policy trends and research
- an extended time for teachers to engage with new ideas and their implications for practice
- experts external to the group who could present those ideas in ways that promoted teacher engagement
- opportunities to engage in a range of learning activities, and
- participation in a professional community that supported the new ideas and practice at the same time as it challenged existing ones and focused on teaching–learning links.

"It has been the most powerful professional learning."

Graeme Ross, former Principal, Drummond MPS (now Woolgoolga PS)

Of relevance to the current study is evidence that training must be perceived as purposeful by teachers and, ideally, tied closely to the introduction of new technologies and/or software, such as Interactive Whiteboards. Research on teachers' training needs (see, for example: Condie, Munro, Muir & Collins, 2005) reported that teachers were not just looking for professional development on ways to manage the specific technology, but were seeking guidance on how they can embed the technology in their everyday classroom activities, particularly in regards to specific subject areas. Greater gains in achievement in students are seen when the teacher uses ICT in a planned, structured way that is integrated effectively into their lessons (Higgins, 2003).

Spring (2004) proposed five teaching and learning modes in which e-learning can provide gains in effectiveness, quality and cost benefits:

- classroom interactive learning: between students and teachers and among students;
- independent learning: where students or teachers are learning and studying alone in a variety of environments and modes including aspects of self directed lifelong learning;
- networked learning: through contact with groups, individuals and sources where quite different influences and experiences are creating a qualitative difference to both standard and blended teaching and learning;

- organisational learning: including learning communities, learning precincts and learning cities; and
- managed learning: where education technology is creating, through computer managed communication and learning management systems, capability to enable teachers to negotiate and provide individualised curricula and learning experiences for each student.

"The project has engaged students in ways I haven't seen before…."

Jason Marshall, Assistant Principal, Raymond Terrace PS

The benefits of classroom use of ICT identified in the literature include increased levels of student collaboration in learning, higher levels of student engagement and persistence in learning, and more on-task behaviour. A meta-analysis incorporating 42 studies found that use of

ICT in the classroom had a significant effect on student outcomes when compared to traditional instruction (Waxman, Lin & Michko, 2003). The body of evidence on the impact of ICT on intermediate outcomes, such as motivation, engagement with and independence in learning is greater and more persuasive. The benefits identified in the literature include increased collaboration, greater engagement and persistence, more on-task behaviour and better conceptual understanding (Condie & Munro, 2007).

In measuring student engagement to ICT, perceptions from the students themselves have been minimal compared with the large volumes of studies that use teacher report, and objective forms of assessment as a means of measuring engagement (Neal, 2005). Students mostly report positive experiences in engagement in the classroom with the use of ICT. Students have reported they benefit more if they are comfortable with computers, the ICT has a well-organised layout, the instructions were clear, and that the theme was fun or motivating (Kay, 2007). ICT that utilise a visual dimension, including digital video, photography or video conferencing are found to be engaging for students (Condie & Munro, 2007). They provide a stimulus for collaborative working and discussion amongst fellow students and teachers that enable the students to take control of their own learning process. These technologies appear to be especially effective when used with groups of students with special or additional needs.

"PiL has been the catalyst for real change at our school. The project has enabled our staff to explore new directions, with a strong focus on teaching and learning that is making a huge difference and having a great impact on our students and their learning outcomes. The opportunity to undertake focused PD and attend the forums at Microsoft in Sydney have been excellent!"

John Webb, Principal, Orange PS

The project characteristics

The current project reflected a partnership between Microsoft, the Department of Education and Training (NSW), the Australian Council for Educational Research (ACER) and dk2, a consulting group contracted by Microsoft to project manage the initiative for the life of the project.

The focus of the NSW Partners in Learning project was to engage middle-year students through innovative uses of ICT with particular attention on investigating and integrating the ways that these students engage with ICT out of school.

The project commenced in June 2006 with 10 school teams comprising 21 schools and more than 190 teachers. There was a significant increase in participation across the board over the 22 months from February 2007 to December 2008:

- student participation increased from 575 in early 2007, to 2056 in November 2008
- teacher involvement increased from 61 to 143, and
- school numbers increased from 10 to 33.

Most of the school teams used MS Sharepoint as their online collaborative environment providing access to the Web 2.0 social networking tools that students were using in their lives outside schools, but within a safe and secure environment.

Each school was required to submit a monthly report on progress and every teacher involved in the project in each school was also required to submit a monthly digital e-journal.

"What I am learning and what have been the most powerful learning experiences for me: Peer assessment is so honest! Kids are talking to each other about their claymations and what they thought. This can be a very powerful tool. What I feel my students are learning: The voting has made them all into critics! Students are very excited about showing their work to their parents and some important 'Big Wigs'.

Issues: Where to from here? This project has exceeded all expectations and I want to keep the momentum going….."

Deb Gilbert, Middle Years Coordinator, Bulahdelah CS)

Biannual professional learning events enabled project teachers (up to five from each school team) to share ideas, network with other project schools, and participate in valuable and targeted training in:

- project planning
- developing an ICT vision
- leadership
- personalising learning
- student e-portfolios
- reflective practice, and
- the innovative use of software and tools such as MS Sharepoint, Claymation, MARVIN and Photo Story.

These professional learning events included an Evaluation Forum in 2006, the Extending Our Thinking Forum and New Directions Forum in 2007, and in 2008 a Reflections Forum was held along with a final celebration at the end of the project.

The school projects

General characteristics of the projects

The school teams were brought together for the launch of the Connected Learning Schools Project in June, 2006. The focus of this forum was to discuss school expectations and explore the possibilities for how the new project might look in each school context.

The project provided participating school teams with:

- project management, mentoring and coordination from expert consultants (dk2) throughout the life of the project
- seed funding for ICT-focused innovation in teaching and learning (Microsoft provided up to $15,000 per year to each school project team and the DET provided up to 10 relief days for 2006/2007)
- access to professional learning opportunities through attendance of school teams bi-annually at project forums
- access to Microsoft self-paced learning tools
- access to Microsoft-sponsored professional opportunities such as attendance at international conferences and access to the Microsoft Innovative Teacher Awards, and
- access to MS Sharepoint and newly emerging software such as Marvin.

School teams were expected to:

- participate in the project for two and a half years (to end of 2008)
- participate in the ACER research surveys that were to occur periodically throughout the project
- develop a project vision, goals and plan
- provide a consistent point of contact (project coordinator)
- link or partner with other schools (either within NSW or beyond)
- produce monthly progress reports and monthly teacher e-journals and any other required documentation
- participate in the project's online professional learning community (PLC) and other communication networks
- meet due dates of the project milestones, and
- come together periodically to share and learn.

The projects developed by each school team needed to:

- take into account the ACER evaluation data (in terms of ICT students are using, their perceptions, teacher perceptions and practices)
- link in with the goals of PiL as outlined in the Project Planning document
- link in with DET Quality Teaching Framework (QTF)
- link in with any relevant DET projects (for example, Middle Years and Centre for Learning Innovation (CLI))
- build upon the Board of Studies Stages 4 and 5 Syllabi
- link in with the school's other strategic plans
- involve students in planning and project implementation
- involve innovative use of ICT
- involve the school community
- take into account the level of support provided by Microsoft, DET and dk2, and
- be achievable, relevant and realistic.

> *ICT is no longer a chore or a novelty - it is now accepted as a part of everyday life. Staff are wanting to learn more and are no longer scared of it…[ICT] is embedded in everyday teaching and learning rather than a once a week technology lesson…*
>
> Participating teachers, ACER survey, September 2008

The ten school projects focussed on engagement of students through innovative teaching and learning approaches that incorporated ICT (or ICT with similar behaviours and functions) that students were using outside of school. With the growing interest in Web 2.0 technologies and social networking, there was a strong focus on communication, collaboration, creation and reflection. Within this focus, each school team employed a variety of approaches and strategies to suit their particular contexts and priorities.

Bankstown Girls High School / Bankstown Public School

Bankstown's project focused on building a learning community that uses ICT in purposeful, meaningful ways to enhance the development of student higher order thinking skills. Called iLearn@BGHS, the project initially involved a small group of 'extension' year 8/9 students working with selected students from Bankstown PS. There was an emphasis on critical and creative thinking within a self-directed learning framework.

> *It's amazing how the PiL project has initiated and consolidated the links between the two schools. As the co-ordinator of the project, I've made new friends and share a terrific professional rapport with my PS colleagues – other HS teachers are getting on board.*
>
> Participating teachers, ACER survey, September 2008

In 2008, the project widened its scope to include all year 9 students undertaking study into an area of interest based on an Indigenous theme, with students from Bankstown PS exploring the use of different technologies within their context. MS Sharepoint was used consistently as a focus for communication, recording progress and reflection.

> *It's great to see students in charge of their learning and so involved and excited! I felt the staff need not be there at all!*
>
> Stephanie Kingston, Bankstown GHS

Barnier Public School

Barnier PS has a highly tech savvy staff, with ubiquitous access to technology. While their PiL Project began with much promise, it was soon beset with a lack of staffing continuity, roadblocks and several changes in direction.

Initially focussed on enhancing student engagement and increasing student learning through authentic learning tasks, Are you game enough? required students to simulate a game design studio, researching the different roles needed to create a digital game and taking on these roles as part of a multidisciplinary team constructing a digital game.

In its second year, and after three staff changes, this project evolved into a round table assessment, use of Marvin animation software and a whole school technology project which successfully managed to incorporate e-portfolios and student self-reflection.

> *I find … the program particularly exciting and interesting. The repercussions for this part of the project are far reaching. The use of the digital portfolio as an assessment tool and support for assessment are enormous. Whilst at the moment the students are developing their skills and placing only some of their work into their portfolios, the long-term benefits will be enormous… The overwhelming response of both the staff and the students is very heartening.*
>
> Gail Oakman, Assistant Principal, Barnier

Berinba Public School

Berinba Bright Sparks focused on building capacity of staff and students in the use ICT to enhance their own learning. The projects undertaken by teachers were initially based on the collection of data on ICT use and the exploration of innovating options for classroom application, building from a number of mini-projects to a major school-wide project in 2008.

In 2008, introduction to Marvin animation software and digital story telling led to all Year 6 teachers working collaboratively to engage students at this year level with a particular focus on boys and incorporation of ICT into the school's buddy program (following exposure to the very successful Young PS project).

Advancements in technology will be utilised by the Berinba Bright Sparks in our busy school environment which has multiple demands placed on our valuable time. We have developed a management strategy, which has been effective in bringing about change and improvement.

