

## ICT, PROFESSIONAL LEARNING: TOWARDS COMMUNITIES OF PRACTICE

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**Abstract**

This paper reports on findings from action research pilot projects in four Tasmanian primary schools focussing on the provision of professional learning to support the use of information and communication technology (ICT) in teaching and learning. The pilot projects used an approach developed from case studies in Years three and five in Tasmanian primary school classes (n=29) relating to an Australian Research Council (ARC) Linkage grant studying the impact of ICT on pedagogies in primary schools. In the course of the projects some participants developed and implemented solutions for a major problem of professional learning, namely, how to ensure the transfer of professional learning into inclass practices. The projects suggested that there are significant advantages (increased effectiveness and considerable cost savings) when professional learning is undertaken as a collaborative activity and when teaching colleagues focus on specific class practices. From the projects it has been possible to discern a promising 'pedagogy' for inschool professional learning. Finally, the projects highlight the value and importance of being informed of the hopes, interests and abilities of the participants.

**Keywords** Teacher professional learning, information communication technology [ICT]

**Introduction**

For two or more decades governments around the world have been investing in ICT for use in schools based on 'excessive optimism concerning the potential of ICT to enhance levels of pupil achievement' (Reynolds, Treharne, & Tripp, 2003, p.1). Increasingly the issues surrounding the importance and potential of ICT are being discussed and elaborated leading to the identification of some of the dimensions involved. John Daniel, Assistant Director-General for Education, UNESCO suggests consideration of issues such as: 'Why should we want to use technology? How should we use technology for learning and teaching? What are the basic principles? Who can benefit most from educational technology? Where should we apply it? Which technologies are best?' (2002). Similarly, Watson (2001, p.264) casts doubt on the assumed role of ICT as a 'catalyst for change' and proposes that 'Re-thinking the position of ICT should allow teachers to be more comfortable with, and contributors to, a purpose which accords with their professional self'.

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Clearly teachers must also play a role in rethinking the position of ICT in relation to teaching and learning. Such rethinking should be carried collaboratively, according to reports of the *Apple Classrooms of Tomorrow* studies<sup>2</sup>: ‘When teachers work with colleagues and administrators who actively support fundamental change, there is far greater opportunity for successful growth of new beliefs and practices.’ (Dwyer, Ringstaff, & Sandholtz, 1997, p.11). To ensure transfer into inclass practices, rethinking the role of ICT needs to be undertaken in the context of professional learning as recommended in the Becta report on ICT and Pedagogy: ‘...further substantial support for continuing professional development is necessary in order that teachers integrate the use of ICT and improve pupils’ attainment...’ (Cox et al., 2004, p.5) [however] ‘...little is known about the relationship between their [teachers’] experiences within professional development and their subsequent pedagogies when using ICT. (Cox et al., 2004, p.36).

Professional development has been shown to be related to different levels of teacher concern and behaviour. For example, the Concerns Based Adoption Model [CBAM] (Loucks-Horsley & Hergert, 1985, p.xi) proposes seven development stages in adopting an innovation as indicated by the concerns expressed by the adopter. As will be shown, in the course of the projects, the participating staff members achieved significant and rapid progress through the more advanced Stages of Concern. A community of practice is a group of people sharing a body of knowledge (in these case studies, about teaching and learning and ICT) engaged with each other as members of a (professional) learning community focusing on the successful use of (inclass) practices. Individual members participate in such learning communities in collaborative ways that involve the negotiation of meaning around activities and experiences (Wenger, 1998, 2002). A group of colleagues functioning at Stages Six and Seven of the CBAM is consistent with being a community of practice.

