The Sustainability of ICT following involvement in an ICT contract.

Sabbatical Report: Term 3 : 2010

Acknowledgements:

I wish to thank the Postgate School Board of Trustees for their support for my Sabbatical leave. The time was a valuable opportunity for reflection, recharging and investigating ICT in other schools.

I also acknowledge the support of the staff and the Senior Management Team, in particular Adam Campbell who took over the helm and kept the school moving forward in my absence.

I am very grateful to Principals and schools in New Zealand and Australia who gave of their time and knowledge in assisting with this investigation.

Rationale:

For schools coming out of an ICT contract there are many implications for continuing the momentum of ICT development.
Having a set of suggestions in the way of proven successful and effective procedures and programmes to manage this would be most beneficial to schools currently in contracts and to schools looking to further develop ICT programmes within their school.

Having completed an ICT contract in 2008, I was interested to find out how other schools were keeping the momentum of ICT development going.

This area of focus was by no means an indication that my school was struggling following involvement in the contract. As noted in both the Strategic and Annual plans, such development has been an ongoing priority for the Board and the school as a whole over the past 5 years and is ably led by our ICT Lead Teacher.

ICT is part of the Government's ongoing education strategy and therefore any personal development through awareness and knowledge of positive post-contract programmes in schools can not only impact positively on my school, but on all schools currently in contracts or those looking to further develop ICT.

Purpose

To investigate how schools are sustaining ICT following involvement in a three-year ICT contract. This will include looking at effective practice in schools to maintain and further the use of ICT in classrooms and the continued support for Teachers and Principals through professional development and other support programmes.

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The investigation includes:

- Why schools chose to be involved in an ICT contract
- The success of the contract and its impact on schools.
- What schools are doing to keep ICT development moving forward so that it enhances Learning and Teaching following involvement in a contract
- What schools have found most effective in continuing the momentum of ICT development after the contract
- How these schools are using their ICT funding
- Ongoing Professional Development for staff
- The role the Principal plays in ongoing programmes
- Support the school uses to maintain ICT momentum
- Whether Cluster involvement continues after the contract and to what level
- Barriers to furthering ICT development at the level of the contract
- How ICT development is monitored and assessed in meeting the needs of staff.
- A comparison of effective ICT development in Australian schools

Background of schools involved in this investigation:

Of the twenty schools assisting with my investigation, there were a number who had already completed a three year Ministry contract (a couple from the very first contract) and others who were currently involved in contracts. These schools represent a cross section of Decile 9-10, Decile 4-5 and Decile 1-2.

Why schools chose to be involved in an ICT contract

A number of newly appointed Principals indicated that their schools were involved in the contract through a decision made by the previous Principal. There were also a number of schools in the contract through agreements at cluster level and through local Principal Associations.

Only one school indicated a driver for their involvement in the contract as being feedback from their school community which indicated that ICT become a major focus of the strategic plan.
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Some schools felt they had a good infrastructure in ICT which they used well. They did however feel that with the right guidance and direction of ICT they would be able to be better at what they were doing with ICT. It appears that there was a significant amount of money being spent on hardware however Professional Development for teachers was being neglected. There was a genuine desire to move teachers in their use of ICT to support Learning and Teaching. Many teachers felt that students were further ahead in learning through ICT than they were themselves so involvement in the contract provided an opportunity for teachers to up-skill in their knowledge, their capability and confidence. The contract therefore was seen to be a vehicle to provide many opportunities for effective Professional Development on innovative Learning and Teaching.
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The integration of ICT into the school curriculum was a high priority for many schools involving themselves in the contract. They also saw the opportunities the contract brought to attend conferences (eg U-Learn) the aggregation of resources to employ facilitators who are too expensive for schools to afford on their own and release time for teachers to see ICT development across other schools within and outside their local environment.

Some schools indicated that Junior staff in particular were unaware of the potential for ICT to be integrated into their classroom programmes and therefore there was some reluctance to embrace the desired ministry outcomes for E-Learning. Principals saw the contract as a further vehicle to bring ICT into the school as an integral tool for learning. Many schools had placed ICT development as a low priority due to time restraints; there were often too many other priorities seen to put pressure on Learning and Teaching programmes. Schools who did not have the funding they believed was required for effective ICT development used the contract to explore ICT as a Learning and Teaching tool and a way to become more knowledgeable in what schools really needed to become successful in this area.