Ray Claydon, Principal, Berinba

Bulahdelah Central School (Tea Gardens Public School, Booral Public School, Bungwahl Public School, Coolongolook Public School)

BCS PiL targeted the embedding of ICT into the middle school curriculum. The project aimed at enhancing communication across and within the schools, with student-centred activities focussing on student-driven tasks and creation of learning artefacts. Data collected through the ACER survey informed the design of the school's MS Sharepoint portal. A teacher-student committee was established to oversee the design of the portal which enabled middle school students to receive, work on, submit, vote, communicate, record their learning and receive feedback on a variety of rich, relevant tasks. Tasks included the use of multimedia design and animation. Claymation animation software was used to engage students in the learning of skills including script writing, timing, story boards, photography skills, design and animation. Students presented learning outcomes through the portal, and animations were recorded to CD for future teaching and learning tools. Annual Claymation Celebrations involved the local school community and celebrated the student learning that had occurred.

The two teacher leaders of the project – Tim Gorrod and Deb Gilbert – were recipients of several state and national teaching accolades through the life of the project, including Tim Gorrod being awarded the NSW Microsoft Innovative Teacher Award in 2007 and both were also invited to present their experiences at the ISTE ictLT Conference in Singapore in August, 2008.

I want my students to be able to dream, take every opportunity, teach what they know, think big, enjoy the moment, create.

Deb Gilbert, Head Middle School, Bulahdelah Central

Drummond Memorial Public School (Yarrowitch Public School, Rocky River Public School, Niangala Public School)

Engagement for Life! encouraged student choice and self-reflection in the use of a range of social software applications using a TV station programming concept as the framework. Professional learning for teachers was based on individual needs around ICT, planning for collaborative learning and thinking skills. Students developed capabilities in the use of social software, production of a 'TV serial' using Microsoft PhotoStory, a TV advertisement using Windows Movie Maker and digital camera (CPA) and a quiz program using Microsoft Excel. Students at all participating schools met online, collaborated on hypertext wiki stories and answered weekly discussion issues on MS Sharepoint. They met face to face during several excursions and developed strong friendships as they collaborated together. The project lead for the Drummond project, Michael Wilson, was awarded the NSW Microsoft Innovative Teacher in 2008 and was also the recipient of several other accolades including the NSW Microsoft Scholarship for 2009 through which he will visit the United Kingdom and USA in 2009.

(I am feeling) Very positive. We have had a very productive year. The students enjoy the activities. I have enjoyed this year immensely from a personal and professional perspective. I can see huge improvements in the students…in their writing outcomes, especially on the difficult area of identifying the purpose of a piece….I have seen social outcomes for our students because of the interactions with students from other schools.

Michael Wilson, Drummond MPS

Young Public School

The Young PS project was called Buddies in Technology. Leveraging off the already successful school-wide buddy system that was initially welfare-based, the project extended the program to incorporate curriculum with a specific focus on using ICT to communicate, collaborate and produce student-driven artefacts that focused on the developing skills and relationships of students across the school year levels using stop motion cameras, animation, claymation, digital story telling and Marvin software.

All up, the school has thoroughly appreciated the involvement in the PiL program and the initiatives and practices resulting have been embedded into school life. We feel sure that staff and students will continue to explore new technologies and maintain the momentum generated by this project. Many Thanks. Neil Muir – on behalf of all YPS Staff.

Neil Muir, Young PS

Cherrybrook Technology High School

The Cherrybrook PiL project underwent a dramatic change in direction mid stream, both in staffing, coordination and focus. The project shifted from CSI Cherrybrook (which used software applications to enhance investigative skills and wireless Nova 2000 devices connected to the school network to follow directions and pursue clues delivered through the school network, and use computers to record their learning outcomes) to a more simple, one class data collection project using the Nova 2000 devices. This Science-based project also utilised social networking to support student learning.

Orange Public School

Write Right Now was a student-centred learning and negotiated assessment project. Through theme based, cross-curricular activities, students used technologies such as claymation, digital story telling, blogs, web design and publishing. Additional technologies such as Interactive White Boards assisted with the delivery of lesson content and helped to demonstrate the particular technologies students were using. A 21st century technology evening involving the wider school community enabled students to showcase their work and share their understandings. Blogs and wikis allowed students to communicate with each other, even when one student travelled through Europe.

PiL has been the catalyst for real change at our school. The project has enabled our staff to explore new directions, with a strong focus on teaching and learning that is making a huge difference and having a great impact on our students and their learning outcomes.

John Webb, Principal, Orange PS

Marrickville High School / Wilkins Public School

As with several of the NSW PiL projects, the Marrickville project underwent a significant evolution over the 2 ½ years of PiL. Initially highly focused on technology, the project shifted to a creation, animation, claymation and documentary film project, involving the Year 5 students from neighbouring Wilkins PS. Situated on a busy road, with no limited speed zones, the first phase of the project set the Marrickville and Wilkins students with the challenge of developing a TAC claymation that could lobby local interest groups and state government to have a 40 km/h speed zone established along the roadway they shared. Successful in this venture, the second year of the project became a documentary film study.

I am loving working on this project and teaching kids stuff they don't get to learn all the time in a different fashion from the traditional teacher/student classroom with kids in teams and mentors in year 10 to help guide and facilitate the learning.

Kate Coleman, Marrickville HS

Spinning a Yarn – taking a byte into high school used documentary filmmaking techniques through collaboration and cooperative teaching and learning. Students were encouraged to spin a yarn about a local story through the production of a 5 minute short film. Through collaboration, the 'yarn' to be told used documentary cinema techniques and 'true/false' documentary film. Visiting artist, George Gittoes was incorporated into the project alongside the production of a blog about the local yarns and documentary filmmaking. Marvin was also used for skill development.

Seeing the excitement and enthusiasm to get going! Last lesson…the kids formed their teams and got working with their team leader. One leader (a primary student) gave homework to his team to have prepared for our meeting next week. Fantastic!

Kate Coleman, Marrickville HS

Raymond Terrace Public School / Hunter River High School

Initially a research project led by Hunter River HS, this project (like many others) experienced a change of emphasis in its early days. With the joining of staff from Raymond Terrace PS, the cross-school project assumed an environment focus and used the resources available through the NSW DET Centre for Learning Innovation (CLI) online project Macrobiotica. This project encouraged students from Raymond Terrace and Year 7s from Hunter River HS to undertake an environmental investigation on water quality in their local area, Windeyers Creek. This exploration led to serendipitous discoveries and linkages with the community, including local farmers and the local council. In the second year of the project, the focus moved to production through All the World is a Stage.

The project has engaged students in ways I haven't seen before….

Jason Marshall, Raymond Terrace PS

The project's new purpose was to achieve increased student engagement by providing learning opportunities that take advantage of studied moving pictures, explored use of green screens and produced their own films.

(I have learned)…to think outside the box to let the students become more self-empowered with their learning and ultimately thinking process…

Nicole Apps, Hunter River HS

Evaluation characteristics

The formative approach

The evaluation was conducted in two phases. The first and formative phase sought to gain new insights into how middle-year students use ICT to engage with school in comparison with how they engage with it out of school. The follow-up evaluation conducted in July 2008 allowed a comparative study of the impact of this project. Summary reports were provided to schools in 2006 to assist with the design of their projects. Further reports were provided in 2008 to help schools better understand their students' engagement in learning.

Three discreet survey instruments were used to collect data from students, teachers and parents (in 2006) on their perceptions of how ICT mediates engagement with education. In 2008, data was collected from principals rather than parents (See Appendices for paper versions of 2008 online instruments). The three instruments each measured:

- attitudes to ICT
  - ICT knowledge and skills
  - use of ICT at school
  - use of ICT outside school, and
- qualities of both ICT and 'general' student engagement
  - active learning
  - collaborative learning
  - school connectedness, and
  - supportive learning environment.

For the purposes of collecting baseline data, all middle-year students and teachers were invited to participate in the study in 2006. A total of 2223 students and 237 teachers responded.

In 2008, these numbers reduced to 785 and 72, with 21 principals also responding. The reduction in student and teacher numbers was due to a focus on only those who had been involved in a Partners in Learning project. Hence, as noted below, the populations are different and this should be taken into account when making comparisons.

In both surveys, around 60 per cent of the student sample was female, around 80 per cent spoke English as their main language and around five per cent were of Aboriginal or Torres Strait Islander background. All students were between the ages of nine and 16, and just over three-quarters were aged between 11 and 14.

The evaluation's constraints

Several methodological limitations need to be noted because they constrain the kind of inferences that can be drawn from the evaluation's results. As the following remarks suggest, the findings presented in this report should be treated as suggestive rather than definitive, and as providing an example of the kind of development which appears useful to consider on a larger scale.

Educational change is a very complex phenomenon and is almost invariably driven by an interaction of diverse factors. It was not possible to identify or control these factors in the evaluation that underpins this report. Hence the results and tentative conclusions should be treated as suggestive rather than conclusive.

The sampling of schools, teachers and students also limits the generalisations which could be made. The selection of schools sought to obtain one per DET region. The results should not be generalised beyond this sample of schools. The sample of teachers was non-random, and varied across collections. In 2006 it included all teachers at the sampled schools, whereas in 2008 it included only teachers who had been associated with the projects. As it was not possible to link individual student data between 2006 and 2008, it is possible that cohort or selection effects may have shaped the results. As such, any conclusions based on any comparative results should be interpreted with caution.

In an effort to control for selection effects, a control group was specified as part of the 2008 design. Schools were asked to survey a comparable group of students who had not been involved in the collection. This was not possible for various practical reasons, however, and as a result such comparison data is not available.

A further constraint is that the data collected are subjective in nature. Recorded estimates of student engagement and ICT use are likely to be influenced by students' self-perception, the varying ways in which students have self-identified what they mean by ICT, student's self efficacy, and other interpretative constraints. The collection of subjective data was undertaken as this is frequently used to estimate student engagement. But it is important to emphasise that current results were not cross-validated through other more objective means.

It is likely, and desirable, that variations in the projects undertaken by schools may have shaped the project's outcomes, but neither the overall project nor evaluation controlled for these differences. An effort has been made to infer from the trends various factors which may have influenced students' reports of their engagement, but it is not possible to firm up these intuitions with more causal connections.

High-level perspectives

Formative foundations, 2006

The 2006 results exposed quite a lot of variation within the student cohort in terms of attitude to ICT. More students than might typically be expected felt that ICT was 'a waste of time', 'confusing' or only to be used if really necessary. Most students, however, had either integrated ICT into their lives, or were very interested in using ICT in ways that shaped their lives. Interestingly, parents' perceptions of their children's attitudes to ICT were well aligned with each student's own views. Teachers, by contrast, provided more positive reports of students' attitudes to ICT than did students themselves. This could be interpreted in a range of ways, but it may suggest that teachers are picking up on forms of ICT knowledge and use that students simply see as part of their everyday lives, or that there is a disjunct between student and teacher perceptions which implies a lack of connectedness. These, at least, are the trends for the overall sample, and it should be noted that they varied slightly across schools.

