

## CHAPTER 1

### INTRODUCTION

Pinelands High School purchased its first computer, a BBC, in 1983. By 1996 the computer room had 21 networked computers. The school, like many other schools, is proud of its computer department supported mainly by the school's own funds.

Parents at Pinelands High School and parents elsewhere ask how many computers a school has, not what is done with them. Schools report to their parent bodies the number of computers they own (Rieber, 1994, p.4) but rarely how the computer is integrated into and supports learning.

Schools have finite resources and cannot afford to squander those resources through poor management or utilisation. Planning for the effective use of computer-assisted education is crucial if scarce resources are to be used effectively (Department of Education, 1996a, p.57).

In the light of the uncertainty within education, the resources of staff and funds must be well utilised. Funders of education in general, and of education at Pinelands High School, wish to see their funds being well used, especially in an 'expensive' resource such as computer-assisted education.

#### **1 Research question**

As a result of the funding and staffing factors the necessity arose to investigate the main research topic successful computer integration particularly to answer the question:

How effectively is Pinelands High School integrating computer-assisted education and what infrastructure is required?
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This question can be refined by the following subquestions:

1. What is computer-assisted education?
2. What models exist to describe the integration of computer-assisted education?
3. What infrastructure is necessary to support computer-assisted education?
4. Where is Pinelands High School on the model of the integration of computer-assisted education?

## 2 Research plan

Numerous sources were consulted on the topics of defining computer-assisted education, information about the necessary infrastructure for computer-assisted education and models on the integration of computer-assisted education.

Print material in the form of journal articles, electronic mail postings to the Internet mailing lists of *Kidsphere*, *Ednet*, *Edtech* and *ITForum*, the World Wide Web and books were consulted in the literature search for material on defining computer-assisted education, the prerequisite infrastructure and models on the integration of computer-assisted education.

A quantitative perspective to the research topic of the integration of computer-assisted education at Pinelands High School was necessary. A questionnaire was devised to measure the use of the computer in teaching and lesson preparation, ownership, training and decision-making policies, i.e. anything which could support or detract from computer-assisted education and the level of computer usage at Pinelands High School. Data was collected by interviews and observation to supplement data from questionnaires. The method of data collection is tabulated in Table 1.1.

The research is of a mixed qualitative and quantitative nature where the quantitative data is used to support observations. The subjects of the study are the teaching staff at Pinelands High School and the infrastructure of the school and the computer department. The data is reported by means of tables, charts and text. The opinions of leading stakeholders in computer-assisted education at Pinelands High School were canvassed to assist in the triangulation of data. The data collection took place at Pinelands High School during August and September 1996.

**Table 1. 1 Data collection method**

QUESTION	PRINT	INTERVIEW	QUESTIONNAIRE	OBSERVATION
1. What is computer-assisted education?	✓	✓		✓
2. What models exist to describe the integration of computer-assisted education?	✓			
3. What infrastructure is necessary to support computer-assisted education?	✓	✓		✓
4. How does the infrastructure to support computer-assisted education at Pinelands High School compare with the literature?	✓	✓		✓
5. Where is Pinelands High School on the model of the integration of computer-assisted education?		✓	✓	✓

### 3 Organisation

This mini-thesis is organised into six chapters.

**Table 1. 2 Organisation of the thesis**

CHAPTER	CONTENTS
1. Introduction	Introduction and statement of the problem
2. Literature review	Defining computer-assisted education and the infrastructure necessary for the integration of computer-assisted education, and developing a model for describing the integration of computer-assisted education based on the literature.
3. Research methodology	Description of research instruments
4. Findings	Description of the integration of computer-assisted education at Pinelands High School
5. Synthesis	Synthesis of the model of the integration of computer-assisted education and the findings at Pinelands High School
6. Conclusion	Summary of project and recommendations for further research

## **4 Value of the research**

Pinelands High School has managed to reach a certain level of integration of computer-assisted education with the finite staff and monetary resources at its disposal. This study is a snapshot of computer-assisted education at the school towards the end of 1996.

With even further education staffing and monetary limitations envisaged from 1997 in South African education it is vital to note what infrastructure is necessary for the integration of computer-assisted education, and at what phases of the integration. It will be valuable to examine the situation at Pinelands High School and note the infrastructure at that school and its level on the model of the integration of computer-assisted education.