Taking Information & Communications Technologies to the Classroom

Experiences from Victoria's Creating e-Learning Leaders Initiative

CASE STUDY: KAMBRYA COLLEGE

A partnership between
Microsoft
The Department of Education and Training
&
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Taking the risk to let go
The Kambrya College learning community

Read the description liberally posted around Kambrya College of the origins of its name and its guiding philosophy instantly is clear.

> *Kambrya is a derivative of 'Kamberra', aboriginal for 'meeting place'. The word means for us a meeting place in the physical sense; a meeting place for our students, their friends and the community at large; as well as a meeting place of hearts and minds to share ideas and to travel along the journey of learning.*
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> *It means for us a meeting place of intellectual discourse, a place where Socratic dialogue is part of our everyday culture and where we believe we can skill up our students to meet the demands of a changing global society.*

A large and growing Year 7 to 10 school in the outer eastern suburb of Berwick, which will become a Year 7 to 12 College in 2006 Kambrya is, in this context, striving to 'move from being an effective college to a college of excellence in all areas of its life' — a school where students can attain the 'knowledge, skills and attitudes that demonstrate high levels of achievement enabling them to be lifelong learners (adaptable) and effective, successful and happy participants in the international (global) community'.

Working in accordance with a comprehensive vision of where it wants to be as numbers steadily grow from the current level of just under a thousand to almost 1400 by 2010, the school accepts it increasingly will operate as something of a 'virtual school', with units of work readily available at all times, and online feedback to parents on a regular basis.

One CeLL in the block

Little wonder, given this standpoint, that the CeLL initiative does not stand alone in this school but rather, as one teacher put it, 'sits and blends with a range of other things we do'. The selection of people as CeLL mentors itself, this teacher explained, shows the variety of abilities we have and encourage in the school … and is seen as part of their own development as we seek to promote e-learning leadership throughout the school'.

In fact, the range of backgrounds reflected in the five mentors who have occupied the four positions over the life of the program provides a rich illustration of the school's view that ICTs are no one area's domain.

The e-learning leader in the school, who initiated the application for CeLL has what he described as 'an extensive background in e-learning, though I am not an IT teacher and resist that sort of thing'. Rather, he is a Maths/Science teacher who is 'interested in the learning that can take place. I know little about technology, but am interested in the educational aspect and have done my Masters in ICT in Education'. Having been a participant in the pilot training for the Intel® Teach to the Future program, he now is one of five senior Intel Teach trainers in the state for the CeLL program and beyond.

Other CeLL mentors comprise:

- A young, second year out Maths/Science teacher who previously worked for a company which keeps cricket statistics and who is interested in databases in particular;
- An experienced Arts and Drama leading teacher who is a master trainer for Intel Teach;
- An experienced Business Studies teacher who is doing a PhD in an unconnected field and, having now taken on middle years responsibilities, has had to relinquish her mentoring role; and
- A fourth year out teacher with a primary background and a role in the middle years of the school, who has a particular interest in the use of interactive white boards and support to other teachers in this regard.

It is interesting to note in this context that, as one of the mentors explained, 'when Intel first came to the school, we initially had difficulty convincing staff to do it because, I think, they already worked with an integrated curriculum'. And as an example, he described the Year 8 focus for one whole term on 'who owns Australia?' and a range of essential questions flowing from that with the KLAs 'sitting underneath, with their own curriculum, but feeding back to the essential questions that have been posed'.

The school in response used the Intel Teach module to

> *pass through the units again, rewriting them in the Intel structure and blending ICT in where it contributed to learning in more effective ways. We also gave the kids scope to determine the form their outcomes, or products will take … and get them doing more interesting things, such as moving beyond just PowerPoints to movies using Movie Maker, role plays, songs and also the traditional things like posters, etc. ICT may or may not be a part of that, but the important thing is that students are involved and it all is consciously thought through.*

So the CeLL modules have, for Kambrya, 'laid out more explicitly the options available for using ICT, but it is ICT presented as pedagogy'.