ICT knowledge and skills may be best assessed using test instruments or having people develop portfolios, but self-reports of the kind used in this study provide a valid, efficient and reliable alternative. The evaluation results showed that the vast majority of students felt they possessed many of the competencies included in the instrument. This suggests both that the surveyed students are very able with ICT and, importantly, that they see themselves this way. Most students reported using ICT in ways which are not simply basic and reproductive in nature, nor rich and adaptive, but rather synthetic and evaluative. They were modifying softwares to suit their needs, developing computer programs, and creating images and presentations. As with attitudes to ICT, parents' perceptions in this area were closely aligned with their children's perceptions. Teachers were asked to assess their own ICT competence, as opposed to that of their students. Teachers tended to provide higher estimates of their own ICT competence than students or parents. This overall pattern was underpinned by teachers providing greater estimates of their own competence in using computers for work-related activities.

Information about ICT use was captured both to help understand how students engage with ICT, and to contextualise analysis of their engagement with education through ICT. Overall, students reported using much less ICT at school than outside school. The gap was quite significant and suggests that this was an important area of difference in students' lives at this time. Nearly all students reported using ICT between once a month and once a week at school but weekly or daily outside school. They also reported using different kinds of ICT in each context: more standard work-related ICT at school and more social networking software and games outside of school. As for attitude and competence, parents provided reports which were very closely aligned with those of students. Teachers, however, tended to overestimate students' ICT use, which is interesting given that their perceptions would likely be formed, for the most part, while observing students at school, a context in which students themselves report low levels of use. Whatever the causes and implications, however, this is clearly an area where there is a difference between the perceptions of teachers, and of students. These overall patterns were generally consistent across schools.

Responses to specific items provided insight into the precise differences between students, teachers and parents reported ICT use. While students reported using all forms of ICT more outside school than at school, they reported substantially more outside school interaction with current social, synchronous, interactive and multimedia software than at school. These are likely to be major levers to change students' use of ICT to engage with learning at school. Teachers also tended to overestimate students' use of this interactive software when compared with students' own reports. Teacher and student perceptions of student use were more closely aligned in relation to more conventional or infrequently used ICT, the ICT which teachers report using themselves as much, and in some cases more than, students. These results, in summary, suggest that teachers' overestimation of students' use of ICT is due to students' use of social and interactive software which tend to be used at home rather than school.

As the above summary has hinted, the preliminary survey results are interesting not just because they provide insight into patterns of ICT use but because, as with the analysis of knowledge and skills, they also tap into various perceptions about ICT use. It is possible, for instance, that students

have underestimated their use of ICT as opposed to an 'overestimation' by teachers. By this reasoning, students may have incorporated ICT tacitly into their daily routines and hence be unaware of their actual levels of use. Such analysis of perceptions is important as it is these which need to be considered in managing the use of ICT to enhance engagement with learning.

Both students and teachers were asked to report on the four qualities of ICT engagement (Active learning, Collaborative learning, School connectedness, Supportive learning environment) and more general forms of engagement. Overall, teachers tended to report higher levels of general engagement than students, particularly in relation to the provision of a supportive learning environment. Students' reports were also more diverse than teachers' perceptions of engagement. The results also showed that many students (but not teachers) reported activities and conditions associated with lower forms of engagement with learning. Overall, the levels for ICT engagement were lower than for general engagement, with particularly low responses given that ICT played a role in school connectedness. The results suggested that engagement with learning through ICT was higher in those areas where ICT is used actively, and lower where ICT plays a role in enhancing tacit aspects of the learning environment. These are overall results and, as with other areas measured, there were different patterns of results between schools.

Relationships between engagement and the other measures were explored. As would be expected, there were much stronger relationships between ICT attitudes and ICT engagement than between ICT attitudes and general engagement. The interesting exception to this trend was a reasonably strong relationship between ICT attitude and active and collaborative learning, suggesting that ICT plays a role in enhancing this aspect of engagement with education. The overall relationships between attitudes and engagement tended to be stronger for students than teachers. There was an almost identical series of relationships between ICT competence and engagement, and ICT use and engagement. Together, these results hint that collaborative and social ICT applications enable learning to become more powerful and engaging, rather than increasing students' overall involvement in school life. Rather than promoting a 'blended' or 'distributed' learning environment, it appears from these overall results that ICT offers a 'parallel' means of leading and undertaking specific learning interactions.

Teachers appear to have become more sophisticated users of ICT over the two-and-a-half years of the Partners in Learning Project, and that they may feel more confident integrating ICT into their teaching practices.

Key findings from 2008

Broadly, the 2008 results provide indicative evidence that teachers appear to have become more sophisticated users of ICT over the two-and-a-half years of the Partners in Learning Project, and that they may feel more confident integrating ICT into their teaching practices. During the same period, there was a rise in students' engagement with school, both in general terms and in ways mediated by the use of ICT. In summary, therefore, the survey results from 2008 have shown that the Partners in Learning project appears to have enhanced student engagement in their education. The main findings that underpin this conclusion are summarized as follows:

- Improved student engagement through ICT use in schools. The evaluation asked students to report on a range of ways in which the digital technologies could have helped them engage in learning. In 2008, students reported ICT-mediated increases in all defined aspects of student engagement, compared to 2006. These patterns parallel increases in student and teacher perceptions of students' general engagement in school. Importantly, student perceptions of their engagement are mirrored in that of their teachers. This provides cross validation of the student reports, and also evidence of teachers' awareness of how ICT can be used to engage student learning.
- Building teacher capacity. Enhancing teachers' knowledge and understanding of digital technologies and their educational applications was an important focus of the school plans and projects. Teachers play a critical role in setting the conditions that enhance students' engagement in learning and hence their educational outcomes. The results suggest that enabling student driven learning experiences in which students are authentically involved in all aspects of planning and undertaking the learning

appear to have a positive impact on their capacity in this area.

- Factors that facilitated growth. By working with teachers and students, and based on review of the evaluation results, it became clear that certain factors were linked with a positive outcome. Students associated with greater increases in engagement over the intervening period of the Partners in Learning project tended to be involved in projects that were collaborative in nature, student-driven, involved multiple teachers, had good technical support and were educationally driven – characteristics more commonly associated with primary than secondary schools. Conversely, students who reported less change undertook projects that were driven by teachers rather than student groups, received low-levels of ICT support, were supported by only a single teacher, were technology driven or lacked leadership support.
- Evidence-based evaluation helped drive change. Distributing the project across three years and providing formative results in 2006 gave schools evidence and insights to help focus their attention and work. School teams and individual teachers have been required to reflect on their progress throughout the project through Monthly Reports and Teacher e-journals, enabling them to capture successful strategies from their teaching. The follow-up results provide schools with an indication of the extent to which they were able to stimulate change in students' engagement.

Insights on learning and teaching in 2008

Engaging students

Students and teachers were asked to report on a wide range of matters regarding students' use of ICT to engage in school education. While both students and teachers supplied data, in most instances students remained what is technically referred to as the 'unit of analysis'. That is, students provided feedback about themselves, and teachers provided feedback about students (in terms of their engagement).

The data presented in Figure 1 shows that almost three quarters of all students reported to have experience using computers for 5 or more years, with 95 per cent of both primary students and secondary students having had experience using them for at least 3 years. This indicates that students are familiar with computers at quite a young age. The data follow a similar pattern to computer usage amongst students in 2006.

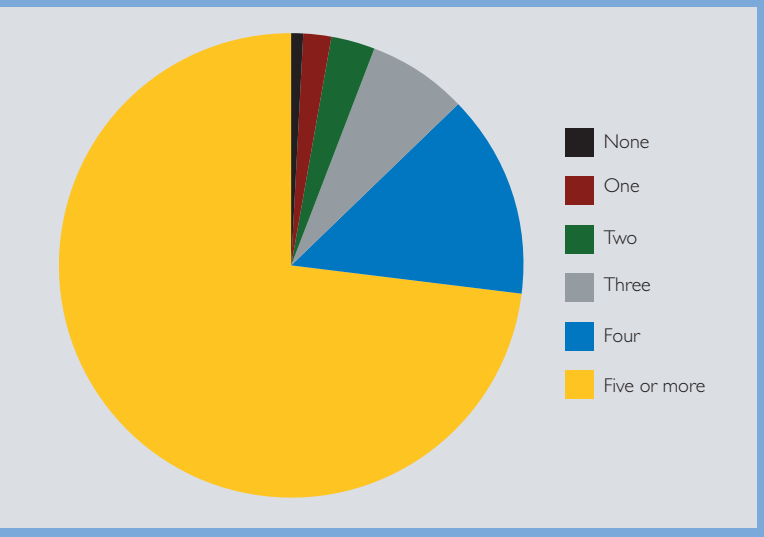

Figure 1 Students' years of computer use

Students were asked to report on their attitudes to ICT. The 2006 and 2008 mean scores were identical, as were male and female means, suggesting that students' feelings about ICT remained stable across this period. Generally, students tended to agree that ICT helps them do better at school work, that playing with or using a computer is really fun, that using ICT makes learning more enjoyable, and that ICT is very important in their lives.

There was a similar constancy in students' 2006 and 2008 reports of their ICT knowledge and skills as seen in Figure 2. Students in 2008 were more confident in using the internet, writing and sending emails and playing computer games than students in 2006. The students as a whole reported that they could do most of the 22 activities listed with help from someone. These included learning how to use new computer equipment, using the internet to look up information, writing and sending emails, combining text and graphics from different software, constructing a webpage, and using a spreadsheet to plot a graph. Females displayed a very slight advantage over males in terms of their self-perception of ICT competence. Secondary students scored higher when compared against primary students.

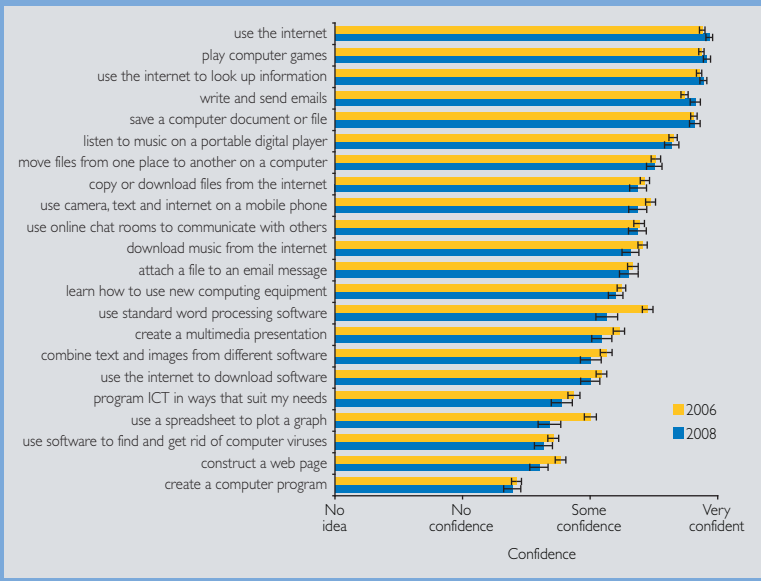

Figure 2 Student ICT Knowledge and skills item means, 2006 and 2008

Students were surveyed on their ICT usage, both outside of school and at school, with the 35 ICT related activities measured were categorised into four scales, which are described below:

- using technology to facilitate study (e.g. use a word processor or spreadsheet, use the internet for study or school work, learn with special software)

- multimedia and web-based technologies (e.g. take digital photos, use a mobile phone to access the internet, watch video or listen to audio on the web)
- creation and computer programming (e.g. create an animation, create a claymation, write computer programs), and
- communication and social networking (e.g. spend time in forums, communicating with students online, accessing wikis and blogs, using the internet to ask an 'expert' about work).