Professional learning and the use of ICT in class practices, are forms of activity, and hence may be considered in terms of Activity Theory (Lim & Hang, 2003) and can be understood as activity systems (Engeström, Miettinen, & Punamäki-Gitai, 1999). Activity systems may be used to examine the interaction between tools and artefacts, rules, the division of effort, the extended community as the subject engages in an activity with an intended object. The

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<sup>2</sup> See ACOT website: <http://www.apple.com/education/k12/leadership/acot/>

summary of an analysis of the professional learning projects using an activity systems perspective is reported elsewhere.<sup>3</sup>

## **Research Design**

### ***Background***

This study set out to investigate the issue of the transfer of professional learning into actual inclass practices and was undertaken as part of the ARC Linkage Research Project *Children, Online Learning and Authentic Teaching Skills in Primary Education*. Each school project team applied findings from the Linkage project to inform its planning leading to the execution of a brief inschool professional learning initiative. During the six week projects minimal support was provided to the participating schools and their leadership teams reported back on their experiences at a one day conference held shortly after the project period.

Most schools did not complete all aspects of their projects in the time available. The projects were understood by participants to begin with an initial exploration of a current aspect of ICT use in the school as a basis for planning and implementing on-going professional learning within the school. While all schools completed a collaborative and informative exploration only two schools implemented an explicit professional learning initiative in response during the time of the study. The other two schools implemented organisational improvements on the basis of needs and opportunities revealed by their initial investigations. These schools uncovered philosophical and curriculum issues relating to the use of ICT in class programs requiring some resolution before specific ICT based professional learning initiatives were appropriate. All participating schools reported the importance and benefits of collegial collaboration, 'having a strong focus on shared practices' even where there was some uncertainty about the details of those practices, and the value of intense focused periods of professional learning. All schools also recognised the importance and value of working together to make physical and knowledge resources equitably available across the school.

### ***Scope***

As part of the process of negotiating participation, schools were provided with background information and referred to the *Children, Online Learning and Authentic Teaching Skills in*

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<sup>3</sup> See [http://www.educ.utas.edu.au/users/ilwebb/Research/activity\\_theory.htm](http://www.educ.utas.edu.au/users/ilwebb/Research/activity_theory.htm)

*Primary Education* (COLAT) website<sup>4</sup>. This site summarized the initial findings and emerging themes from the observations of twenty-nine classes in 17 schools. The ‘action research’ projects were designed and executed by four Tasmanian Department of Education primary schools. The projects were ‘action research’ (plan-do-study-act) in the sense that each school began by identifying an aspect of its present practices (a focus) that it judged worthy of attention (action) and hence a focus for investigation, initiative and review (plan-do-study). In each school data were gathered in relation to the present situation with respect to the focus. After considering the data an initiative was planned implemented and the outcomes reviewed. Strong and consistent themes emerged despite the variation between the foci in the different schools (see Findings)

The schools concerned had enrolments ranging from two hundred to six hundred students. Each school had experienced staff, well regarded leadership and a firm interest in using ICT to enhance the quality of the class programs. Participation in the project was voluntary on the part of the schools. The research was undertaken in late 2003 and each project involved several stages during the period from August to December. These included: identification of schools in August; a half-day introductory workshop for each school in September; in-school action research (September - November); combined schools one day project review workshop at University of Tasmania at Launceston (20 November); and the preparation of a project report in December (Webb, 2003).

### ***Workshop Sequence***

Having accepted the opportunity to participate, each of the four schools was provided with a three hour introductory workshop for the leadership team made up of the principal, the school coordinator for ICT and one or two staff members with a significant interest in, and role with respect to use of, ICT in class programs. These workshops were led by members of the COLAT research team. In one of the schools the leadership team included the network manager who is the school’s senior technical officer with regard to ICT. The initial workshop introduced the basic principles underpinning ‘action research’ and provided guidelines for the development of a meaningful action plan for the school’s project including the following specific steps:

1. Assessing the current use of ICT within the school (intuitively, in general terms)
2. Choosing a focus for action

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<sup>4</sup>See the project website at <http://www.educ.utas.edu.au/users/ilwebb/Research/index.htm>

3. Measuring present situation (focus)
4. Implementing initiatives
5. Studying the results
6. Acting in response to findings

In addition, the workshop facilitators recommended that step (6) above, involve both short term and long term considerations. That is, it was agreed that a major intention of the school's action research project should be to inform prompt and explicit action on the current inschool situation where possible, and at the same time make a sound contribution to the longer term development of the use of ICT in class programs in the school. The hopes in most schools were to become better informed about the inschool situation and/or to develop more effective models of professional learning.

