THE EARLY YEARS: ICT IMPLEMENTATION IN VICTORIAN STATE SCHOOLS

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Introduction

It is now some twenty years since the department (see Note) first began to implement ICT across Victoria and unless we are mindful, we run the risk of losing this history. SOF Web, the department’s website, launched in October 1995 has now been archived, and many of the policy makers, project officers, principals and teachers who led this implementation have since ‘moved on’. This paper then is a conscious move to ‘backward think’ to 1995-2000 and to the early years of implementation of ICT in Victoria, with the intent of not only keeping this past alive, but to also offer guidance for the future.

The beginnings: The state of Victoria

The early 1990’s were a time of great change in Victoria (Gough and Taylor, 1996). The coalition government had been elected in 1992, Jeff Kennett was premier (and would remain until 1999) and Don Hayward was the then Minister for Education. In the period from 1992 to 1995, $400 million was cut from the budget, some 268 schools were closed, and some 11,000 teachers and administrative staff left state schools (Gough and Taylor, 1996). Schools of the Future became the term for both this process of change and the schools in which these changes were expected to take effect. The Curriculum and Standards Framework (CSF), Victoria’s P-10 curriculum was introduced in 1995 and would remain in place for a number of years until its breadth and relevance and its capacity to connect with young people would be challenged, leading to the development of the Victorian Essential Learning Framework (VELS). The Victorian Certificate of Education (VCE), Victoria’s single certificate for senior secondary education was introduced in 1992, and it would be a further five years before it would be reviewed, resulting in considerable changes from the year 2000. The implementation of ICT can be seen as part of this bigger ‘change’ agenda, and ‘top down’ model of policy development (Lankshear, Snyder with Green, 2000).

In the early 1990’s the use of computers in schools was limited and school-centric. According to Shear’s 1995 survey of Victorian schools, the ratio of computers used for teaching to students was 1 to 10 and use was mainly in Mathematics, SOSE, English, and Technology. Interest in using computers in schools grew, aided by several factors. Significant developments in microcomputers meant that computers were now cheaper, portable, and easier to use, and research particularly from the United States was suggesting that computers could be of benefit to schools (Figgis at al., 2000). A lot of this research however was from practitioner insight and there was little relating to large scale implementation of ICT and to teacher uptake of ICT. There was instead considerable ‘hype’ about the potentials and possibilities of ICT – a hype that remains central to our dominant view of ICT today.

In 1994 the department released The Smith Report, which recommended that teachers should have computer skills and training necessary to develop these skills (DEETYA, 1997; Blyth 2002). This report became Victoria’s default computer policy (DEETYA 1997; Lankshear, Snyder with Green, 2000), and had considerable influence on the way that ICT was being positioned in relation to schools and learners:

‘The Smith Report contributed significantly to popularizing talk of ‘learning technologies’ and the notion of enhanced learning through the use of new technologies …(it placed) great store on the revolutionary and transformative implications of the new technologies for education and schooling’ (Lankshear, Snyder with Green, 2000: 69-70)

Note: During the period canvassed in this paper (1995-2000) the Victorian Education Department had several names. In 1995, it was named the Directorate of School Education (DSE), in 1998 it was named the Department of Education, (DOE) and by 2000 it was named the Department of Education, Employment and Training (DEET). For ease of reading, I often use the term, ‘the department’.
The beginnings: Classrooms of the Future

In response to the Smith Report (DEETYA 1997), the department developed The Classrooms of the Future suite of projects and allocated some $56 million dollars over four years to achieve their aims. Launched in October 1995, by the then premier Jeff Kennett and Minister for Education, Don Hayward, Classrooms of the Future was the beginning of full-scale statewide implementation of ICT. Commenting a few weeks later about this initiative, the Minister described the initiative in the following way:

‘We have already entered a watershed in the history of the world. This is for many reasons, but the main reason is the extraordinary influence of microelectronic technology and the way in which this is revolutionizing the storage, access and communication of knowledge and information … this will indeed be a brave new world, and we need brave new schools which are prepared to face up to these extraordinary challenges and give our young people a real chance for the future’ (Hayward, 1995: 1-2).