As shown in Figure 3, students in 2008 spent more time than in 2006 on activities outside of school than at school across all forms of ICT. The survey results suggests that there has been an increase across time in students' use of communication and social networking ICT and creation ICT both at school and outside of school. This reflects the focus of the Partners in Learning Project and the provision of MS Sharepoint to facilitate safe and secure online communication and networking. The use of multimedia software outside of school was slightly lower in 2008 than in 2006, however students reported an increase in the usage of such activities at school. This is an important finding, as one of the aims of the project was to increase the usage at school of the types of ICT as students use more often at home.

Usage across the study scale appears to be lower both at school and outside of school across time, contributed by considerably large drops in usage for items such as 'use the internet for study or school work' and 'look up information on the internet'. This drop could be explained by the fact that these activities may have become so part of everyday life they are less of a novelty than in 2006, rather than actually representing real changes in usage over time.

Activities at school such as blogging, creating computer programs and using mobile phones to access the internet increased significantly over the two year period.

Activities at school such as blogging, creating computer programs and using mobile phones to access the internet increased significantly over the two year period. Outside school, the use of software for creative purposes increased. Partners in Learning teams received professional learning on the use of creative multimedia and multimodal programs such as Digital Story Telling, Claymation animations and Marvin. Particularly large increases over time in usage were reported for posting comments on blogs read by students, writing computer programs and shopping on the internet. As with other results, given the nature of sampling used in the study these findings must be treated as suggestive.

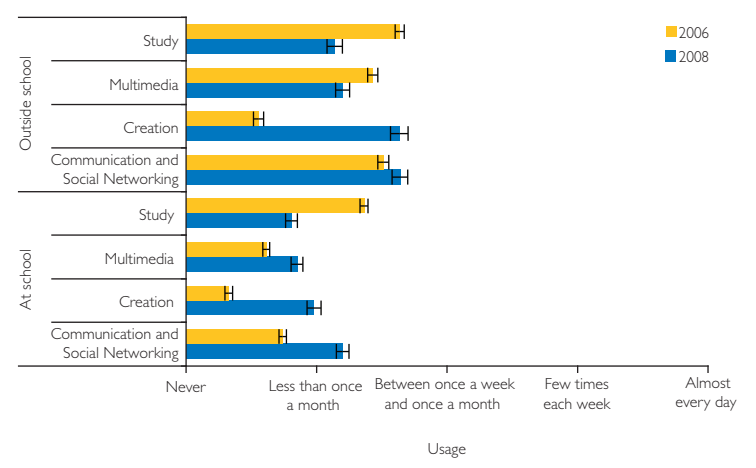

Figure 3 Student ICT use at school and outside school scale means, 2006 and 2008

The survey asked students to report on the extent to which they were using ICT to engage in school, and teachers were asked to cross-validate these perspectives. Figure 4 shows students have reported ICT-mediated increases in all defined aspects of student engagement from 2006 levels. Importantly, the increase in student perceptions of their engagement is mirrored in the same increases for their teachers from 2006. This provides cross validation of the student reports, and also evidence of teachers' awareness of how ICT can be used to engage student learning.

Importantly, the increase in student perceptions of their engagement is mirrored in the same increases for their teachers from 2006.

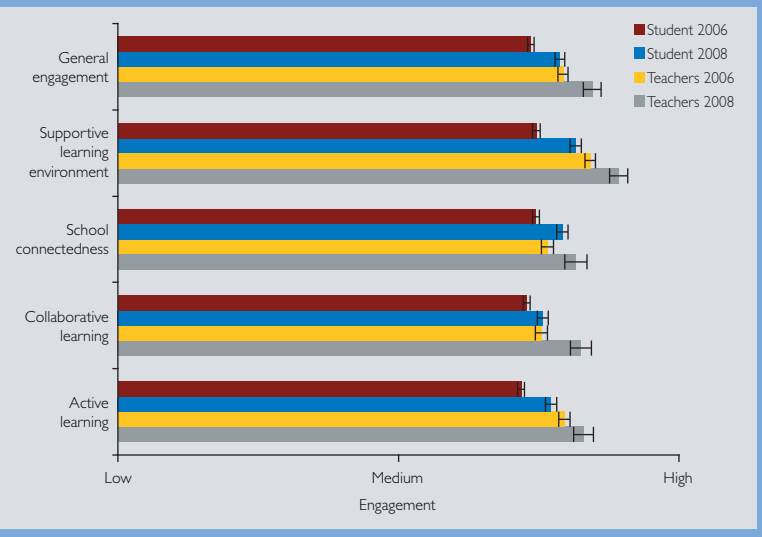

Figure 4 Student ICT engagement scale scores, 2006 and 2008

These patterns parallel increases in students' and teachers' perceptions of students' general engagement in school. Figure 5 shows that students' general engagement in school is on average quite high, as are teacher perceptions of their students' engagement. The period of the evaluation has seen a rise in active learning, in collaborative learning, in 'connectedness' with the school or perceptions of support and, correspondingly, of general engagement overall.

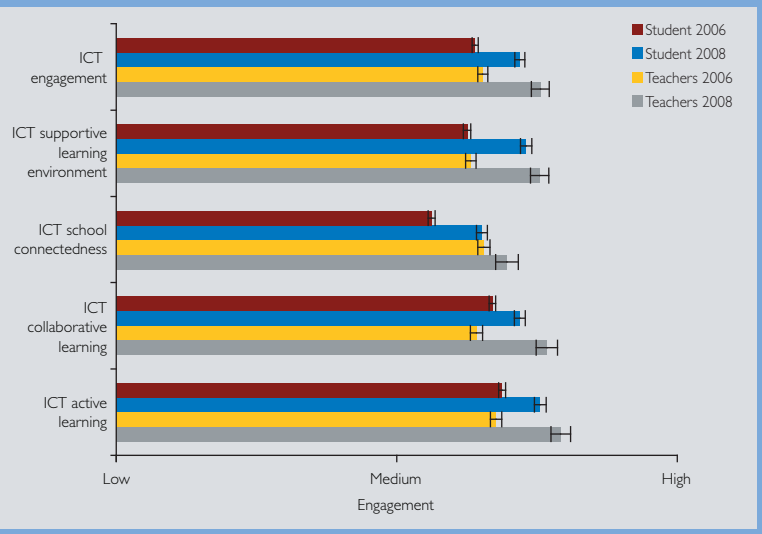

Figure 5 Student general engagement scale scores, 2006 and 2008

Student reports of engagement showed interesting patterns when analysed in terms of primary and secondary school. For both general and ICT dimensions, results for Active and Collaborative learning remained the same. Contrary to the expectation of their teachers which remained high for both primary and secondary schools, however, secondary school students reported decreased feelings of connectedness and support.

Students' comments affirm the general findings regarding increased student engagement:

> *I have noticed that everyone is more motivated and interested in school work. Everyone seems to be happier and interactive*
>
> *The students have enjoyed using technology more in class and are more motivated to learn*
>
> *I have noticed over the last 2 years that we are getting lots more ICT to help us more in our education*

This trend was also observed by principals. In their survey feedback, for instance, two observed that:

> *Participation by some staff in the PIL project has provided a catalyst for many other staff to actively seek further training and development in these areas of technology. Seeing practical activities that highlight the outcomes that have been achieved has brought about significant and positive change to classroom practice at our school.*
>
> *The project has been the single most important initiative I have been involved with in almost 40 years of education in redirecting both student and staff accepting the need to adapt to the emergent learning requirements of the 21st century. There is a different and positive understanding of the need to adjust to our students needs. The project has been enthusiastically adopted by partner schools and community. The two key staff driving the project have rightly received Aust and Statewide recognition winning quality teaching awards. The school is invited to present at significant conferences relating to enhancing student engagement using ICT.*

The limited evidence available suggests that Indigenous students are more engaged towards ICT than they are towards other areas. The MCEETYA (2005) report on ICT literacy showed a smaller difference in ICT literacy between Indigenous and non-Indigenous students, than

differences between the two groups of students in other areas of literacy such as science, mathematics and reading (Thomson & De Bortoli, 2006).

Engagement towards ICT were higher for Indigenous students in comparison to non-Indigenous students.

The Drummond MPS 'Engagement for life!' project had the greatest indigenous student participation rate of the PIL projects, with approximately a third of the students involved identifying themselves as of Aboriginal or Torres Strait Islander origin. Engagement levels of these students were roughly similar, if not favouring the non-Indigenous students participating in the project. However ratings of engagement towards ICT were higher for Indigenous students in comparison to non-Indigenous students, as seen in Figure 6. This suggests that the use of social software as applied in this project may provide a means to engage this group of students to help them enhance their literacy across all areas of study.

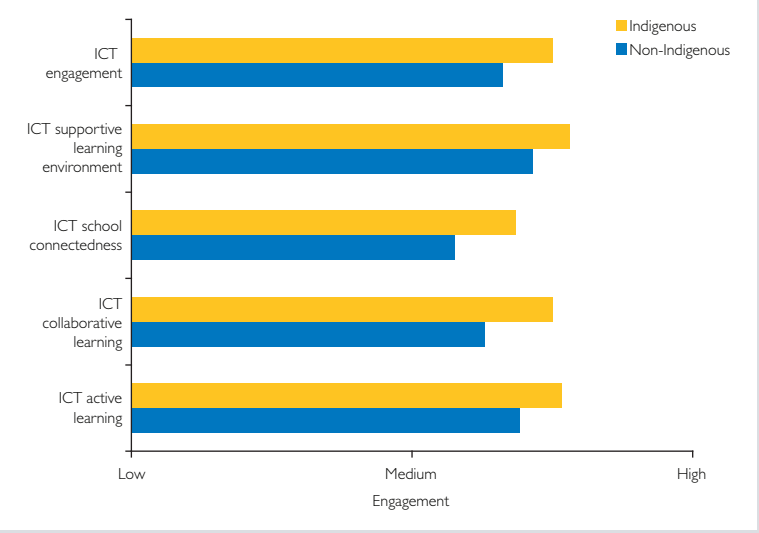

Figure 6
Student ICT engagement scores by Indigenous status

Indigenous students at Drummond MPS reflected on their engagement towards ICT from the project:

> *I would like to see them use ICT more often …, because I reckon that we learn better using … ICT*

> *I have enjoyed the excursions and I used the cameras on them. And I enjoyed the tafe film school. I enjoyed making podcasts and digital stories. I enjoy using sharepoint to communicate with the other school*

> *I have learned how to use portal, and every program in Microsoft office, I now know computers very well!!*

Building teacher capacity

Enhancing teachers' knowledge and understanding of digital technologies, new pedagogies and new ways of learning were important elements of the school plans and projects.

