The implications of computer-integrated Theme Days for learners at St Alban's College

a dissertation by

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This dissertation is dedicated to my children

Charlé and Elani Viljoen

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List of Abbreviations

CAE	Computer-Assisted Education
CIE	Computer-Integrated Education
CLC	Connected Learning Community (at St Alban's College)
HTML	Hypertext Markup Language
ICT	Information and Communication Technology
IEB	Independence Examination Board
ISP	Internet Service Provider
LAN	Local area network
N-Gen	Net Generation
PC	Personal Computer
OBE	Outcomes-Based Education
StaTech	St Alban's Technology Centre
UP	University of Pretoria
URL	Uniform Resource Locator
WWW	World Wide Web

Abstract

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Title of dissertation:	*The implications of computer-integrated Theme Days for learners at St Alban's College*

This essay reports on an investigation of an integrative solution to facilitating cooperative learning for net generation learners in a technology-rich environment. Of specific interest is the changing roles of learners and educators as well as the enabling role of technology. The case study investigated and utilised to compile this dissertation is the *Earthly Aliens Theme Day*. Data obtained by interviewing and observing Theme Day participants is utilised to support the answers of the research questions.

The research results of this study have shown that St Alban's College successfully managed to implement computer-integrated Theme Days. The College broke the barriers between subjects; learners participated in a learning experience that is closer to reality than just another 'typical' educational experience during a normal day at school. The concept of group work has been introduced to learners, and they are allowed to be creative, lateral thinkers and problem solvers.

A small committee of learners gained managerial skills, while College graduates who are entering the job market are equipped with the necessary cross-curricular life skills to cope in today's technological advanced world.

Keywords

- Learners
- Educators
- Connected Learning Community (CLC) committee
- Pedagogy
- Cooperative learning
- Technology
- Computer-integrated Theme Day

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Definition of Terms

Bandwidth

> The difference between the highest and lowest frequencies available for a network signal. A measure of information-carrying capacity of a transmission wire or the range of transmission frequency that a network can use (Schrum & Berenfeld, 1997:162). The wider the bandwidth the more information it can carry.

CD-ROM

> Digitally encoded information permanently recorded on a compact disc. Information can be accessed very quickly.

Download

> Standard method of moving files across the Internet. Files are transferred from a personal computer to an Internet server making use of FTP.

Email (Electronic mail)

> A network application for exchanging mail messages over various types of networks using various network protocols. A messages can be addressed to an individual or a to a large number of people.

ERIC

> Acronym for Educational Resources Information Centre. A United States funded information system that provides access to education related information.

Firewall

> Intranet software that prevents external users from accessing a proprietary network, while allowing internal users such as the learners from St Alban's College access to external networks.

Homepage

> The introductory first or main page of a Web site to which other pages or sites are linked. The home page *URL* is usually the Web address of the individual or company.

Information and Communication Technologies

Information and communication Technologies is the convergence of microelectronics, computers and telecommunications, which enable the transmission, and reception of digital data signals, including text, video and audio. ICTs incorporate the technologies such as storage e.g. CD-ROMs; networks e.g. fixed, wireless and satellite telecommunications broadcasting; and processing e.g. application software (Morgan, 2001:vii).

ITFORUM

ITFORUM is a list that discusses theories, research, new paradigms and practices in the field of Instructional Technology (http://it.coe.uga.edu/itforum/home.html).

Local area network (LAN)

A network linking computers over a short distance. LANs facilitate communication and sharing of computer resources such as printer.

Search engine

A type of software that facilitates locating files and information based on keywords and descriptions. Examples of popular international search engines are Altavista.com., Yahoo.com or a local search engine such as Ananzi.com.

Service provider

An organisation or network that offers connectivity to telecommunication services.

Technology

Technology is the application of science through the use of tools. Throughout this study, the important educational technology is taken to be computers and ICTs.

URL

The acronym for Uniform Resource Locator or an electronic address on the WWW. URL's define the domain name of the Web server where a resource resides and the directory path to access a named Web file or resource.

Web

Refer to World Wide Web.

Web pages

Files coded in the HTML language and accessible as part of a Web site.

Web site

The World Wide Web is often referred to as "the Web" or WWW. A large-scale, interlinked global system of distributed hypermedia resources with a graphical interface that can be accessed and from which information can be selected for retrieval to a local computer.

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CHAPTER 1

Introduction

1.1   INTRODUCTION

This essay reports on an investigation of an integrative solution to facilitating co-operative learning for new generation learners in a technology-rich environment. Of specific interest is the changing roles of learners and educators, as well as the enabling role of technology. The case study under investigation is the *Earthly Aliens Theme Day* of 31 May 2001. This same Theme Day was utilised to compile this dissertation. Data obtained by attending and observing the subsequent four Theme Days at St Alban's College, is utilised to support the answers of the research questions for this dissertation. When St Alban's College originally instituted the Theme Day concept, the College had the following in mind:

- the breaking down of barriers between subjects,
- providing the St Alban's learners the opportunity of a learning experience that is closer to reality than merely another 'typical' educational experience during a normal school day,
- introducing the learners to the concept of group work,
- allowing the learners to be creative, lateral thinkers and problem solvers,
- allowing a small committee of learners to learn managerial skills, and
- equipping learners entering the job market with the necessary life skills to cope in a technologically advanced world.