Professional learning at the heart

Central to the implementation of ICTs in the school has been the development of a willingness to learn and generally take risks. As one teacher compellingly argued

> *If we wait for us to be PD'd on every aspect of IT, we will hold the kids back. So instead, we have to embark on a journey together with them that focuses on using the technologies as tools of learning and not a be-all and end-all in themselves. There is a need for risk-taking teachers to initiate this sort of PD approach.*

This teacher is, it was explained by a school leader, at the heart of 'a unique PD strategy the school is doing as a (CeLL funded) research project at the moment with Year 7 students on 'Smart Boards' and their use, which goes further than just after-school PD to show the bells and whistles this technology has.

More specifically, the teacher concerned has skilled himself on the technology and its potential uses, to then 'work with the kids to get them working with the boards'. The aim of the exercise is to use 'an expert teacher to create an expert class that other teachers can observe and from which they can learn'.

Four other teachers already go in during class time to sit at tables with the students viewing the expert teacher and class, and working with the students to experience it all. After two or three sessions of this sort, the 'trainee' teachers go into the role of expert teacher themselves with this same expert class in what one teacher described as, 'a sort of soft entry, so the focus is on the learning we want the students to engage with rather than working through their own fear of the technology'. Then, after whatever number of these sessions that are required, 'when the teacher understands how the technology promotes learning and feels ready', they transfer it all to their own class, initially supported by one or two of the expert students who 'get a buzz out of it all and help develop the teacher's expertise'.

The upshot of this approach is that the college now has five expert teachers rather than one, and can keep rolling the program out to further grow its expertise.

The school has had 'excellent feedback from the teachers who have been involved, who now confidently book and use the four 'Smart Boards' we have'. The only concern expressed has been about the implications in later years for the students themselves, with the teacher behind the program explaining how

> *Someone said to me that 'your kids are going to have withdrawal symptoms next year', to which I said, 'No they won't, because they will lead the way and help bring their home teacher up to date.*

That the school is not content to stay where it is, however, is evident in the fact that, despite the obvious success of this research-based approach, they have begun to question, as one teacher put it, 'the problem with 'Smart Boards' that you have to be out the front and what that means for our teaching and learning approach'. In response they recently invested in four tablet PCs so they can spread them through the room to support collaborative work in groups as well.

Facilities that fit

This willingness to match technologies to the teaching and learning need, reflects the philosophical commitment of the school to increased access 'anywhere, any time'. This most clearly is evident in the way the nature of its computer rooms has changed over time.

Previously, the labs were much like any other school's, with rows of desktops for individual student use. The problem, according to one teacher interviewed, is that 'sometimes you are timetabled there when you don't want to use computers, whilst other times you can't get access to computers when the room is not free'. The solution

was to have four rooms that are fully wired for computers, but to only have one with actual desktops in it all the time; primarily for subjects such as digital imaging in Year 10.

In the other three rooms, school staff explained,

> *the teacher can go in and, instead of having the technology dictate what they can do, they are able to send for the required number of notebooks, which arrive on trolleys, according to the teaching and learning approach appropriate at the time. So if they want students working individually, then there are enough notebooks for one each. Alternatively they may only want one computer per group of students or whatever. It really fits with our anywhere, any time approach.*

These rooms are then supplemented by computer pods in strategic locations around the school, generally between classrooms with lots of visual access to the pods and other rooms, and the notebooks which travel round the school. And the result is that, as this writer walked round the school, he observed students with laptops literally on their laps, working in classrooms, corridors and the school library, computer pods with students working individually on personalised learning tasks whilst their peers were in classrooms next door, and lots of use of other (non-computer) information and communications technologies such as videos, DVDs and the like.

As one teacher simply summed up, 'technology is ubiquitous in the school and used as it is needed'. But changes like the stripping of computers from labs only could have occurred because 'the staff get the whole idea, and support the notion that computer rooms should not drive the use of technology in the school'.