Enhancing teachers' knowledge and understanding of digital technologies, new pedagogies and new ways of learning were important elements of the school plans and projects. A key premise underpinning the project is that focused mentoring would help teachers build skills and confidence in their capacity to assist students to engage with digital technologies and learning. The project managers of the NSW Partners in Learning Project, dk2, put in place a comprehensive, longitudinal professional learning program to develop a community around teachers' work, to provide encouragement and support, to keep teachers focused on the students' work, to develop in teachers a culture of reflexivity and continual improvement and to work with schools and give teachers the space required to work with students' projects.

Teachers reported active engagement in the process, suggesting in their survey feedback, for instance, that:

> *ICT is no longer a chore or a novelty - it is now accepted as a part of everyday life. Staff are wanting to learn more and are no longer scared of it…*

> *[ICT] is embedded in everyday teaching and learning rather than a once a week technology lesson…*

The survey asked teachers to rate their own ICT competence. Overall, there was a statistically significant increase in teachers' ICT knowledge and skill, rising from 3.4 to 3.7 on a four-point scale – more than half of a standard deviation unit. Such increased competence may stem from teachers' own professional learning as well as working with their students on their ICT projects.

Figure 7 reports 2006 and 2008 mean scores for specific teacher ICT competencies, sorted by the difference between mean scores. The chart shows that competence levels increased most for social networking and multimedia. A gap between error bands for each of the annual estimates indicates a difference which may be considered statistically significant.

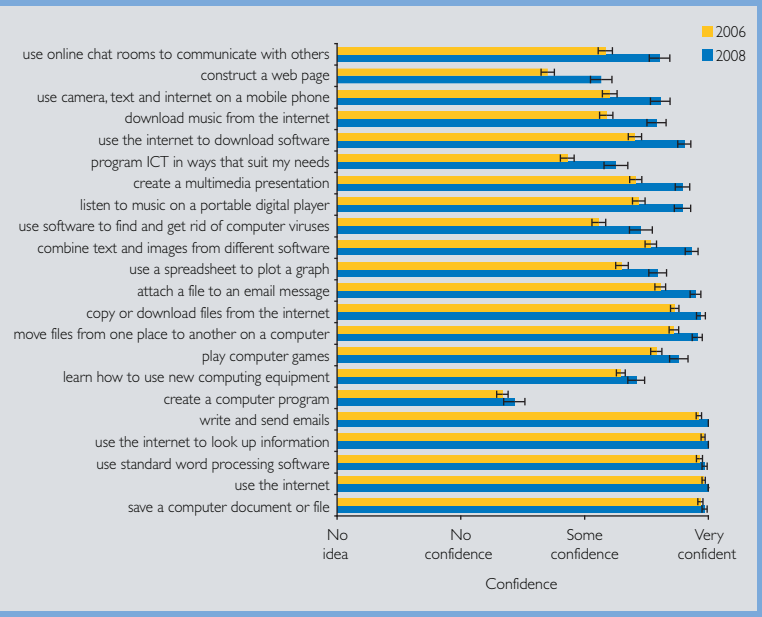

Figure 7 Teacher ICT knowledge and skill

Teachers' enhanced ICT knowledge and skills is linked with enhanced use. Table 1 shows that between 2006 and 2008, the use of ICT for the purposes of information dissemination and retrieval has remained the same or decreased, while the use of ICT for social networking, communication and collaboration has increased.

Table 1 Change in teachers' use of ICT

Used same or less	Use has increased
learn with special software	post comments on blogs that I read
use a word processor or a spreadsheet	write computer programs
spend time in chat rooms or forums	get computer game advice online
take digital photos	use a mobile phone to access the internet
use the internet for file sharing and/or storage	upload text and images to an online profile
transfer files across different ICT	write a blog to share ideas with others
download software from the internet	create an e-portfolio
watch video or listen to audio on the web	write or edit wikis
communicate with friends using email	use a computer with friends
draw, print or produce graphics on the computer	use the internet to ask an 'expert' about work
browse the web for fun	shop on the internet
use the internet for study or school work	use a webcam
look up information on the internet	make websites
	communicate online with friends in real time
	play games on a computer online
	download music from the internet
	use an electronic organiser
	communicate with students online

Teachers reported positive outcomes from the work, suggesting that:

> *My understanding, use and competence with ICT has grown by huge amounts through my work with the project. My teaching has been widely and richly enhanced, my motivation and involvement in my teaching is higher and I am providing higher quality learning experiences for my students.*

> *It has been a very time consuming but worthwhile experience which has truly enhanced and reignited my passion for teaching - providing me with knowledge and confidence to explore more use of technology as a valuable teaching tool.*

Teachers were asked to indicate their preference for learning about ICT. The most preferred method, selected by 49 per cent of respondents, was mentoring by other staff. School professional learning opportunities were selected by 41 per cent of respondents. Twenty-two per cent of staff indicated that Partners in Learning forums played a role in their learning about ICT, and 19 per cent of responding teachers indicated a preference for being mentored by students.

Factors that facilitated growth

The review of 2006 and 2008 evaluation results have helped identify a number of factors that have contributed to enhanced student engagement through the use of ICT. Identifying these is important, because it provides a basis for improving the outcomes of any replication of the project.

Students who exhibited greater change tended to be involved in projects that were collaborative in nature, student-driven, involved multiple teachers were supported by visionary leadership, showed reflective practice, incorporated a commitment to ongoing improvement, had good technical support and were educationally driven

Students who exhibited greater change tended to be involved in projects that were collaborative in nature, student-driven, involved multiple teachers (suggesting wider uptake in the school and an effort at mainstreaming the innovation across the learning organisation), were supported by visionary leadership, showed reflective practice, incorporated a commitment to ongoing improvement, had good technical support and were educationally driven – characteristics more commonly associated with primary than secondary schools.

Conversely, students who reported less change undertook projects that were driven by teachers rather than student groups, received low-levels of IT support, were supported by only a single teacher, were technology driven or lacked leadership support.

Reviewing selected school results helps highlight some of these patterns. The project 'Write Right Now'' carried out at Orange Public School had a significant focus on student-centred learning that encouraged teamwork between groups of students and between students and teachers. Both student and teacher confidence towards ICT knowledge and skills increased over the course of the project. This led to large increases in student reported engagement towards ICT, which was also reflected in the teacher perceptions of student engagement.

When asked about the changes in ICT usage since beginning the program, teachers responded:

> *Significant increase in multimedia products for student work. Greater teamwork by students in ICT. Buddy programs for student and teacher training. Presentation of student work in assemblies and parent forums. Greater collaboration between students and teachers across different stages.*

> *From a personal point of view, being a part of the PIL project has introduced programs which have been very motivating for students.*

> *A lot more pupil involvement and initiative. Using ICT in buddies, using ICT to report (ie school sport, representative sport, excursions), assembly presentation, homework, class presentation.*

It is also interesting to note that in Orange Public School and some of the other schools, teachers often indicated that students themselves were often the source of information that enabled them to use ICT effectively. This seems to highlight the importance of a collaborative effort between students with other students, and also with teachers in encouraging effective use of ICT technology.

Schools where students showed lower levels of ICT engagement across the time period of the project, comments from students suggested that their information intake was more one-dimensional and inflexible.

In contrast, schools where students showed lower levels of ICT engagement across the time period of the project, comments from students suggested that their information intake was more one-dimensional and inflexible. Students appear to be expressing frustration at the lack of opportunity for using creative ICT, which is reflected in their usage reporting of this ICT area. When asked at one school how teachers could use ICT better, students responded:

> *To use it. An even number of teachers use books and other similar sources rather than ICT*
>
> *Use more than just word and powerpoint*
>
> *Teachers could use ICT better by using it more in learning involving more modern technology to not only increase student's interest in the subject but to create a better perspective for students to learn from*

While being more effective in increasing student confidence in isolated ICT knowledge and skills, students did not report an increase in their engagement across the course of the project at this particular school. However teacher perceptions of student engagement increased considerably across this time period, suggesting that their teaching efforts were not having the desired effect on student engagement with ICT that teachers perceived.

Evidence-based evaluation helped drive change

Distributing the project across three years and providing formative results in 2006 gave schools evidence and insights to help focus their attention and work. The follow-up results provide schools with an indication of the extent to which they were able to stimulate change in students' engagement.

School teams and individual teachers have been required to reflect on their progress throughout the project through Monthly Reports and Teacher e-journals. This reflexivity has enabled them to capture and document the 'aha' moments where students were engaged and where powerful learning appeared to have happened and therefore further incorporate these strategies in their teaching and learning programs.

Distributing the project across three years and providing formative results in 2006 gave schools evidence and insights to help focus their attention and work.

In one particular case, the evaluation found that the school was hesitant about embracing technology. Isolated forms of ICT were used in the classroom, but there was restricted access on what was considered 'usable' equipment. There lacked a cohesive plan on ICT management with no future thinking in terms of where the technology was going to be used. ICT-related communication and sharing of knowledge amongst staff members was low, however there was a willingness amongst them to embrace the Partners in Learning project once it became available.

People started to get involved, and ask questions about 'how', 'when' and 'what' and reflected personally on what their professional needs in ICT were. New technology such as Interactive Whiteboards were purchased, and greater sharing and communication of staff relating to ICT took place, not just for those involved in the project. There has been an amount of trial and error, in the approach, and all participating staff have received extensive training and development. As a result, technology has become more integrated into classroom teaching. There are still issues with practical access to ICT, but enthusiasm amongst staff and students remain strong. Students have expressed that they want to use technology, and expect it to be part of learning.

As the confidence of the staff has increased, the usage of ICT in classrooms has increased. In the past 2 years, Staff have … indicated that they are more confident with the use of ICT. Previously ICT was taught as a RFF subject and therefore the expertise remained particularly with one staff member. Other staff commented that they felt like they were being left behind in the developments in technology. ICT is now taught by all staff members. All staff have been upskilled with the use of ICT through various professional development opportunities.

Teacher comment, 2008

I have noticed that I know a lot more about ICT and how it helps me.