Before commencing the contracts, schools generally found that overall, staff had little effective professional development in ICT. It was indicated that while many teachers had confidence in the way they used ICT for their personal use, when it came to using it in the classroom as a
learning and Teaching tool, there were anxieties. Teachers in general were confident with word processing, file management and basic computer operation however the use of the internet, spread sheets and appropriate classroom applications were areas they had yet to explore.
It was felt that the ICT contract would go a long way towards meeting these gaps.

The success of the contract and its impact on schools.

A majority of schools commented that before their involvement in the contract, much of the ICT emphasis was on infrastructure issues that seemed to dominate all schools. This took some years to resolve but the work done meant that schools were able to begin concentrating on the development of teacher skills and knowledge. It also gave schools the momentum to move the reluctant teachers who used ICT problems as an excuse not to use ICT to support class programmes.

Some schools (more so decile 1-3) felt the contract brought extra demands, in particular finding time to work with ICT and using additional funding to support it. This was not a view shared by all schools, the majority seeing ICT as a tool for learning and not a separate entity which needed to have its own space in the curriculum.

There have been many positives for schools who have involved themselves in the ICT contract, the most commented on being that schools have been able to totally embrace ICT and integrate it into the curriculum.
It had been felt that some of the earlier contracts had minimal impact due to poorly resourced infrastructures and teachers using ICT inquiry models as a process which they followed without necessarily thinking through the value of what they were doing or the impact it may or may not have had on student learning. In short, some teachers saw the contract as a recipe to be followed exactly as presented without any teacher thought and innovation.

The contract showed that no matter what the level, or skills of the teacher, anything in ICT was possible. If teachers were able to accept that their students could also lead ICT and that they saw themselves not only as teachers but also learners, then the possibilities were endless.

A strong message from all schools involved in the ICT contract was that there were huge benefits to the school and to the Learning and Teaching programmes. Those which were common to schools investigated included:

- Cross school sharing of effective Learning and Teaching
- Recognisable up-skilling of lead teachers who successfully modelled to other staff
- Growth of confidence in staff to integrate ICT

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- The opportunities for professional development on innovative Learning and Teaching through conferences at National and cluster level.
- The ability to aggregate resources to employ knowledgeable and skilled facilitators who were too expensive for schools to afford on their own
- More funding was directed into ICT in the form of resources and ongoing professional development.
- Boards of Trustees recognised the need for effective use of ICT in Learning and Teaching and directed funding and resources in this direction
- ICT has become embedded in the school charter and strategic plan
- Clusters worked together in a very positive way
- ICT has evolved to become an integral tool for Learning and Teaching in a natural way.

What schools have found most effective in continuing the momentum of ICT development.

Most schools found that generally their students identified well with the technology and the hands on learning however there were clear indications of the requirements for effective momentum being maintained.

- Funding to maintain a robust infrastructure with the removal of all infrastructure issues & barriers (eg printing problems, automatic backups, network crashes)
- Don't aim high to begin – start with the basics using what you have and then build.
- Provide practical and exciting examples of ICT use in the curriculum for teachers to tap into.
- Templates for planning and assessment are accessible on the school network in one place.
- Laptops for all teachers
- Expectation from the Principal that staff will use ICT through a SMS, completing reports to parents and presenting data
- Pods of laptops for students to work with in the classroom
- The Lead teacher being established and recognised as a driver for ICT development
- Giving ownership to the students as movers and shakers.
- Principal driving in support of the Lead Teacher with expectations of all staff
- Regular, on-going Professional Development
- Building ICT into Teacher Appraisal

What Schools are doing to keep ICT development moving forward so that it enhances Learning and Teaching.

The first essential priority is for schools to have an ICT implementation plan which outlines resources, funding, staff development, ongoing expectations, monitoring and assessment.
This is best developed as part of the Strategic plan and the Charter with the Board of Trustees. These documents then become a powerful tool for bringing all staff on board in the continued development across the school.

Some schools planned together to enable the focus from the contract to continue across the cluster.

Schools indicated that ongoing maintenance and replacement of hardware and software is essential. It seems that no more than a three year life span for hardware is desirable. For some schools this also applies to photocopiers. In particular, up to date software was a priority. This is seen as the "Base Tool" for building ICT into the daily learning programmes.

The next major focus area is on-going Professional Development. It is important that ICT development is integrated with other school-wide focus areas. PD in the right focus areas has seen staff use ICT for data gathering and evaluation, along side planning.