A supportive, distributed leadership approach

Getting to this point, not surprisingly, requires substantial leadership at all levels of the school. It is leadership predicated on the principal's belief in what another school leader rather than the principal himself referred to as, 'people developing their own leadership capacities and responsibilities according to their respective talents and interests'. So the CeLL initiative, for instance, was something this leading teacher was interested in, and he therefore pursued because 'it's a good thing for the school in its quest to be an organisation where teachers model learning and engage in research themselves'.

Leadership is, at Kambrya, distributed and dispersed through the school, and exercised according to one's capacity rather than any title the person may have, as symbolised by the fact the staff list in the school is solely in alphabetical order without any indication of function or title.

The result is that something like CeLL ends up infusing all facets of school activity, and is not restricted to individual faculties or classes where its promoters can be found. It is, as one teacher outlined,

> *a matter of helping staff see where it fits and how helpful it is in, for example, producing unit plans through the professional development it provides. And as people access it, they walk away with an understanding of how they can use the digital objects in their class lessons.*

And, by exercising leadership throughout the school in this way, they now have used Intel® Teach to the Future to restructure the curriculum intranet in the school so it provides a filing system for curriculum resources with essential questions and associated assessment rubrics as their core.

Teaching that lets go

Perhaps because of the willingness of leaders to let go and promote the responsibility of others in their teams, one of the notable changes in pedagogy has been, as one teacher put it, that

> *teachers are happier now to release control, take risks in the classroom, and let the kids show them what they can do.*

Part of this is due, it was acknowledged, to increased confidence using technology in class which supports independent student work, but probably more important still has been, to quote this teacher again, 'promoting a different conception of teaching and the teacher's role', which was illustrated with the following vignette.

> *This year's term 3 Year 8 unit, called 'Tread lightly', looked at the environment, including an attempt to actually calculate our own global footprint.*
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> *Last year the kids gave lots of talks to present their work, with some PowerPoints. There wasn't really much use of ICTs. This year, the amount of ICTs has been huge — movies, collages, recordings, etc. — all because they wanted to make their presentations more powerful and dramatic.*
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> *Teachers went comfortably with it in ways that previously they might have resisted. For example, they took the risk to let the kids make a movie when they don't really know how to do it themselves. The point is, the way we have implemented learning technologies in the school has helped teachers to step back from being the oracle, to taking the learning journey with the kids. And that sometimes even has led to demands from the kids for even more technology because of what they want to be able to do, and the principal tries to meet this if the budget allows for it.*

Everything in the *Tread lightly* unit, it was noted, was structured according to the Intel Teach portfolio structure, 'because it's easy for people to access and use'; and the school now is planning all units using a similar structure. Beyond this, it has encouraged teachers to bring ICTs into every unit of work where they are appropriate, as one explained

> *no longer just going to the computer and Googling, but for more structured teaching of research using technology, because the successful experience of one unit is spreading through the school.*

Whether or not the quality of learning outcomes actually is improved, in ways that can be demonstrated beyond just anecdotal evidence is, it was argued, 'too early to tell'. That said, the school does have a clear sense, as demonstrated by recent research, that the key factor for improved student learning is the quality of teaching they receive[1], and improved use of ICTs can contribute positively to that. 'Is it the computer or the teacher?', the e-learning coordinator asked, and then answered his own rhetorical question by suggesting

> *It's hard to say. But the computer can help the teacher to be a better teacher and to teach more effectively in class, assisting students to take more responsibility for their own learning and personalising the teaching and learning approach according to where each student actually is. It's motivating teachers to rethink how they teach.*

What teachers are finding as they go down this path, all respondents in the school affirm is, as one simply put it, 'amazement at just what the kids are able to do when they are encouraged to take responsibility for their own learning in class'. This reflects, according to another, that

> *kids today don't think like older teachers do, though some of the younger teachers may have more in common. My own daughter, for instance, was asked to review a book by a modern author. If I want to know what an author thinks, I try to interpret the writing, read other reviews and things like that. If, however, my daughter wants to know how someone thinks, then she just asks him. So she researched and found out how to contact him, sent him an email, got a response and then engaged in a dialogue with him. She sees nothing remarkable about that. And that's what teachers need to get … Use the essential questions in our curriculum to let the kids run with it.*

The other benefit said to emerge has been the use of more in-class groupings rather than all students having to do the same thing at the same time. The way the computer gives you what one teacher referred to as 'a portal to other work spaces', means that different groups of students can be doing different things according to their needs at the time, and the need for the teacher to target the students with whom they need to work most.