Secondly the workshops included consideration of some of the possibilities for action research that were being suggested by the inschool observations in COLAT. Thirdly the workshops examined some of the most promising findings emerging from the inschool observations, viz, that for ICT to be used easily and well (as observed by members of the research team and reported by school staff members) it appears necessary that the use of ICT is being given ongoing consideration and attention at three levels within the school:

1. School level: that well-informed governance provides for the deployment of resources for professional learning and the required infrastructure and that the members of the school share a clear vision and rationale for the intended role of ICT within the life and work of the school.
2. Class level: that the use of ICT within the class program is meaningful and suited to the knowledge and capabilities of the students. A key aspect of this level is that the use of ICT is well integrated and is not disruptive to the operation of the class program, nor to the participation of students in the program.
3. Activity level: that the ICT being used in teaching and learning activities is well matched to the intended learning and is available in a convenient and timely manner.

The introductory workshop also drew on a second set of findings from the COLAT inschool observations. These findings involved a tentative set of success factors – those factors that, if achieved, are likely to ensure the successful incorporation of ICT into class programs. These factors included

1. Explicit and shared purposes for educational activities complemented by a sound rationale for the use of ICT in undertaking the activities
2. The provision and availability of technology that matches the purposes and capabilities of the users within their windows of opportunity
3. The working knowledge of the users enables them to select, operate and troubleshoot the technology to be.

#### 4. The use of ICT is cost effective

##### ***Developing the school-based themes***

The possible implications of the above were illustrated through the examination of case studies during the workshop. Each school team then chose a promising focus for attention by brainstorming possibilities and concerns, selecting one or two priorities for action, and considering the feasibility of action and the rationale for their choice(s). Having identified the area for attention the school team then developed an action plan to match. That is, over the course of approximately six weeks, participating schools were to choose a focus, gather relevant data, plan and implement one or more initiatives involving professional learning and the use of ICT in class programs. They would then review progress and results and learn from the results with a view to achieving both short term and long term improvements for classes, staff and the school. Thus the traditional 'Plan-Do-Study-Act' sequence of the action research cycle was informed by an initial 'Reflect-Study-Reflect' sequence that informed the design of the major part of each school's project. This initial phase began in the stage of negotiating school participation and was further refined in the introductory workshop.

##### **Case Studies**

All four schools were keen to be better informed about the current aspects of ICT use in the school and the hopes and needs of staff members with respect to the use of ICT in their inschool practices. To this end they designed surveys with which to gather the information.

Schools L and N reached the stage of designing, implementing and evaluating professional learning initiatives based on the information they had gathered from staff. These professional learning initiatives are the main focus of this paper.

Note: summaries of each of the four case studies are provided in Table 2 in the Appendix. The summaries for each school include

- contextual information: a description of the school and background to its participation
- project plan: goals and action plan developed by the school
- preliminary results identified and reported by the school
- conclusions that may be drawn for the schools experiences and insights

### ***Results***

While conforming to the general principles proposed in the introductory workshop each school undertook its own unique project. No school completed the full scope of its own plan but all reported making good to excellent progress while gaining valuable experiences and insights on which to base the development of their use of ICT and their future professional learning practices. Three of the schools developed strategies and matching tools to gather information about their starting situation. To a considerable extent the focus of these surveys reflected the individual school's initial beliefs, interests, expectations and issues with respect to ICT. Although very different in style, each survey gathered information from staff (teaching and/or non teaching) about their competence, confidence, actual practices and hopes in relation to their use of ICT in general and with respect to specific applications and devices. One school's survey gathered information about staff members' access to, and use of, ICT outside the school. These information gathering and processing tools could be adapted for use in other schools<sup>5</sup>. The fourth (School L) was able to negotiate a specific professional learning initiative with staff on the basis that ICT leadership in the school was professionally well regarded and well informed, and that a commitment to making substantial and lasting progress in using ICT already existed in the school. For School L the action research project was simply an added opportunity to pursue an existing agenda.