This quotation is typical of the emerging techno-discourse that permeated ‘official talk’ at this time, a discourse that continues to dominate today. Within this discourse computer technologies (later information and communication technologies) are seen as providing learners with greater learning possibilities as well as the necessary skills for the future workplace (Bigum and Kenway, 1998). It is one where teachers can easily be positioned as the means for learners to achieve these predetermined ICT-enabled outcomes, and one where teachers can therefore be easily blamed if and when these are not achieved. There is little, if any consideration of possible complexities or difficulties in realizing this imagined future.

In 1998 after some years of implementing ICT through a range of initiatives, sometimes from different areas of the department, the Learning Technologies in Victorian Schools Statement was produced as the “clear blueprint for schools to follow” (DOE 1998a: 3). Its objective was that by 2001 all schools will have developed and implemented an ICT plan, and all principals, teachers and students would have access to ICT, and have the skills to use routinely and innovatively (DOE 1998a). It also maps out what it sees as three key challenges ahead for the statewide implementation of ICT: Professional Development, Content Development and Access/Infrastructure/Resources. I have found it useful to use these three challenge areas as a way of framing my discussion and have selected one initiative within each of these areas to focus my discussion. Within the Professional Development area, I have selected the Navigator Schools Project. Operating from 1995-1998 several primary and secondary schools were funded by the department as test-bed and showcase sites for the use of ICT. Teachers from across the state were encouraged by department subsidy to visit these high-tech schools, to observe how ICT was being used and to then develop their own ICT based action plans. Within the second challenge area of Content Development, I have selected the curriculum@work initiative, developed in the late 1990’s and rolled out in CD form in 2000 across the state. This resource was intended to be used by P-10 teachers as a ‘one-stop shop’, for curriculum planning and resourcing. Within the broad area of Access/Infrastructure/Resources, I have selected the Notebook computers for teachers and principals initiative, first rolled out in 1997 and continuing to this day. This initiative to varying degrees has impacted on all teachers in the state. Discussion of each of these three projects is guided by the following broad questions: What is the initiative, and what are its aims? What are the outcomes of the initiative? What can we learn from this initiative?

Professional Development - Navigator Schools Project

The Navigator Schools Project was part of the Classrooms of the Future suite of initiatives. Some seven schools were initially selected as Navigator Schools, four primary schools and three secondary schools, who would ‘navigate’ the way for other schools to follow. According to the Minister (Hayward 1995: 5), Navigator Schools were:

‘essentially service schools to other schools. They were chosen because they were in a high state of readiness to move ahead with the Classrooms of the Future concept, and thus would be able to assist other schools by becoming training centers and exemplar schools.’

Navigator Schools had the following objectives: (DOE 1998b: 1)

- ‘Create a network of exemplar schools with accessible models of new learning environments where there is access to technology in every classroom
• Share with others what is learned in creating these environments
• Provide evidence of additional teaching and learning outcomes in a technology rich environment, and
• Provide a premium professional development resource for teachers and principals across the state’.

Whilst having these common objectives, and adopting a similar ‘work-shadowing’ approach to professional development, Navigator Schools varied significantly in the way they developed and implemented ICT. In this paper I concentrate on one Navigator school, Bendigo Senior Secondary College (BSSC), partly because of the influence that it had on later state-wide policy and partly because as a teacher at this school at this time, I can draw upon my own experiences.

BSSC, a large, single campus college in regional Victoria, and the largest provider of the Victorian Certificate of Education (VCE), adopted a whole-school model of implementing ICT. It received some $1.3 million from the department to implement its three year Technology Plan, contributing $600,000 from its global budget and some 7% thereafter (Ekinsmyth 2000). Initially the college focused on putting the technical infrastructure in place, such as wiring all classrooms and offices and purchasing hardware and software (Figgis, et al., 2000). Curriculum planning and professional development of staff soon followed (Ekinsmyth 2000; Figgis et al., 2000). From 1995 all teaching areas in the school produced Technology Plans to map out how ICT would be used within programs, aligned with particular learning goals. The school timetable was restructured to enable time for staff ICT professional development, and a program was developed and run by a small team within the school. As part of the selection criteria for new staff, for promotion and for review of ongoing staff, a willingness and ability to use ICT had to be demonstrated. As commented by Ekinsmyth (2000: 22):

‘There was strong and clear expectations of all teachers emphasizing: improved VCE results, signed learning area plans, signed Notebook Memorandum of understanding, detailed job descriptions including measurable improvement targets, annual review including an audit of ICT skills and attitudes.’