Student comment, 2008

A consolidated picture

This study has evaluated the influence that the Microsoft Partners in Learning New South Wales Project has had on 10 school teams from varying regions of NSW from 2006 to 2008. Each team was asked to develop a project that involved teachers using ICT to engage middle-year students in their education, with particular attention on investigating and integrating the ways that these students engage with ICT out of school. Background research has suggested that extensive professional development for teachers, and engagement with ICT for students in schools, leads to improved student learning outcomes.

A number of key findings have emerged from the analysis of the results from this study. These findings carry a range of implications for the use of ICT in schools.

Improved student engagement through ICT use in schools

Students responded positively to the increased use of ICT in the classroom. They are motivated by the use of new technologies, as well as an increased use of ICT at school, that is similar to what they use at home. This is evidenced by increases in student perceptions of ICT-mediated student engagement, across all aspects of engagement – active learning, collaborative learning, school connectedness, and perceptions of support from 2006-2008. Critically, teachers also perceive the same increases in ICT-mediated student engagement over the course of the program. The documented case study of increased engagement for Indigenous students supports the usefulness of using the technology to increase learning outcomes for students that traditionally don't have the same access to the curriculum as other students.

Building teacher capacity

The project has also been successful in educating teachers to develop confidence in integrating ICT into regular classroom practices. Professional learning has been vital in promoting student learning and has allowed teachers to develop their knowledge and understanding of the digital technologies that have formed part of the different school projects. The results suggest that targeted professional learning, teacher mentoring, reflective practice and developing pedagogical approaches that enable students to more effectively connect with schooling have a significant impact on student engagement.

Factors that facilitated growth

Observations made by the project managers working with teachers and students, and a review of evaluation results has led to the realisation of the factors within school projects that are linked to positive student learning outcomes. Students who exhibited greater change tended to be involved in projects that were collaborative in nature, student-driven, involved multiple teachers (suggesting wider uptake in the school and an effort at mainstreaming the innovation across the learning organisation), were supported by visionary leadership, showed reflective practice, incorporated a commitment to ongoing improvement, had good technical support and were educationally driven. Conversely, students who reported less change undertook projects that were initiated and driven by teachers rather than student groups, received low-levels of ICT support, were supported by only a single teacher, were technology driven or lacked leadership support.

Evidence-based evaluation helped drive change

Spanning the project across three years and providing formative results in 2006 gave schools evidence and insights to help focus their attention and work. In addition, school teams and individual teachers have been required to reflect on their progress throughout the project through Monthly Reports and Teacher e-journals. This reflexivity has enabled them to capture and document the 'aha' moments where students were engaged and where powerful learning took place. As a result teachers were able to further incorporate these strategies in their teaching and learning programs. The follow-up results provide schools with an indication of the extent to which they were able to stimulate change in student engagement. This is important, as it signals that focused activities underpinned by some additional resources can have a positive impact on students' learning and development.

Future directions

With the constant development of ICT for the educational setting, student learning can be greatly enhanced by incorporating ICT in a collaborative, facilitative way into regular classroom activities to enhance student learning. This study has shown that consistent and sustained professional learning and collaborative efforts within the school are necessary to improve teacher confidence and competence with the technology, which in turn positively affects student learning outcomes. There is future scope for replication of the study with a larger sample, and the design of projects that utilise the characteristics identified of successful learning environments that encourage student engagement with ICT and with learning generally.

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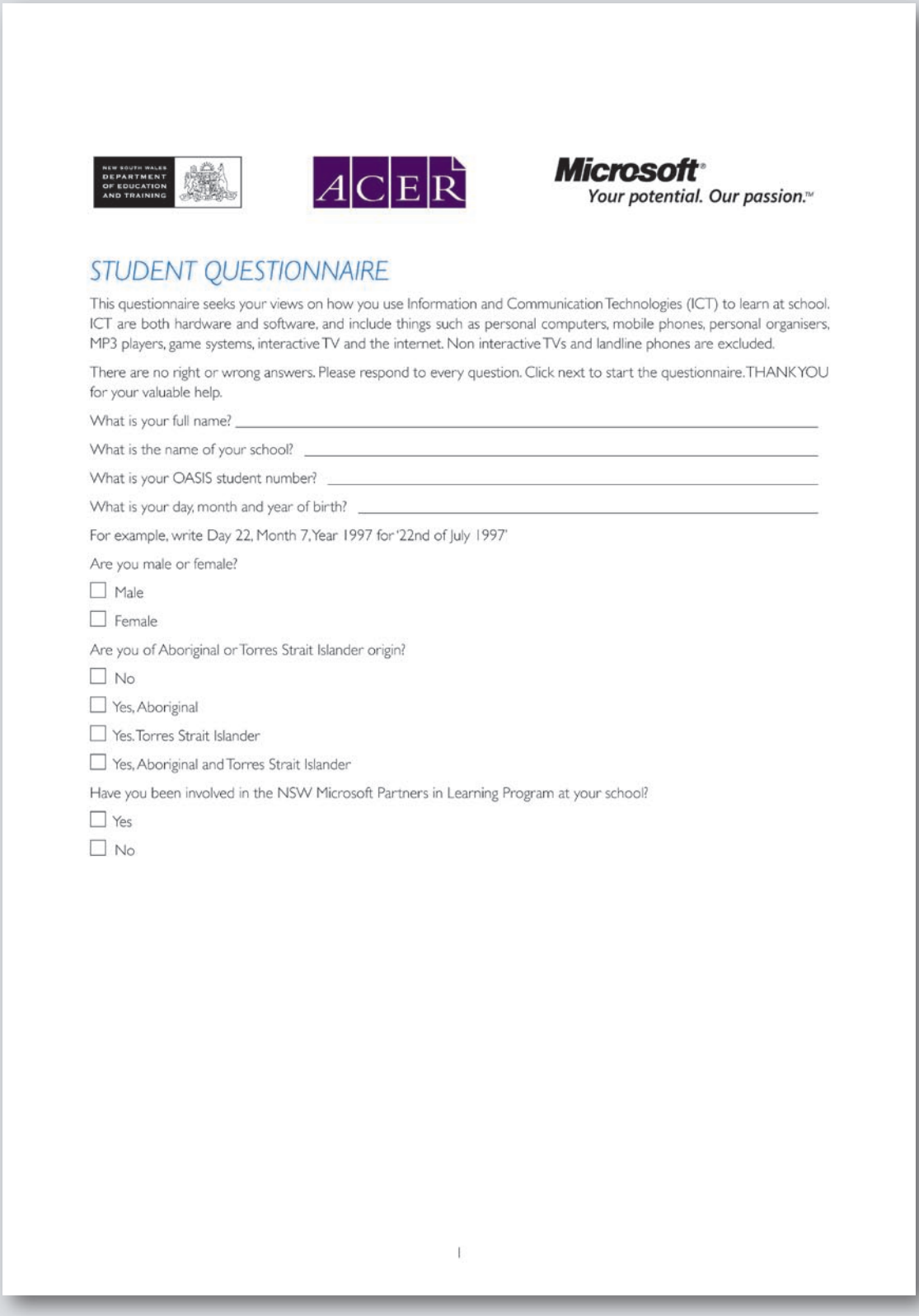
This work was funded by Microsoft through the Partners in Learning (PiL) Program. The evaluation was led by Dr Hamish Coates and Mr Tim Friedman. Tim Friedman is the primary author of this report.

ACER is very grateful for the feedback provided by Mr Gerry White, dk2 and NSW DET, and to the input provided by participating students, teachers, principals and parents.



NEW SOUTH WALES DEPARTMENT OF EDUCATION AND TRAINING

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STUDENT QUESTIONNAIRE

This questionnaire seeks your views on how you use Information and Communication Technologies (ICT) to learn at school. ICT are both hardware and software, and include things such as personal computers, mobile phones, personal organisers, MP3 players, game systems, interactive TV and the internet. Non interactive TVs and landline phones are excluded.

There are no right or wrong answers. Please respond to every question. Click next to start the questionnaire. THANK YOU for your valuable help.

What is your full name? _____

What is the name of your school? _____

What is your OASIS student number? _____

What is your day, month and year of birth? _____

For example, write Day 22, Month 7, Year 1997 for '22nd of July 1997'

Are you male or female?

☐ Male

☐ Female

Are you of Aboriginal or Torres Strait Islander origin?

☐ No

☐ Yes, Aboriginal

☐ Yes, Torres Strait Islander

☐ Yes, Aboriginal and Torres Strait Islander

Have you been involved in the NSW Microsoft Partners in Learning Program at your school?

☐ Yes

☐ No

1

How much do you agree with each of these statements?

How much do you agree with each of these statements?	**STRONGLY DISAGREE**	**DISAGREE**	**UNDECIDED**	**AGREE**	**STRONGLY AGREE**
I try to use the latest ICT	☐	☐	☐	☐	☐
I only use ICT if I really have to	☐	☐	☐	☐	☐
I lose track of time when I am using a computer	☐	☐	☐	☐	☐
Being able to use ICT helps you do better school work	☐	☐	☐	☐	☐
I usually only learn about new ICT through other people	☐	☐	☐	☐	☐
I am always interested in discovering new ICT	☐	☐	☐	☐	☐
I have little patience for ICT	☐	☐	☐	☐	☐
To play or learn with a computer is really fun	☐	☐	☐	☐	☐
I enjoy interacting with other people online	☐	☐	☐	☐	☐
Using ICT wastes a lot of my time	☐	☐	☐	☐	☐
Using ICT makes learning more enjoyable	☐	☐	☐	☐	☐
I find it confusing learning to use new ICT	☐	☐	☐	☐	☐
I like learning how to use different ICT	☐	☐	☐	☐	☐
It's hard to cope in everyday life if you cannot use ICT	☐	☐	☐	☐	☐
I do NOT like using ICT	☐	☐	☐	☐	☐
ICT are very important in my life	☐	☐	☐	☐	☐
It is very important to me to use a computer	☐	☐	☐	☐	☐
I often use many ICT all at once	☐	☐	☐	☐	☐
I feel really left out when I do NOT own the latest ICT	☐	☐	☐	☐	☐
ICT are too expensive	☐	☐	☐	☐	☐

What ICT do you use at SCHOOL?

What ICT do you use OUTSIDE SCHOOL?