It is also seen as important that lead teachers remain at the forefront of ICT development – that they are seen to push ICT across the whole school in focus areas and that they themselves are given the time to work with other teachers and students within the school. Some schools used the Lead Teachers to set up community evenings, inter-school and intra-school professional learning networks which in turn allowed ICT to become a natural focus. The indication here was that learning conversations amongst staff in both formal and informal settings provided effective Professional Development and ongoing learning. This can begin at syndicate level and then be shared across other syndicates to give all teachers an understanding of stages of development at all levels across the school.

A number of clusters also continued to provide cluster based ICT sessions for all teachers.

The third area of priority was the use of ICT by students. This includes laptops being used in the classrooms. Using the students as ICT drivers can not be underestimated. The children come with so many skills that schools are simply able to extend them.

A large number of schools included at least one 'across the school' unit each year which must involve an ICT skill. The ICT Lead Teacher monitors to ensure that all inquiry unit plans have an element of ICT skill included. This is also a motivator for other staff who are seen to seek assistance when they are not sure.

It was also seen as important that as for other curriculum areas, ICT is seen as an extension activity for able students. These students then in turn were sharing their skills and knowledge with their class teachers and other students.

The use of the inquiry model with children actively involved in research has been very successful, particularly in enabling ICT learning across the integrated curriculum.

How ICT development is Monitored and Assessed in meeting Teacher Needs.

Most schools have indicated that the most effective means of assessing the on-going needs of staff is through tying ICT into the Appraisal process. Targets set in the appraisal documentation are easy to assess against classroom practice. This can include the development of benchmarks clearly outlining expectations for learning through the tools of ICT.

Principals and lead teachers were also able to gain insight through classroom visits and working alongside individual teachers. Talking with students about what they are doing can give an in depth insight into what is happening in individual classrooms. The excitement of the teacher around ICT will be reflected in the classroom at multiple levels.

Discussion within the syndicate teams is an effective way of sharing and communicating the ICT practices in the classrooms. This can then easily be fed back through the management team to give an overall picture across the school.

Formal surveys amongst staff can give a before and after snapshot of an individual teacher's involvement in ICT however it is important that this is not done in isolation and is evidenced in other formats.

Teacher self-monitoring can identify learning needs across the staff and can then be used to set annual goals and targets for groups of / individual teachers.

Whatever the means of assessing the on-going effectiveness of professional development, it is paramount that frequent and stringent review processes are in place. It is imperative that this process leads to future planning and development in ICT, particularly in the areas of developing on-going tasks appropriate to the Learning and Teaching programmes.

Among other tools indicated appropriate for monitoring staff needs in ICT were monitoring the use of SMS, email, internet, e-portfolios, class blogs and class pages on school websites.

Ongoing Professional Development for Staff
On-going professional development is seen as essential to maintain the focus and drive in ICT.
Some schools are linking this to other cluster initiatives (eg writing)
Internal staff expertise, particularly the ICT lead teacher, is seen as the first call on developing other staff followed by other cluster representatives. The setting up of professional learning groups has seen lead teachers take up the challenge of on-going PD as a group themselves then bringing their learning and knowledge back into the school.

The attendance at conferences such as U-Learn has also led to other teacher networks developing and is seen as a powerful source of on-going support in ICT.

Release time for teachers and the use of CRT is seen as a way of allowing staff to visit other classrooms, other schools and to spend time with the ICT lead teacher.
Some schools are set up that teachers can request PD from the lead teacher who then directs them to PD on line or through other appropriate sources. This gives teachers ownership of their ICT development and the speed at which it takes place.

Teachers hosting staff meetings in their classrooms provides an ideal opportunity for staff to see ICT in other rooms at other levels across the school. It also provides the opportunity for in-depth sharing of ideas. (This can become an effective incentive for staff to "move forward' in ICT.)

A few schools have employed a specific ICT facilitator to continue the momentum after the contract enabling them to keep up to date with skills and technology.

One constant among schools is that although ICT must progress, it is considered imperative that it moves at a rate which compliments teacher ability. This not only allows for a natural progression but also allows teachers to set their own challenges and learning pace. It is important though that this is suitably monitored and reviewed.

Some schools did not see new developments in ICT as a priority but focused on maintaining and working with what they already had.

The Role of the Principal and the Importance of a Lead Teacher.