Two schools (L & N) identified the transfer of professional learning into class practices as their prime concern and, as a result, used the project as an opportunity to design and trial a professional learning process that would achieve this important outcome. Although working quite independently, their projects were similar and the results consistent. In essence, both schools moved away from traditional event-based expert-novice professional learning (e.g., workshops for staff). Instead, each school developed an extended process approach built around the successful integration of ICT into the participants' shared repertoire of teaching and learning practices. These schools reported that the outcomes achieved were highly significant and would be used as the basis for much of their future professional initiatives. They also reported that the outcomes were not specific to professional learning in relation to the use of ICT and that they intend to apply the fundamental principles that had emerged in areas beyond those directly involving ICT.

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<sup>5</sup> See 'Being Informed' at [http://www.educ.utas.edu.au/users/ilwebb/Research/razz\\_2\\_outcomes.htm](http://www.educ.utas.edu.au/users/ilwebb/Research/razz_2_outcomes.htm)

### ***Discussion***

As they developed, three major themes emerged from the action research projects. Firstly each project developed tools and processes to become *better informed* about the current place of ICT in the work of staff including purposes, concerns, practices, frequency of use, staff confidence, staff comfort, hopes and needs. Each of the four schools undertook the collection of information from staff. The collection processes varied considerably in sophistication, from a simple survey involving two open-ended questions as used by School F, to the carefully structured staff ICT audit devised by School E. In each case the school concerned was able to interpret, and make good use of, the information gathered. The second theme involved the design and implementation of *professional learning processes* to meet some of the needs identified in the survey or by the school and this theme is the main focus for the rest of this paper. A third theme of *collaboration* emerged as a dominant and very significant characteristic of the interaction of those engaged in successful professional learning activities.

### ***Professional Learning Processes***

Schools L and N engaged in specific professional learning activities with the explicit intention of supporting the transfer of professional learning into the class programs of the participating teachers. The leadership team for each of these projects followed a similar sequence of steps arising from the initial design or emerging during the process.

**Table 1** Professional Learning Case Studies for a

<b>Process Step</b>	<b>School L</b>	<b>School N</b>
1. Be Informed	Brief survey of staff re knowledge & use of Inspiration software	Survey of staff use and confidence with common software and devices
2. Engage the learning group	Negotiated participation as a group on basis of ability to contribute and benefit with support (survey data used)	Negotiated participation as a group on basis of transfer into class programs with support
3. Focus the learning	Using Inspiration in wide range of activities in class	Using upgraded version of Kidpix for literacy activities
4. Learn about ICT application or device	Workshop on Inspiration, learning with buddies: included planning use of software in class activities: buddies to give inclass support	Workshop on Kidpix, learning with buddies: included planning use of software in literacy activities: inclass support arranged
5. Plan new/improved practices incorporating the ICT		
6. Apply in class program	Implemented plans over next week or so, troubleshooting help from buddies	Used software as planned with helper in first session (mainly to deal with any technical difficulties)
7. Observe experiences, gain and capture, insights	Observed class during lessons, shared informally, recorded in shared online journal	Observed class during lessons, shared informally over the couple of weeks: leadership team backup
8. Share & refine knowledge, skills and experiences	Group session to review activities and experiences, samples gathered and organised online (for the future)	Learning group met to review experiences and capture learning

9. Embed practices: share & transfer more widely	Used software in other aspects of class programs. Experiences & products shared with other staff ('Corridor walk') as part of staff meeting	Use of Kidpix well established in the staff team that participated re-enforced by shared knowledge and experience
10. Revisit from time to time	Leadership team will revisit from time to time. Step 9 for some other staff	Stated intention of school