	NONE	**ONE**	**TWO**	**THREE**	**FOUR**	**FIVE OR MORE**
How many computers do you have at home?	☐	☐	☐	☐	☐	☐
For how many years have you been using computers?	☐	☐	☐	☐	☐	☐

HOW OFTEN do you do each of these activities? *Please mark two boxes for each activity:* • *mark one box for AT SCHOOL* • *mark one box for OUTSIDE SCHOOL* *Please mark NEVER if you do not know what the activity is.*	AT SCHOOL					OUTSIDE SCHOOL				
	NEVER	LESS THAN ONCE A MONTH	BETWEEN ONCE A WEEK AND ONCE A MONTH	FEW TIMES EACH WEEK	ALMOST EVERY DAY	NEVER	LESS THAN ONCE A MONTH	BETWEEN ONCE A WEEK AND ONCE A MONTH	FEW TIMES EACH WEEK	ALMOST EVERY DAY
use a computer with friends	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
write or edit wikis	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
communicate with students online	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
take digital photos	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
spend time in chat rooms or forums	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
communicate with friends using email	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
communicate online with friends in real time	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
shop on the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
browse the web for fun	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
upload text and images to an online profile	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use a webcam	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use the internet for file sharing and/or storage	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
write computer programs	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
download music from the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
learn with special software	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
draw, print or produce graphics on the computer	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
download software from the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use a word processor or a spreadsheet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
get computer game advice online	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
play games on a computer online	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
post comments on blogs that I read	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
write a blog to share ideas with others	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use a mobile phone to access the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use an electronic organiser	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
look up information on the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
watch video or listen to audio on the web	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
make websites	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use the internet for study or school work	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
transfer files across different ICT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use the internet to ask an 'expert' about work	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
create an animation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
create an e-portfolio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use podcasts	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

HOW WELL can you DO these tasks?	I DO NOT KNOW WHAT THIS MEANS	I KNOW WHAT THIS MEANS BUT CANNOT DO IT	I CAN DO THIS WITH HELP FROM SOMEONE	I CAN DO THIS VERY WELL BY MYSELF
learn how to use new computing equipment	☐	☐	☐	☐
use the internet to look up information	☐	☐	☐	☐
listen to music on a portable digital player	☐	☐	☐	☐
copy or download files from the internet	☐	☐	☐	☐
download music from the internet	☐	☐	☐	☐
use a spreadsheet to plot a graph	☐	☐	☐	☐
use the internet to download software	☐	☐	☐	☐
create a computer program	☐	☐	☐	☐
use software to find and get rid of a computer viruses	☐	☐	☐	☐
program ICT in ways that suit my needs	☐	☐	☐	☐
save a computer document or file	☐	☐	☐	☐
write and send emails	☐	☐	☐	☐
use online chat rooms to communicate with others	☐	☐	☐	☐
attach a file to an email message	☐	☐	☐	☐
use standard word processing software	☐	☐	☐	☐
combine text and images from different software	☐	☐	☐	☐
create a multimedia presentation	☐	☐	☐	☐
use the internet	☐	☐	☐	☐
move files from one place to another on a computer	☐	☐	☐	☐
construct a web page	☐	☐	☐	☐
play computer games	☐	☐	☐	☐
use camera, text and internet on a mobile phone	☐	☐	☐	☐

What ICT expertise and skills have you developed in the last 2 years?

How OFTEN do you DO or EXPERIENCE each of the following things?	NEVER	HARDLY EVER	SOMETIMES	OFTEN	ALL THE TIME
I want to do my best at school	☐	☐	☐	☐	☐
My teachers want me to do my best at school	☐	☐	☐	☐	☐
I ask questions in class and take part in discussions	☐	☐	☐	☐	☐
I have the chance to do things at school that I am good at	☐	☐	☐	☐	☐
Assignments help me learn	☐	☐	☐	☐	☐
I work with others to understand things better	☐	☐	☐	☐	☐
The library meets my needs	☐	☐	☐	☐	☐
I get involved in school life	☐	☐	☐	☐	☐
My teachers are enthusiastic about what they teach	☐	☐	☐	☐	☐
My teachers try to make their topics interesting	☐	☐	☐	☐	☐
I like reading about new ideas and facts	☐	☐	☐	☐	☐
I participate in clubs and activities with other students	☐	☐	☐	☐	☐
School classrooms and grounds are nice places to be	☐	☐	☐	☐	☐
My teachers listen to students' ideas and questions	☐	☐	☐	☐	☐
I find my own information to help me understand topics	☐	☐	☐	☐	☐
I think that school plays an important part in my future	☐	☐	☐	☐	☐
I talk with other students when I find something difficult	☐	☐	☐	☐	☐
The school has good materials to help me learn	☐	☐	☐	☐	☐
My teachers explain things in ways I can understand	☐	☐	☐	☐	☐
My teachers encourage me to read beyond set materials	☐	☐	☐	☐	☐
School staff listen to what students have to say	☐	☐	☐	☐	☐
I work with other students outside class	☐	☐	☐	☐	☐
I help others to learn	☐	☐	☐	☐	☐
I have a say in how we learn	☐	☐	☐	☐	☐
I can do things at school that I enjoy	☐	☐	☐	☐	☐
Other students at school include me in things	☐	☐	☐	☐	☐
I feel like I am treated fairly by my teachers	☐	☐	☐	☐	☐
I feel like I fit in at my school	☐	☐	☐	☐	☐
I come prepared for class	☐	☐	☐	☐	☐
I am interested in the school work we do in class	☐	☐	☐	☐	☐
I get on well with other students outside class	☐	☐	☐	☐	☐
My teachers understand how I learn	☐	☐	☐	☐	☐
My teachers take an interest in helping me learn	☐	☐	☐	☐	☐
I want to come to school	☐	☐	☐	☐	☐
I use school to develop my personal interests and hobbies	☐	☐	☐	☐	☐
I like school work best when it really makes me think	☐	☐	☐	☐	☐
If there is something I don't get I keep working until I do	☐	☐	☐	☐	☐

How OFTEN do you DO or EXPERIENCE each of the following things?	NEVER	HARDLY EVER	SOMETIMES	OFTEN	ALL THE TIME
My teachers use ICT to make topics interesting	☐	☐	☐	☐	☐
My teachers help me use new ICT	☐	☐	☐	☐	☐
I use ICT to make classes more meaningful	☐	☐	☐	☐	☐
I help other students with ICT	☐	☐	☐	☐	☐
School staff use ICT to contact students	☐	☐	☐	☐	☐
My teachers use ICT in ways that help me learn	☐	☐	☐	☐	☐
Using ICT makes my study seem more real	☐	☐	☐	☐	☐
ICT help me work with other students	☐	☐	☐	☐	☐
My teachers use ICT well in the classroom	☐	☐	☐	☐	☐
My teachers use ICT to set different activities for students	☐	☐	☐	☐	☐
I use ICT to work on group projects	☐	☐	☐	☐	☐
I use ICT to help me understand topics better	☐	☐	☐	☐	☐
I take an active interest in ICT at my school	☐	☐	☐	☐	☐
I use ICT to contact school staff	☐	☐	☐	☐	☐
The ICT available at school help me learn	☐	☐	☐	☐	☐
School staff use ICT to tell my parents about my progress	☐	☐	☐	☐	☐
ICT make classrooms nicer places to be	☐	☐	☐	☐	☐
I use ICT to learn with other students	☐	☐	☐	☐	☐
My teachers use ICT to improve teaching	☐	☐	☐	☐	☐
I use ICT to develop materials for assignments	☐	☐	☐	☐	☐
I use ICT to communicate with other students	☐	☐	☐	☐	☐
The school uses ICT that interest me	☐	☐	☐	☐	☐
Using ICT helps me put together the things that I learn	☐	☐	☐	☐	☐
I use ICT to find out mobre about topics	☐	☐	☐	☐	☐
Teachers use ICT to make assignments more interesting	☐	☐	☐	☐	☐
Using ICT helps motivate me to do school work	☐	☐	☐	☐	☐
I use ICT with other students outside of class	☐	☐	☐	☐	☐
Using ICT helps me feel like I belong at my school	☐	☐	☐	☐	☐
ICT help me find information about topics	☐	☐	☐	☐	☐
My teachers use ICT to provide students with extra help	☐	☐	☐	☐	☐
I use ICT to improve my learning	☐	☐	☐	☐	☐
Teachers use ICT to provide comments about school work	☐	☐	☐	☐	☐

Which ICT has had the most impact on student learning outcomes? How and why?

Have you noticed any changes in the ICT you use at school over the last two years? If so, please describe those changes.

How could teachers use ICT better?

Thank YOU very much for completing this survey

TEACHER QUESTIONNAIRE

This questionnaire seeks your views on how you and your students use Information and Communication Technologies (ICT) to learn at school. ICT are both hardware and software, and include things such as personal computers, mobile phones, personal organisers, MP3 players, game systems, interactive TV and the internet. Non interactive TVs and landline phones are excluded.

There are no right or wrong answers. Please respond to every question. Click next to start the questionnaire. THANK YOU for your help.

What is your full name? _____

What is the name of your school? _____

What year level(s) do you teach? Please mark all that apply.

- ☐ Kindergarten
- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4
- ☐ Year 5
- ☐ Year 6
- ☐ Year 7
- ☐ Year 8
- ☐ Year 9
- ☐ Year 10
- ☐ Year 11
- ☐ Year 12

Have you been involved in the NSW Microsoft Partners in Learning Program at your school?

- ☐ Yes
- ☐ No

What ICT do students use at SCHOOL?

_____

_____

What ICT do students use OUTSIDE SCHOOL?

_____

_____

Has there been a shift in ICT usage at your school in the past two years? If so how?

_____

_____

	NONE	ONE	TWO	THREE	FOUR	FIVE OR MORE
How many computers do you have at home?	☐	☐	☐	☐	☐	☐
For how many years have you been using computers?	☐	☐	☐	☐	☐	☐

HOW OFTEN do you and your students do each of these activities? *Please mark two boxes for each activity:* • *mark one box for ABOUT YOUR USE of ICT* • *mark one box for ABOUT YOUR STUDENTS' use of ICT* *Please mark NEVER if you do not know what the activity is.*	YOU					YOUR STUDENTS				
	NEVER	LESS THAN ONCE A MONTH	BETWEEN ONCE A WEEK AND ONCE A MONTH	FEW TIMES EACH WEEK	ALMOST EVERY DAY	NEVER	LESS THAN ONCE A MONTH	BETWEEN ONCE A WEEK AND ONCE A MONTH	FEW TIMES EACH WEEK	ALMOST EVERY DAY
use a computer with friends	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
write or edit wikis	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
communicate with students online	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
take digital photos	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
spend time in chat rooms or forums	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
communicate with friends using email	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
communicate online with friends in real time	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
shop on the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
browse the web for fun	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
upload text and images to an online profile	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use a webcam	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use the internet for file sharing and/or storage	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
write computer programs	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
download music from the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
learn with special software	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
draw, print or produce graphics on the computer	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
download software from the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use a word processor or a spreadsheet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
get computer game advice online	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
play games on a computer online	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
post comments on blogs that I read	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
write a blog to share ideas with others	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use a mobile phone to access the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use an electronic organiser	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
look up information on the internet	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
watch video or listen to audio on the web	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
make websites	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use the internet for study or school work	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
transfer files across different ICT	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use the internet to ask an 'expert' about work	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
create an animation	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
create an e-portfolio	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
use podcasts	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