The role of the Principal and Lead Teacher determine the success of on-going ICT development being maintained. It is important that the Principal is seen to back all developments and give support firstly to the ICT lead teacher.

The Principal
In most schools the Principal is seen as responsible for resourcing all ICT developments in the school whether they be systems, hardware and software, Learning and Teaching programmes or staff development. Where Principals show practical involvement through themselves becoming involved in on-going training opportunities and providing the staff and lead teachers with the means to move ICT forward, progress is higher and at a greater pace than in schools where the Principal is not seen as a driver.

Lead teachers in particular valued the encouragement of Principals through the provision of a budget, through their recognition that the lead teacher role was an important role in the school and through their own practical involvement in ICT. This included the use of SMS, Enrol, e-Asttle etc. In this light the Principal is also seen as a learner by the staff – a very powerful motivator.

In many cases where the Principal is strong in ICT, an additional platform was in place to lead learning. Whatever the level of involvement, schools strongly indicated that the Principal must convey the importance of ICT development to the Board linking it in with the strategic and annual plans and the school charter alongside the Ministry's E-Learning action plan. At the very least the Principal must provide the budget, the technical support and the systems within the school to keep the direction of ICT development alive and moving forward on all levels.

Lead Teacher
The importance of the Lead Teacher is recognised in most schools through the allocation of units for the responsibilities which go with the role. These units vary from .5 to 3 and the number of units allocated has little bearing on the importance of the role. (They are generally dependant on school size with larger schools being able to allocate more units.)
While many schools indicated two lead teachers involved in the contract, only one now continues with the responsibility within the school. In some larger schools however, there is a lead teacher from each syndicate area of the school.

The basic role of the lead teacher changes little from school to school; that is to ensure the on-going development of staff in ICT and the use of ICT within Learning and Teaching programmes.

In saying this however, the expectations as to how they fulfil that role can vary greatly.
Schools indicated responsibilities to include:
- General problem solving (can include network issues).
- Basic hardware set up
- Co-ordination work with the IT technician
- Enhancing teacher ability
- Organise release time for ICT professional development
- Daily support staff with requests for assistance
- Introduce new software
- Organise and lead professional development
- Develop a progressive ICT programme collaboratively with other staff
- Lead professional learning groups
- Maintaining the school computer network, liaising with staff and those who manage ICT systems within the school.
- Set up new laptops for teachers
- Order new hardware
- Monitor the ICT budget
- Maintenance of the school website

How schools are using their ICT Funding

Through the operations Grant, all school receive an ICT component. This component is very minimal and as such schools find it goes only a short way towards the desired level of ICT resourcing in the school. Schools are largely disappointed in the Ministry's desire to have them 'up there' in ICT yet barely support this in $ terms. Many schools were topping this funding up by an average of 50%.

Schools indicated that to supplement the Ministry funding they are also using money from their reserves and from the 5YP grant.

A number of schools apply for funding from various Trusts and Community Grant schemes to enhance / increase ICT resources, particularly hardware. Laptop pods are commonly sought after through this means. Other sources of funding come from Community Groups, locally raised funds and business sponsorship.

Again, it is important that the use of funding and the type of funding is embedded in the strategic plan. This ensures the on-going sustainability of ICT development, particularly where they may be a change of Board or a change of Leadership in the school.

ICT funding covers a variety of ICT essentials including:

- Data Projectors
- Admin computer upgrades
- Lead teacher release
- Technical support
- Hardware upgrades
- PC / laptop leases
- Attendance at U-Learn Conferences
- ICT training in classroom administration
- Server / system maintenance
- Photocopier leases / purchases
- Digital cameras
- Software licences
- Lead teacher recognition

Barriers to Furthering ICT Development at the Level of the Contract

While schools indicated that on the whole they were maintaining ICT development with their current resources, in all cases, funding was seen as a barrier. (more so, adequate funding would see other barriers being addressed more effectively.) Smaller schools definitely felt disadvantaged when it came to ICT funding, particularly in the area of technical support which was not able to be budgeted for effectively against other school priorities.

Principals and Lead Teachers saw four indicative barriers to maintaining the momentum of ICT development in their schools.