### *Discussion of Professional Learning Processes*

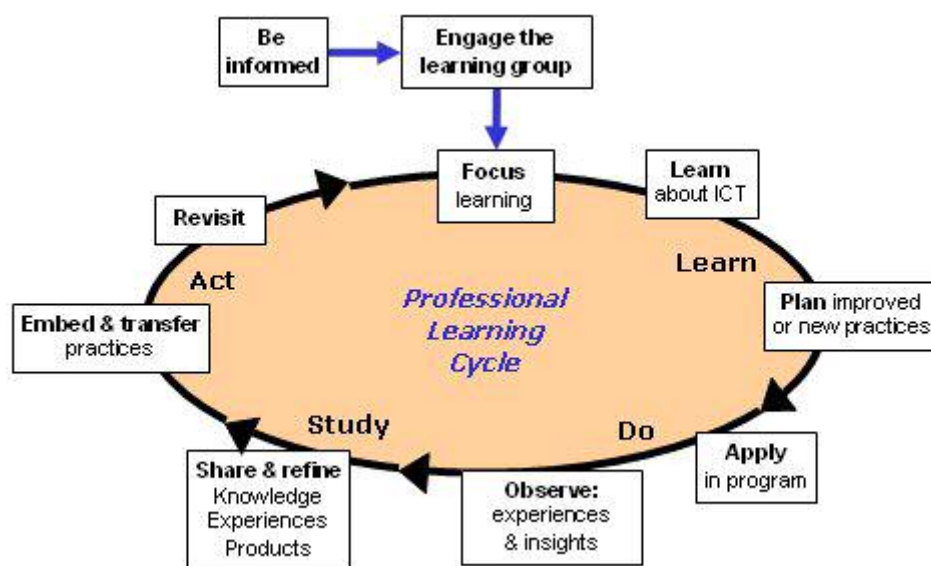
By being informed, the facilitating teams were able to negotiate the proposed professional learning initiatives on the basis of the actual needs and interests of the participants. This negotiation resulted in the engagement of the learning group as a team rather than as individuals. School N focused on a natural inschool team (teachers of Prep to Grade 2) and situated the professional learning in relation to specific aspects of the class programs of those teachers involved (literacy activities). As an inschool team the group had a shared repertoire of practices, a range of shared experiences, and a range of expertise and experience with the software amongst its members. In each school the 'introductory workshop' was brief (less than 1 hour). The groups were not made up entirely of 'ICT novices' and this enabled peer tutoring (as buddies) with respect to the operation of the software and planning for its use in class. Another significant factor appears to be the strong focus on the current teaching and learning practices and the way in which ICT might enhance these practices in actual class programs. The introductory workshop was also clearly understood as a first step in a professional learning process and not as an end, or event, in itself. Participants were encouraged and supported to act promptly on their workshop learning. In School L support was provided through buddies and other ad hoc arrangements whereas in School N support for the initial in-class use of the ICT was specifically arranged and provided by colleagues with suitable expertise and experience. During this application phase, participating teachers and their supporters undertook to make observations of

- the actual use of ICT,
- the effectiveness or otherwise of the practices
- and the experiences of the teachers and students involved

These observations led to important insights about the specific technology and its potential for use in teaching and learning. Arrangements were made to meet as a group part-way through the application phase in order to share and refine the knowledge, experiences and insights gained, and to share any products created using the software. This step enabled attention to be given to a range of important matters including acknowledging and celebrating

achievement, building shared understandings, expanding the range of insights available to individual members, and underlining the existence of a shared repertoire of practices. In addition participants were able to provide support and encouragement and troubleshooting expertise for each other. This step was also important in that it provided the basis for embedding and transferring the newly developed practices into the life and work of the school. Although not undertaken within the time of this study there is an additional logical step, that is, revisiting the professional learning and inclass practices at sometime in the future.