By 1999, the college infrastructure included:

• A 5Mbit internet connection with a 2Mbit radio return link
• Servers with 256Mb RAM, 54Gb hard drive space, including seven Microsoft NT4 servers, one LINUX server (security functions) and one UNIX server (Library)
• 16 NT servers supporting over 1200 active points in all classrooms and offices
• 460 Pentium PCs located throughout the college, in groups of 2-6 in classrooms, and 4 purpose built labs
• Large screen TVs in all classrooms for free to air TV, satellite TV and multimedia presentations
• 50 software packages on all PCs
• Other peripherals including digital cameras, scanners, data loggers and graphing calculators
• Hard disk space for all students, email addresses for all students, initial free student access to internet then user pays basis, and all printing on user pays basis
• 146 staff notebook computers (Ekinsmyth 2000).

In 1996, Navigator Schools began to fulfill their central objective of sharing their experiences with other teachers and principals from across the state. This took the form of Navigator School practicums that used a work-shadowing model of professional development. Usually, during a practicum, two teachers from the one school within a group of twelve would visit a Navigator School. Here usually over several days they would spend time observing practice and talking to staff about using ICT. Then they would return to their school, where they were expected to reflect and trial new practices (DOE 1998b; DEETYA 1997). Later they would return to the Navigator School to extend their experiences and learning. At BSSC practicum participants were expected to observe four classrooms over the three day practicum, to take notes via a guided journal and to develop an action plan for their own classroom implementation of ICT (BSSC 1997). Classrooms for practicum observations at BSSC were planned in advance so as to ‘fit in’ with teacher curriculum planning, and to showcase practice from a range of teaching areas. Teachers who taught practicum classes went through an internal selection process and were paid an additional sum (Ekinsmyth 2000).

Two studies were produced on the Navigator Schools Project. Both however used different research methodologies and research questions and neither specifically addressed the objectives of the project, of providing exemplary practice in order to provide professional development opportunities for other teachers. One study formally
commissioned and produced by a consortium from Australian Catholic University and Victorian University of Technology (Figgis et al., 2000; Dunbar et al, n.d.) used a set of guiding questions to investigate a range of issues such as student learning outcomes, patterns in ICT use, curriculum delivery and management strategies. Whilst reporting overwhelming positive results, this report was not formally published. The other study (DOE 1998b) was produced by the Navigator Schools Project Manager using data from principals and project officers and reported several key findings including the benefits of having school networks, the internet, and intranet, as well as learning outcomes for students and new teaching practices. This report was mailed to all government schools and made available via SOF Web.

In the main criticisms of the Navigator Schools Project relate to its model of professional development. This model assumes that upon observing practice, participants will be able to transfer gained insight. When evaluating various models of professional development for the integration of ICT, the writers of Making Better Connections’ (DEST 2001: 54) argued that this model is questionable, given that as ‘best practice sites, they have a focus on ‘exemplary but limited practice’ in one classroom that contradicts a system wide approach to ICT’. This sentiment is also argued by others including the writers of the Digital Rhetorics Report (DEETYA 1997) and Toomey (1996). This assumption of transference is particularly problematic when we also consider that Navigator Schools had higher levels of technology and higher teacher skills and interest in the application of ICT than most other state schools (DEETYA 1997). Teachers in other schools despite their best intentions were not likely to be able to replicate what they have observed while on practicum. The model assumes that this will be a simple process and does not consider the complexities in teacher use of ICT in classroom settings. There is little recognition if at all, that schools are not all the same. Arguably therefore the Navigator Schools project was too ambitious and essentially flawed.

Content Development - curriculum@work initiative

The curriculum@work initiative was a major inroad by the department into digital content production. It was essentially designed as a means of delivering course advice for the CFS 11, the curriculum framework for prep to year 10. While this material was available in print form (some 21,000 pages) it was not considered easily accessible to teachers. The curriculum@work initiative aimed to improve teacher access and to enable them to adapt these resources to their own needs.