It is little wonder then, the advice the school would provide to teachers in other schools could be summed up in three simple points:

- 'Don't be afraid to take risks'.
- 'Let the kids take control with some guidance to keep them on track'.
- 'Allow them to negotiate directions within the broad boundaries you set'.

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[1] See, for example, Hattie, J. (October 2003), *Teachers Make a Difference: What is the research evidence?*, paper presented to the Australian Council for Educational Research's annual research conference, which demonstrates that aside from what students bring to schools themselves, teachers and teaching account for the greatest level of variance of any other factor operating in a school. More specifically, students account for 50% of the variance of achievement; teachers for 30%; and home, schools and peers for around 5 to 10% each.

Student engagement with depth

Whilst there were many examples of interesting and engaging units of work arising from this pedagogical approach, perhaps none was as resonant with the theme of this case study as the unit the e-learning coordinator used as the basis of the Intel Teach training he undertook. This unit extended over six months and centred on the key question 'why take risks?', with the sub-text 'that if you don't, you cannot get anywhere'. It arose from his view of story-telling as a powerful way of learning and a personal interest in fiction that is grounded in fact, which forms the basis of a number of modern role play shows on TV. Taking up the theme, he explained how

> *It's 1813 and the kids are in a leadership team bringing a convict ship to Australia. They work in groups of four for the six months, with time devoted each week, and determine who will be the captain, navigator, cook and ship's surgeon in the group. That's as far as I took it and they then had to research those roles and what it would have been like then.*
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> *They then worked with a series of teachers according to those skills. As the Maths teacher, for instance, I worked with the navigators on such things as measuring latitude and longitude, travelling at a speed of knots and its meaning in terms of kilometres, and other skills and tools they would have needed to be a good navigator. The English teacher worked with the captains on leadership skills, keeping a log and the like; the cooks worked with the Home Economics teacher to research the types of food and recipes then, which raised issues of preservation and led to biscuits being baked that were so full of salt we barely could eat them; and the surgeons worked with a volunteer nurse to look at medical techniques from the time and the different value placed on human life then.*
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> *Once all this was done, we researched and found a list of real convicts from the time via the net. The students read the logs from real people who actually made the journey and the sense of fear and excitement those journals contained, not to mention the use of language at the time which, in part, some students managed to pick up and use in their work. Each group also had to make products relevant to their roles, such as the navigators making a sand timer, a traverse board to record speed and direction, the surgeons making their medical kits, and so on.*
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> *When they finally embarked on the voyage, the kids came together to deal with scenarios the teachers had developed and tabled for consideration on the particular day for which decisions had to be made; such as one where a female convict gave birth at sea and died so we now had a new born baby to deal with on water and no-one clearly responsible.*
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> *The students, it has to be said, switched naturally right into all this and, from my point of view, the personal highlight was when, towards the end of term one, when the journey was heading towards Cape Town and students were offered the opportunity to watch an end of term video treat, they decided not to so they could write up their logs instead.*
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> *Where's the technology in all this? Not necessarily planned at every step. It emerged and was used when we needed it. Problems came up we didn't have answers to, so we would research it on the web and find options to discuss. And at the end of it all, technology was critical to the showcasing of what they achieved and the presentations they made, including to the e-learning expo of the Southern Metropolitan Region where I introduced it all but then the kids had the bulk of the time.*

Critical to the success of this work, this teacher explained, was the willingness of staff to 'learn with the kids as we went'. This, in his view, not only models the process of learning using technology, rather than having the answers up front, but also illustrates why 'we need to let go'.

The key to success at Kambrya College hinges, in his view, on exactly this sort of approach, which is at the nub of building a professional learning community in the school.

When it comes down to it, it's all about letting go with some clear direction, taking risks, and folding it all in to blurring the line between teachers and kids as learners, with our best PD done in the class.