Together the above steps can be summarised as a professional learning cycle (Figure 1)



**Figure 1** The Professional Learning Cycle

Comparison of the two projects (Table 1) and discussion of the experiences and insights of the participants has led to the discernment of several potentially important principles. These principles underpin the above model and help to ensure effective professional learning for the use of ICT to enhance teaching and learning. Together they form a possible ‘pedagogy for professional learning’:

1. The opportunity for professional learning should be provided as part of an informed, negotiated, co-planned process explicitly situated within the work of the school and its members.
2. The professional learning activities should focus explicitly on the practices to be used in the class programs. This compares with common ICT professional development programs that place the main focus is on ICT knowledge and skills for teachers.

3. The ICT component should be specific about the knowledge and skills required with strong links made between the technology and the activities in which it will be used leading to greater clarity of purposes and a stronger rationale for using ICT.
4. Participants should engage as a learning group in their own right, collaborating to support their own and each other's learning. Ideally they will develop as a community of practice in which their roles are situational and dynamic. Examination of the case studies revealed several common roles. All participants were Learners (and one or more of the following)
  - Co-learners: confirm and validate the experiences of their fellow learners
  - Tutors: assisted with 'how to ...'
  - Mentors: assisted with the answers to questions of 'what to...' and 'why to...'
  - Others such as the Principal and senior staff, who engaged with the group were able to speak on behalf of the school to
    - acknowledge the achievement of the learners and
    - acknowledge the validity of the new or improved practices

These roles assist greatly in the process of embedding the new or improved practices into the life and work of the school. Perhaps the most important implication from this set of roles is that rich professional learning activities involve a much wider and more dynamic set of working relationships than the traditional 'novice-expert' model commonly used in professional learning especially when it relates to ICT. This approach has two important qualities that were confirmed by the participants. The approach is highly cost effective in that the intended practices are readily transferred into the class program; there is minimum disruption arising from extended professional learning activity and it utilises the expertise already existing within the school. In addition the approach enriches existing professional learning resources that are within the school and thus readily available – all participants were both teachers and learners. As reported by the leadership teams, the demands on the facilitating team were much less than those in traditional professional learning where facilitators are required to take the role of 'expert' in relation to a group made up entirely of 'novices'.

The mutual proximity of the participants meant that much of the professional learning (especially learning from experience) was managed informally requiring minimal organization. Similarly support was easily accessed by those who experienced difficulties which meant that problems with operating or troubleshooting the technology rarely become major obstacles in pursuing implementation of the new or improved practices. This situation contrasts with reports from many teachers who have attended individual out-of-school professional learning activities and then failed to remember some operational aspect to do

with the ICT on return to school. As a result of they are then blocked from transferring their professional learning into their own professional practice because of lack of knowing whom has the local knowledge to help them solve their problem. Situating the professional learning in the context of inschool practices involving inschool teams or a broad cross section of the school leads to higher levels of sustainability because the practices are more readily embedded in the school culture and better aligned with school purposes and vision.

### ***Conclusion***

The professional learning projects focused on inclass practices involving teaching, learning and the use of ICT. Based on a well informed school perspective, and with goals negotiated with the participants, the professional learning was undertaken as highly collaborative activities extending from the introductory workshop into actual classroom activities. The group of co-learners met formally and informally to share their observations, to refine the design of their inclass activities, and to solve problems that had arisen. This occurred within a specific time period during which the members of the learning group shared a common focus in their professional learning and inclass practices.

These endeavours demonstrated the characteristics of a community of practice in that there was a high level of participation, participants were engaged in developing and sharing a body of knowledge, they shared a sense of being a purposeful group [community] and they were collaborating to develop a repertoire of shared practices with respect to their chosen focus. Their interactions were largely based on the negotiation of meaning in relation to their purposes, activities, experiences, insights, knowledge and future possibilities.

In terms of transferring professional learning into inclass practices, the case studies clearly showed the effectiveness of the approach taken by the teams in the participating schools. The schools now report a high level of commitment to developing and utilizing this approach to their professional learning initiatives in the future. The participants involved in the projects report higher levels of satisfaction with their activities and achievements. School administrations also report higher levels of regard for what was achieved, in the time taken and with the resources available.

