Information & Communication Technology across the Curriculum: A Game of Snakes and Ladders

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Abstract

In the early 1990s many private (and some State) schools in Victoria, Australia, developed a laptop program. As a consequence, the main focus of computer use in schools became, “Do you have a laptop program?” For some time the question of computer use in the curriculum became a question of whether every student had access to a computer. Many schools, however chose not have a laptop program. How were these schools going to incorporate computers across the curriculum? This paper explores the experiences of Parade College which has attempted to develop and promote the integration of computers in the curriculum in the last 12 years. This has led to many failures and some success.

Reflection on these experiences has resulted in an integrated approach to the provision of Information Communications Technology in the curriculum.

A Case Study

Parade College Profile

Parade College is a boys’ school of approximately 1550 students situated to the north of Melbourne, the capital of the state of Victoria, Australia.

Computer Provision in 2002

About thirty staff in various leadership positions are provided with a computer. A number of computers are made available in common staff areas, while the College has assisted staff to purchase a laptop computer. There are four computer labs for students (2 IBM labs, 2 Mac labs) as well as a number of mini labs and ‘erooms’.

The Context

In 1989 David Loader, Principal of Methodist Ladies College in a leafy suburb of Melbourne, announced that girls in Year 7 would be buying laptop computers [4]. This changed the landscape of Victorian Education as it coincided with changes in assessment which put a premium on the drafting and redrafting of work. Suddenly many schools saw a significant educational and marketing advantage in mandating the use of laptop computers.

“How have you got a laptop program?” became one of the first questions asked at school information sessions. Sometimes parents were relieved that the answer was no. Nevertheless, the idea of a laptop program was the dominant paradigm. If you were not going down the path of a laptop program what were you to do?

Parade College Phase One – Late 1980s, early 1990s

Parade College made a decision in the early 1990s that the school would not be a laptop school.

Like many schools in this period Parade instituted computer classes at years 7 & 8 in order to teach about such computer skills as word processing and keyboarding and to make use of simulation packages such as SimCity. Further development stalled.

Phase Two Implementation – 1998-2001

The response of the College to the perceived deficiencies of this first phase was two fold:

• The building of computer pods as part of a refurbishment program
• The appointment of a Learning Technologies Coordinator to plan the professional development of teachers in computer use. This was in recognition of the key role of professional development in incorporating ICT into teaching and learning across the curriculum [3].

The pods idea developed as a response to moving computers from the laboratory setting to which they had been consigned since their introduction. These pods were curved spaces which, in the refurbishment, ‘ate into’ the classroom. Four or more computers could be housed in these spaces which were accessed from the classroom and, because they had their own door and walls, could be made fully secure.
These pods were not a success. Several reasons were identified for this:

- Teachers tended to use the computers as an add-on for remediation or enhancement.
- Teachers, on the whole, struggled with a pedagogy which required a different methodology from having all students undertaking the same activities at the same time. In a sense the design of the room was ahead of the teachers understanding of how to use computers in classrooms.

When it came time in 1999 to build a new complex, some weaknesses in the design of the pods were addressed. The design featured four standard classrooms which adjoined a central space where up to twelve computers could be placed. These spaces came to be known as e-rooms.

The Learning Technologies Coordinator role was not a complete success either. Although there were two assistants appointed, there remained a number of problems which persisted from 1998 to the end of 2001:

- There was continued difficulty articulating a pedagogy which was different from ‘chalk and talk’.
- Some of the professional development offered to the staff lacked interest and credibility.
- There were no lines of authority from the Learning Technologies Coordinator(s) which would facilitate faculties and departments into accepting the use of computers in the curriculum.
- The leaders of the various Faculties/Departments had virtually no role in the implementation of Learning Technologies in their various areas of responsibility.
- The Manager of the Network acted as a ‘gatekeeper’. The unintended effect of this was to further disenfranchise the curriculum leaders from the decision making processes associated with the use of ICT across the curriculum.
- After twelve months there were a total of four computers deployed in the six e-rooms.

What has all this experience—some of it at the forefront of ideas; some of it lagging behind—taught us? The reflections can be summarised as follows:

- There needs to be clear, articulate statements about how ICT might be used in a given context. Users need to be assisted to understand the differences between, for example, computer based instruction and research using computers.
- Staff professional development remains as vital as ever. Professional Development needs to be responsive to the needs of both the staff member and the school.
- The curriculum needs to drive the technology.
- There need to be Curriculum leaders with the responsibility of developing the use of ICT in the curriculum.
- All curriculum leaders need to be empowered in such basic decisions as recommending software.
- The composition of ICT decision-making bodies needs to be carefully thought through. The aim should be to set policy direction and to improve the resource base.

As a consequence of the last few years of false starts and successes, of refining and reconsidering the structures a few guiding principles have emerged. Moreover, there is a growing realisation in the educational community that a laptop program is unnecessary provided there is a network in which the user’s work can be stored and accessed [2]. The response of Parade College has been to develop structures for decision making and for teaching and learning which take into account the dot points listed above. In summary the key initiatives have been:

- An Information Technology Services Management Group which responds to the needs of the curriculum rather than blocking initiatives.
- A new structure for the implementation of ICT which includes Teaching and Learning Facilitators with specific ties to and authority in established Faculty/Department groups.
- A commitment to deliver Professional Development which responds to the needs of the teachers and the vision of the College.
- A determination to articulate a constructivist pedagogy appropriate for the 21st Century [3].

It is with more confidence that we move with sometimes hesitant but quite definite strides towards a pedagogy which makes use of the constructivist model and which fosters a new generation of what Heppell calls ‘cyber authors’ rather than ‘cyber couch potatoes’ [1].

References