The curriculum@work initiative had two phases. The first phase involved the development and publication of a CD ROM. This CD ROM was designed as a ‘single access point and brought together a range of department initiatives, including assessment. Attention was given to the structure of content so as to enable grouping of content to support teacher ease of access and use, as well as layering of content (more detail on demand). It was also designed to be saved, copied, downloadable and printable, as well as easy to use, searchable, and to be read on screen (DEET 2000). The first phase of the curriculum@work project took several years to be developed. Launched in October 2000, it gave teachers access to 600 units of work, 4000 learning activities and 6000 assessment ideas (DEET 2000). Workshops were held in each region to advertise the resource, and copies of the CD ROM were sent to all schools in the state. The second phase, an online phase developed from 2002 is outside the time period of this paper. However in this second phase the curriculum@work materials were integrated with other materials into SOFWeb, the department website, based on the belief that this would further facilitate ease of access and remove reliance on staff having access to CD or print. (DEET 2000).

No report was commissioned on the curriculum@work initiative and as a result there is no data to show teacher uptake of neither this resource nor its use in guiding curriculum development. However it seems likely that large scale use of this resource may have been affected by the lack of ongoing professional development for teachers. In addition, it is likely that its use for many in the profession would have been short-lived given that it was not long before teacher attention was directed towards the framing of Victoria’s new P-10 curriculum framework.

Access/Infrastructure/Resources - Notebook computers for teachers and principals initiative

Providing teachers with access to computers was a recommendation of The Smith Report (Blyth, 2000; Lankshear, Snyder with Green, 2000), an objective of the Learning Technologies Statement (DOE 1998a), and also an outcome of the Navigator Schools Project (DOE, 1998b). In 1998, the Department of Education, Employment and Training began its notebook initiative that would make notebooks available for up to 37,000 teachers across the
state, rolled-out over three years. Notebook computers were leased by the Department, and then allocated by schools to teachers who needed to make a commitment to ongoing professional development, to its use and to pay a contribution of around $10 per fortnight (McDougall, Nicholson & Marshall, 2001). Initially there was no formal training provided by the department in their use (Blyth 2002). There was little provision of technical support (McDougall, Nicholson & Marshall, 2001), as it was assumed that teachers would quickly learn how to use their notebooks and learning outcomes would readily result. It was not until 2005, that the department produced a CD ROM of resources for all teachers.

This project had the following objectives:

- ‘To support and encourage principals and teachers to effectively integrate the use of learning technologies into classroom and administrative practices
- To reward and provide an incentive for teachers undertaking significant professional development in the use of learning technologies
- To enhance the professional status of teachers
- To improve teacher skills in using learning technologies in the delivery of curriculum
- To improve teacher productivity’ (McDougall, Nicholson & Marshall, 2001: 2)

Several reports on the notebook initiative were produced by Deakin Consulting, but only the final report was officially published. In this paper, I consider the initial report that was not formally published as it is concerned with first two years of the initiative, and so within the timeframe of this paper. This report involved teachers and principals from some 79 schools, across all 9 regions. Survey data reported mainly on skills, usage type and rate, and type and length of professional development. The report found that most gains in teacher skills were made in the first year of notebook use, leveling off in the second year. In relation to teacher competence to use computers, the report concluded that competence in the classroom was less than ICT competence generally. In regards to particular software use, the report concluded that the biggest increase in skill level related to word processing, while skill levels relating to multimedia remained low over the two years. In relation to teacher ICT-professional development, the report found that while 80% reported they had undertaken professional development, school-based programs was ranked first by 71% and self-paced programs ranked second by 53%. Other forms of professional development such as the Navigator Schools Leadership Seminars received low figures of 0.5%. In relation to the length of professional development, almost 25% reported less than 10 hours over a year, and a further 30% reported undertaking between 11 and 20 hours over a year. Concerns data also reported on concerns or issues by the participants. Ranking of concerns from one year to the next remained stable, with the highest ranked concern being finding time to learn how to use ICT, followed by technical help, technical issues and needing professional development.