On the basis of the above it is reasonable to make recommendations as follows

1. That professional learning should be closely aligned with the development of communities of practice [inschool or otherwise].
2. That as far as practicable professional learning should be situated in the institutions in which the participants regularly work.
3. That professional learning should focus on the development of new practices and/or the improvement of existing practices.
4. That professional learning should be understood and managed as a collaborative endeavour rather than an expectation or requirement to be placed on individuals.
5. That professional learning be understood and managed as a process rather than as an event or series of events.

These pilot studies will provide a basis for further investigations intended to elaborate the role of communities of practice in the professional learning of teachers as they incorporate the use of ICT into class programs.

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## APPENDIX

**Table 2** Comparative Summaries of Action Research Projects

School	E	F	L	N
<b>Description</b>	Long established government primary school (~200) in a small residential village 20km from a major centre.	One of two government primary schools in a rural service town outside capital city, established for some time recently underwent redevelopment.	Government primary school (~600) in outer suburban area of a major city. History of successful use of ICT. Experienced staff; strong support for use of ICT in classes.	The original government primary school in a large rural service town just outside the capital. Its present enrolment is approximately 350 students
<b>Background</b>	Recently appointed Principal identified need to address a number of historical issues relating to ICT: previously strong technical focus on ICT but loss of expert teacher and now no basis for planning & decision making	Principal has been in the school a few years and is working to develop a whole school approach to teaching and learning. Efforts to date have had mixed success and the staff has failed to achieve consensus on a number of vital educational issues including the use of ICT	Strong commitment to use of ICT to enhance class programs. School & community have both made substantial investments in ICT. Need to maximize the effectiveness of professional learning as a major concern arising from reductions in available resources.	A proud history in the use of ICT for teaching and learning. Maintaining previous levels of expertise and practice had become difficult with a loss of skilled staff & reduced resources.
<b>Goals</b>	To be better informed about ICT provision and practice, staff competences and hopes and thus to better support use of ICT across the school	To gain insights into the purposes concerns & confidence of staff. To use these as a basis for discussion with staff leading to the development of consistent practices involving the use of ICT.	To design, develop and trial a more effective way of delivering professional learning based on convenience, relevance and usefulness to the participating staff members	To make better provision for ICT professional learning leading to a more consistent integration of ICT intellectual teaching and learning in classes throughout the school.
<b>Action Plan</b>	Develop a comprehensive staff survey <sup>6</sup> covering aspects of ICT in work of the school: <ul style="list-style-type: none"> <li>• Applications &amp; devices</li> <li>• Uses &amp; confidence</li> <li>• Basic task competence</li> <li>• Mentoring &amp; support</li> <li>• Certification</li> <li>• Access (out of school)</li> </ul> Attend to short term matters where possible	Simplest possible method. Staff to respond to two key questions regarding the use of ICT in their class programs. <ul style="list-style-type: none"> <li>• Firstly current purposes that involve the use of ICT in classes. [to map the current practices across the school].</li> <li>• Secondly staff invited to share their concerns regarding the use of ICT in their</li> </ul>	Develop a professional learning process around that the use of Inspiration ('visual thinking' software): <ul style="list-style-type: none"> <li>• Survey staff - select mixed staff</li> <li>• Arrange a 'buddy system'</li> <li>• Workshop: introduce software and plan for its use (next 2 wks)</li> <li>• Review progress as a group</li> <li>• Devise ways of capturing the learning, experiences &amp; issues through a shared online journal</li> <li>• Shared achievements with staff</li> </ul>	Project team devised an action plan with three steps: <ul style="list-style-type: none"> <li>• Survey staff re their confidence with, &amp; use of, currently available ICT (software and devices)</li> <li>• provide an training &amp; planning use of Kidpix with buddies where possible</li> <li>• provide support for the participants to take their professional learning into their class programs</li> </ul>

<sup>6</sup> ICT Staff Audit: [http://www.educ.utas.edu.au/users/ilwebb/Research/otherdocs/ICTStaff\\_Audit.doc](http://www.educ.utas.edu.au/users/ilwebb/Research/otherdocs/ICTStaff_Audit.doc)