1. Inadequate / antiquated hardware
2. The Principal / Lead Teacher leaving the school
3. Changes in teaching staff, especially where new staff had not been involved in a contract and therefore do not necessarily have the skills to implement ICT into their classroom programmes at the expected level.
4. The reluctant staff who found change difficult or were not willing to change

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Professional development in ICT is also competing with other curriculum priorities in schools. This includes Literacy, Numeracy, and more recently, National Standards. Likewise, money was also a competing resource as schools prioritised other school developments.

The pace of change is also seen as a barrier in some schools. Technology is changing so fast that it can become out-dated before teachers have the opportunity to become totally familiar with it. Likewise some schools felt that purchases of interactive white boards / smart boards was not prudent due to the high cost and the fact that technology of such tools has moved in new directions and passed them by.

Some schools indicated that the momentum of the contract was hard to sustain once the contract and the specific funding associated with it ceased. The barriers here have included the cessation of the stimulation gained from the interschool cluster which has not been successfully maintained in all clusters.

Schools saw the biggest challenge as being how to ensure that funds were not sucked up by IT upgrades, internet charges, maintenance and equipment replacement. ICT must be seen as a tool for learning and not something that is going to take over everything else.

Assessing the impact of ICT on Student Learning.

During this investigation, discussions arose around the assessment of students, their ability and success in using ICT and the impact ICT had on their learning.

Schools tended to agree that ICT was one of many tools used to support student learning and therefore was not an area to assess in the way other curriculum areas might be assessed. (As one Principal indicated, we do not assess how well students are using their pens.) The overall feeling was that schools can not, and therefore do not try to measure the effect that ICT has on student learning.

In saying this however, Principals were in agreement that a progressive programme of ICT skills, knowledge and attitudes could be measured and assessed. Schools found that students driving their own ICT development and self-evaluating against a matrix resulted in effective outcomes for them.

A comparison of ICT development in Australian schools

Visiting a Lead ICT school in Melbourne was an awe-inspiring experience. This was not because of the way the school was using ICT in their Learning and Teaching programmes but more to do with the funding and ICT resources available.

Allocated ICT funding in the Bulk Grant for my school comes in at $45 per child. In Australia, the Principal is able to allocate from Government funding (they are 'Bulk Funded' and so also budget for both teaching and support staff) an amount appropriate to the needs of ICT development. This year, the school I visited was allocating $170 per student to ICT development. This allowed the school to resource ICT development at much higher levels. Eg. One computer to every three students with no hardware more than three years old.

Although Australian schools are funded more effectively for ICT, the basic outcomes were found to be no better than those in New Zealand. Walking into the classrooms I was able to see immediately that there were more laptops available to students and teachers were using interactive screens over LCD wide screen TVs rather than smart boards. (this allowed for effective group teaching as opposed to whole class teaching using smart boards) however the ways in which students were using ICT in their learning was no different. Classrooms were 'print rich' with many examples of student work using the tools of ICT.

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The key to ongoing development was also indicated as sound professional development for staff and the integration of this into staff appraisal systems. Staff must be accountable and must be prepared to come on board with new technologies in their Learning and Teaching programmes.

Summary

It has become clear throughout this investigation that over all, schools are passionate about their ICT development. The ICT contract has provided a very positive platform from which to launch an ongoing focus using ICT skills and knowledge. Indications are that the contract successfully ties the NZ Curriculum with the Ministry 'E-Learning Action Plan' (2006 – 2010)

Schools involved in the contracts have been very positive about the learning that has taken place, the ability of staff and students to embrace ICT in their learning and teaching and the ongoing focus which has resulted from networking across and within schools. Schools have realised that although the contract has given an insight into how ICT can be used and the huge range of resources available, effective ICT development hinges on the school's willingness to allow students to direct their own ICT learning and staff to develop appropriate knowledge and skills.

Schools on the whole have begun to move away from Computer Suites in favour of integrated ICT learning allowing ICT to be used as teachers and students see appropriate so that ICT becomes almost invisible as a natural tool for learning.

There are a number of clear priorities for schools to successfully sustain ICT development following their involvement in a contract.

- The lead teacher role is recognised for its importance. (eg units allocated / release time given)
- A long-term plan is developed with the Board of Trustees and embedded into the strategic plan, the school charter and relevant policies.
- Funding is allocated appropriately to ensure development of all staff is unhindered by identified barriers
- Staff development is ongoing, self driven and frequently reviewed.
- ICT development is embedded into the appraisal systems
- Students need to drive ICT to make meaning of their new learning. (The NZ curriculum focuses on students being self-managing)