Blyth (2002) also reported on the notebook initiative, specifically in relation to how some 29 teachers at the one school, including himself, expected to use their notebooks compared with their actual use. He commented that initial reactions to the notebooks were “characterized by the first flush of excitement of getting a new ‘toy’ (Blyth 2002: 66), but that this quickly gave way, with many of the teachers using the notebooks for routine tasks such as word-processing and for immediate personal uses rather than longer term uses. Many also had issues in setting up the notebook in the classroom, and felt pressured to complete ‘day to day’ teaching leading him to comment,

‘the complexity and fragility of the classroom situation which requires that things be kept moving, done quickly and kept to familiar routines did not seem to invite the sudden introduction of an unproven wildcard element’ (Blyth 2002: 64).

**Some conclusions and possible lessons for the future**

So what can we make of the early years of implementing ICT into Victorian state schools? And how can we use this to guide our future practice?

A ‘new’ ICT discourse is needed
Underlying the three projects described in this paper is a prevailing techno-discourse, a determinist discourse that assumes amongst other things that by putting ICT in to place, universal outcomes will result. It is a discourse of ‘hype’ and the possibilities of ICT to transform learning and teaching and has little actualization in classrooms. For example, considerable money was spent on the provision of notebooks for teachers across the state. Implicit in this provision was the assumption that once provided, perceived outcomes including raising the standards of the profession would result. Little money was spent on providing teachers with information on how to use the notebooks, or in providing professional development to use them (Blyth 2002). This discourse is so dominant, that even when reports conclude otherwise, such as the Notebook computers for teachers and principals initiative, it is not questioned or is ignored. A new discourse that presents a more accurate representation of the way that schools, teachers and students engage with ICT, one that recognizes the complexities in their relationship, is needed.

**Ongoing teacher professional development is vital**

While teacher professional development in relation to ICT was prioritized in the early years of implementation of ICT into Victoria, it seems that often it was provided after the technology was put into place. The Teacher notebook initiative and curriculum@work project suggest this to be the case.

Provision of professional development seems to be narrowly conceived, and does not consider the complexities involved including teacher reluctance, the time it takes to bring about change, the ‘best’ possible models for professional development, access, and understanding of the nature of teacher’s work. As well it seems that underpinning professional development in the early years, such as in the Navigator Schools practicum, was the belief that teacher engagement in short-term programs was all that was needed to result in transformative practice. Related to this, there seems to be little acknowledgement that to engage with ICT in real and meaningful ways requires time. It would seem likely that the assumption was that by providing professional development, the benefits would be obvious to teachers, and that they would then readily use them in their practice.

**The importance of time**

Consideration of time seems to be a shortfall in relation to the three projects canvassed in this paper. By the use of the word ‘time’, I am referring in this first instance to the assumed length of time that teachers would need to gain the skills and knowledge to use ICT in their routine classroom practice. The Navigator Schools Project for example assumed that teachers would easily acquire new skills, usually from mere observation of practice and that having the same kind and level of access to ICT as used in Navigator Schools was not needed to realize the same outcomes. By use of the word ‘time’, I am also referring to the timing of initiatives. By the time the curriculum@work initiative was developed and implemented, its direct curriculum relevance to teachers was in doubt. And in this third instance, I am also referring to the timing of particular aspects of initiatives. Often the timing of teacher professional development, if and when it did occur, as evidenced in both the curriculum@work and notebook initiatives, came after the initial emphasis on technical provision. A greater acknowledgment of the time necessary for teachers to acquire ICT skills and to embed them effectively in their routine practice is needed. As well, a greater appreciation of the timing of teacher professional development needs to be considered.

**We could learn more by evaluating ICT**

It seems that while there have been numerous efforts to plan and implement ICT, there has been little serious attention to evaluation. Embedding evaluation should be routine, and in this way we will be likely to review our past efforts in relation to our objectives and inform future practice.
References


Department of Education, Employment and Training, Victoria (DEET) (2000). *curriculum@work CD ROM*


Lankshear, C., Snyder, I., with Green, B. (2000). *Teachers and techno-literacy. Managing literacy, technology and learning in schools.* St Leonards, NSW: Allen and Unwin