**Table 2 (cont.)** Comparative Findings of Action Research Projects

School	E	F	L	N
<b>Preliminary results</b>	<p>Responses collected and collated as staff &amp; school profiles:<sup>7</sup></p> <ul style="list-style-type: none"> <li>• Some staff yet to achieve accreditation of any level</li> <li>• All staff members indicated the need for more training</li> <li>• Teaching staff generally felt more comfortable and knowledgeable about ICT than did ancillary staff</li> <li>• Every staff member had a PC &amp; peripherals at home but variation was large</li> <li>• Staff considered 3 to 5 PCs per classroom to be ideal</li> <li>• five months later the school reported good progress: it had introduced a calendar, online resource sharing, improved support systems</li> </ul>	<p>Teachers reported using ICT</p> <ul style="list-style-type: none"> <li>• To enable students to acquire, present and or store information and for communication.</li> <li>• To extend and motivate students, as a tool for activity</li> <li>• For students to learn how to use ICT</li> </ul> <p>NB. Purposes were not consistent &amp; apparent significance varied Concerns reported by staff:</p> <ul style="list-style-type: none"> <li>• availability and reliability of ICT</li> <li>• concern about themselves as users of ICT</li> <li>• own knowledge of ICT &amp; ability to use ICT wisely in class</li> <li>• use of time, &amp; groupings</li> <li>• resulting delays</li> <li>• significance s of the products from student use of ICT</li> </ul> <p>Low comfort → teacher focus on ICT High comfort → focus on education</p>	<p>Very positive response from staff:</p> <ul style="list-style-type: none"> <li>• Professional learning related to class programs was very meaningful &amp; highly valued.</li> <li>• Participating as peers → collegial support (tutoring &amp; mentoring) incidentally throughout the project.</li> <li>• All participants achieved effective transfer of their professional learning into inclass practices.</li> <li>• Buddy system expanded naturally and was highly motivating.</li> <li>• Participants universally agreed that the short time line assisted them to act on their professional learning and reinforced their learning.</li> </ul>	<p>Survey showed the expertise varies considerably. All participants successfully transferred their professional learning into the class program:</p> <ul style="list-style-type: none"> <li>• Project leaders started with the teachers' strengths, and building on from there</li> <li>• Participants were members of a section of the school and their success suggested there is value in addressing the needs of natural teams where possible</li> </ul> <p>Ongoing challenges identified</p> <ul style="list-style-type: none"> <li>• Difficulties in catering for part time and casual staff;</li> <li>• 'stretching the resources' to provide support in the transfer phase;</li> <li>• moving from focusing on the technology to the teaching &amp; learning practices.</li> </ul>
<b>Conclusions</b>	<p>The School has developed a short but informative survey tool. Attention to staff comfort with ICT has been significant The process has enhanced of engagement with ICT The school has demonstrated its commitment to the use of ICT to enable staff members to <i>'work smarter – not harder'</i></p>	<p>Some responses were quite negative but provided an opportunity to deal with ICT as a staff The school resolved several matters relating to the availability and reliability of ICT in the classrooms. Teacher comfort with ICT may well be the significantly underestimated issue.</p>	<p>Redesign professional learning processes. Initiatives and experience → 'pedagogy' for PL. PL best undertaken as a situated co-learning task. Build collaboration around learning that focuses on current practices. Share learning across the organization to embed the practices</p>	<p>The knowledge &amp; skills required to use ICT are quite specific. There is value in</p> <ul style="list-style-type: none"> <li>• working with natural teams</li> <li>• a mixture of expertise,</li> <li>• more times to work together.</li> <li>• having a specific focus</li> <li>• understanding of how the professional learning fits into the life and work of the school</li> </ul>

<sup>7</sup> ICT Staff Profile: [http://www.educ.utas.edu.au/users/ilwebb/Research/otherdocs/ICTStaff\\_Profile.xls](http://www.educ.utas.edu.au/users/ilwebb/Research/otherdocs/ICTStaff_Profile.xls)