How much do you agree with each of these statements?	STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE
Students try to use the latest ICT	☐	☐	☐	☐	☐
Students only use ICT if they really have to	☐	☐	☐	☐	☐
Students lose track of time when they are using a computer	☐	☐	☐	☐	☐
Being able to use ICT helps students do better school work	☐	☐	☐	☐	☐
Students usually only learn about new ICT through other people	☐	☐	☐	☐	☐
Students are always interested in discovering new ICT	☐	☐	☐	☐	☐
Students have little patience for ICT	☐	☐	☐	☐	☐
To play or learn with a computer is really fun for students	☐	☐	☐	☐	☐
Students enjoy interacting with other people online	☐	☐	☐	☐	☐
Using ICT wastes a lot of students' time	☐	☐	☐	☐	☐
Using ICT makes students' learning more enjoyable	☐	☐	☐	☐	☐
Students find it confusing learning to use new ICT	☐	☐	☐	☐	☐
Students like learning how to use different ICT	☐	☐	☐	☐	☐
Students find it hard to cope in everyday life if they cannot use ICT	☐	☐	☐	☐	☐
Students do NOT like using ICT	☐	☐	☐	☐	☐
ICT are very important in students' lives	☐	☐	☐	☐	☐
It is very important to students to use a computer	☐	☐	☐	☐	☐
Students often use many ICT all at once	☐	☐	☐	☐	☐
Students feel really left out when they do NOT own the latest ICT	☐	☐	☐	☐	☐
ICT are too expensive	☐	☐	☐	☐	☐
Using social software engages my students noticeably	☐	☐	☐	☐	☐

HOW WELL can you DO these tasks?	I DO NOT KNOW WHAT THIS MEANS	I KNOW WHAT THIS MEANS BUT CANNOT DO IT	I CAN DO THIS WITH HELP FROM SOMEONE	I CAN DO THIS VERY WELL BY MYSELF
learn how to use new computing equipment	☐	☐	☐	☐
use the internet to look up information	☐	☐	☐	☐
listen to music on a portable digital player	☐	☐	☐	☐
copy or download files from the internet	☐	☐	☐	☐
download music from the internet	☐	☐	☐	☐
use a spreadsheet to plot a graph	☐	☐	☐	☐
use the internet to download software	☐	☐	☐	☐
create a computer program	☐	☐	☐	☐
use software to find and get rid of a computer viruses	☐	☐	☐	☐
program ICT in ways that suit my needs	☐	☐	☐	☐
save a computer document or file	☐	☐	☐	☐
write and send emails	☐	☐	☐	☐
use online chat rooms to communicate with others	☐	☐	☐	☐
attach a file to an email message	☐	☐	☐	☐
use standard word processing software	☐	☐	☐	☐
combine text and images from different software	☐	☐	☐	☐
create a multimedia presentation	☐	☐	☐	☐
use the internet	☐	☐	☐	☐
move files from one place to another on a computer	☐	☐	☐	☐
construct a web page	☐	☐	☐	☐
play computer games	☐	☐	☐	☐
use camera, text and internet on a mobile phone	☐	☐	☐	☐

How OFTEN do you DO or EXPERIENCE each of the following things?	NEVER	HARDLY EVER	SOMETIMES	OFTEN	ALL THE TIME
Students want to do their best at school.	☐	☐	☐	☐	☐
I want students to do their best at school.	☐	☐	☐	☐	☐
I make sure students ask questions in class and take part in discussions.	☐	☐	☐	☐	☐
Students have the chance to do things at school that they are good at.	☐	☐	☐	☐	☐
I provide assignments that help students learn.	☐	☐	☐	☐	☐
Students work with others to understand things better.	☐	☐	☐	☐	☐
The library meets student needs.	☐	☐	☐	☐	☐
Students get involved in school life.	☐	☐	☐	☐	☐
I am enthusiastic about what I teach.	☐	☐	☐	☐	☐
I try to make the topics I teach interesting.	☐	☐	☐	☐	☐
I help students read about new ideas and facts.	☐	☐	☐	☐	☐
Students participate in clubs and activities with their peers.	☐	☐	☐	☐	☐
School classrooms and grounds are nice places to be.	☐	☐	☐	☐	☐
I listen to students' ideas and questions.	☐	☐	☐	☐	☐
I help students find their own information to help them understand topics.	☐	☐	☐	☐	☐
Students think that school plays an important part in their future.	☐	☐	☐	☐	☐
I encourage students to talk with others when they find something difficult.	☐	☐	☐	☐	☐
The school has good materials to help students learn.	☐	☐	☐	☐	☐
I explain things in ways students can understand.	☐	☐	☐	☐	☐
I encourage students to read beyond set materials.	☐	☐	☐	☐	☐
School staff listen to what students have to say.	☐	☐	☐	☐	☐
I create opportunities for students to work with others outside class.	☐	☐	☐	☐	☐
I encourage students to help their peers with learning.	☐	☐	☐	☐	☐
Students have a say in how they learn.	☐	☐	☐	☐	☐
Students can do things at school that they enjoy.	☐	☐	☐	☐	☐
Students include each other in things.	☐	☐	☐	☐	☐
Students feel that they are treated fairly by their teachers.	☐	☐	☐	☐	☐
Students feel like they fit in at our school.	☐	☐	☐	☐	☐
Students come prepared for class.	☐	☐	☐	☐	☐
Students are interested in the school work done in class.	☐	☐	☐	☐	☐
Students get on well with others outside class.	☐	☐	☐	☐	☐
I understand how students learn.	☐	☐	☐	☐	☐
Students want to come to school.	☐	☐	☐	☐	☐
Students use school to develop their personal interests and hobbies.	☐	☐	☐	☐	☐
I take an interest in helping students learn.	☐	☐	☐	☐	☐
I set school work that really makes the students think.	☐	☐	☐	☐	☐
I work with a student on a task until they understand things.	☐	☐	☐	☐	☐

How OFTEN do you DO or EXPERIENCE each of the following things?	NEVER	HARDLY EVER	SOMETIMES	OFTEN	ALL THE TIME
I use ICT to make topics interesting.	☐	☐	☐	☐	☐
I give students help in using new ICT.	☐	☐	☐	☐	☐
Students use ICT to make classes more meaningful.	☐	☐	☐	☐	☐
I find it easy to manage students' use of ICT in the classroom.	☐	☐	☐	☐	☐
Students help other students who need help with ICT.	☐	☐	☐	☐	☐
School staff use ICT to communicate with students.	☐	☐	☐	☐	☐
I use ICT to tailor teaching to student needs.	☐	☐	☐	☐	☐
I use ICT in ways that help students learn.	☐	☐	☐	☐	☐
Using ICT makes study seem more real for students.	☐	☐	☐	☐	☐
ICT helps students work together.	☐	☐	☐	☐	☐
I use ICT well in the classroom.	☐	☐	☐	☐	☐
I use ICT to set different activities for students.	☐	☐	☐	☐	☐
Students use ICT to work on group projects.	☐	☐	☐	☐	☐
Students use ICT to help them understand topics better.	☐	☐	☐	☐	☐
Students take an active interest in ICT at school.	☐	☐	☐	☐	☐
Students use ICT to contact school staff.	☐	☐	☐	☐	☐
The ICT available at school support student learning.	☐	☐	☐	☐	☐
I use a variety of multimedia resources to engage students.	☐	☐	☐	☐	☐
I use ICT to keep parents informed about student progress.	☐	☐	☐	☐	☐
ICT make classrooms nicer places to be.	☐	☐	☐	☐	☐
I help students use ICT to learn with their peers.	☐	☐	☐	☐	☐
I use ICT in ways that improve my teaching.	☐	☐	☐	☐	☐
I use ICT to develop materials for assignments.	☐	☐	☐	☐	☐
I use ICT to introduce students to new resources and information.	☐	☐	☐	☐	☐
Students' use of ICT helps shape my teaching.	☐	☐	☐	☐	☐
I integrate ICT effectively into classroom activities.	☐	☐	☐	☐	☐
Students use ICT to communicate with other students.	☐	☐	☐	☐	☐
The school uses ICT that interest students.	☐	☐	☐	☐	☐
Using ICT helps students connect the things that they learn.	☐	☐	☐	☐	☐
Students use ICT to find out more about topics.	☐	☐	☐	☐	☐
I use ICT to make assignments more interesting.	☐	☐	☐	☐	☐
Using ICT helps motivate students to do school work.	☐	☐	☐	☐	☐
Students use ICT with other students outside of class.	☐	☐	☐	☐	☐
Using ICT helps students feel like they belong at school	☐	☐	☐	☐	☐
ICT help students find information about topics.	☐	☐	☐	☐	☐
I use ICT to provide students with extra help.	☐	☐	☐	☐	☐
Students use ICT to improve their learning.	☐	☐	☐	☐	☐
I use ICT to provide students with comments about their work.	☐	☐	☐	☐	☐

Which ICT has had the most impact on student learning outcomes? How and why?

_____

_____

What professional development has helped you use ICT to engage students.

Please mark all that apply.

- ☐ PD offered in school
- ☐ Mentoring by other staff
- ☐ Mentoring by students
- ☐ PIL Forums
- ☐ Other _____

Who teaches you most about ICT?

_____

_____

How do teachers and students use ICT differently now compared to how they were used two years ago?

_____

_____

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PRINCIPAL QUESTIONNAIRE

This questionnaire seeks your views on how the Microsoft New South Wales Partners in Learning Project has enhanced your students' learning practices and engagement with Information and Communication Technologies (ICT).

Please respond to every question. Click next to start the questionnaire. THANK YOU for your help.

What is your full name? _____

What is the name of your school? _____

Teacher professional learning and development:

How has the Microsoft New South Wales Partners in Learning Project enhanced your teachers' professional learning and development? Please describe beneficial professional learning experiences and the impact each of these has had.

_____

_____

Student knowledge and use of ICT:

How has your students' participation in the Microsoft NSW Partners in Learning Project impacted on students' knowledge and use of ICT? Please describe the new ICTs they have been using and how they have been using them.

_____

_____

Student engagement at school:

Has your students' participation in the Microsoft NSW Partners in Learning Project enhanced students' engagement in school? Please provide examples in your answer.

_____

_____

Improved student learning outcomes:

Can you identify any specific links between students' involvement in the in the Microsoft NSW Partners in Learning Project and improved student learning outcomes?

_____

_____

Links between home and school:

Have the links between home and school improved throughout the life of the Microsoft NSW Partners in Learning Project?

_____

_____

Overall comments:

Please provide any summary comments regarding your school's involvement in the Microsoft NSW Partners in Learning Project over the past two years. List any other changes (not addressed above) that have happened at your school throughout the life of the Microsoft NSW Partners in Learning Project that can be linked to the work undertaken in the project.