This introductory chapter covers the research methodology, the main research question and, subsequently, the sub research questions and the methods of data collection. The value and limitations of the research and the target population are included. The background to this study is described in the following section.

1.2   BACKGROUND TO THIS STUDY

Three perspectives, namely local, national and international background, serve as a preamble to this study on computer-integrated Theme Days at St Alban's College, and will be described in the following section.

1.2.1   St Alban's College: local background

St Alban's College has come a long way since it bought its first three Apple computers in 1980, and the StaTech centre serves as an example of a technology-intensive learning centre. St Alban's College is a private school, situated in the well-established, affluent suburb of Lynnwood Glen in Pretoria. Many learners of St Alban's College are in possession their own notebook computers, are computer literate and have access to the well-equipped StaTech computer complex. The information technology infrastructure at St Alban's is in place and the learners are privileged to have access to a richly equipped computer complex, i.e. the StaTech complex. Presently, the StaTech complex serves as a model of technology-intensive learning centre and is breaking new ground with regard to project planning, timetabling, and the utilisation of their resources and the effective use of manpower.

The management council of St Alban's College conducted a study in 1988 to establish the feasibility of technology and more specifically the integration of computers in education at the College. This study paved the way for the erection and inception of the StaTech complex, and eventually the implementation of the Theme Day concept in 1999. Computers have been integrated successfully into the College's curriculum. Computer training as such does not form part of the College's curriculum. However, the use of computers is integrated into the learners' learning processes (Lippert, 1993:127-128, 141).

Numerous educators visit St Alban's College annually. These visitors gain experience from St Alban's, as the College have been through the growing pains of developing and successfully implementing technology in education and more specific

in the concept of computer-integrated Theme Days. Many South African learners and their educators will and should benefit in future by the St Alban's experience. The abovementioned information shows that St Alban's College is an appropriate school to use for this study.

Theme Days at St Alban's College were first introduced in 1999. A Theme Day differs considerably from the traditional teaching method described in the preamble. Table 1.1 illustrates the traditional method of instruction versus the Theme Day method of instruction.

Table 1:1   Traditional method versus the Theme Day method of instruction

Traditional method	The Theme Day method
▪ Learners learn by means of rote learning.	▪ Learners are critical thinkers and construct meaning for themselves.
▪ The educator is the sole provider of knowledge.	▪ The educator is not a "source of all knowledge".
▪ The education is educator-centred, and textbook bound.	▪ The role of the educator is that of a facilitator and education is learner-centred.
▪ Passive learners.	▪ Active learners.
▪ The syllabus is content-based and broken down into subjects.	▪ Learning is relevant and connected to real-life situations.

(Van der Horst & McDonald, 1997:27; Olivier, 1998:39)

With the introduction of Theme Days at St Alban's College, the College intends to equip learners with essential life skills. Life skills include the ability to collaborate, cooperate, apply lateral thinking and solve problems. The school's slogan, which is the guiding principle of St Alban's College, is *It takes a school with a vision to prepare a young man for life*. Learners entering the job market today are poorly prepared to cope with life in a technological world. The progress, from the initial idea to create a computer centre at St Alban's College, the introduction and implementation of the Theme Day concept, and the processes in the planning and management of a Theme Day will be described in Chapter 3 (Project description).

St Alban's College has been using the learner-centred model for many years, and serves as a model for many public South African schools. St Alban's realised that the standing timetable of the College was not beneficial for learner-centred learning. The normal school day timetable was abolished and Theme Days per form were implemented. Each form group now has at least three Theme Days per annum. Form 5 learners do not participate in Theme Days as their final school year is mainly dedicated to tuition and preparations for their examinations throughout the year.

1.2.2 National Education background

South Africa held its first free elections in April 1994, and the transformation from an Apartheid regime to a democratic regime created the need for reform in many areas. One of the problem areas identified by the government after the elections was the educational system. Curricula changes in a post-Apartheid environment started immediately after the elections when the National Education and Training Forum began a process of syllabus revision. The purpose of this process was to lay the foundation for a single national core syllabus in South Africa. This is based on outcomes-based education (SA, 2001:3-4; Olivier, 1998:20-21; Van der Horst & McDonald, 1997:5).

Educational change in South Africa was necessitated to provide equity in terms of educational provision, and to promote a more balanced view by developing learners' critical thinking powers and their problem-solving abilities. Another reason why educational change in South Africa was required is that a vast number of learners did not receive adequate educational and training opportunities during the Apartheid era. Curriculum 2005 (now the Revised National Curriculum Statement) aims to develop the full potential of each learner as a citizen of a democratic South Africa. It endeavours to create lifelong learners who are confident and independent, literate, numerate and multiskilled, compassionate, who have respect for the environment and the ability to participate in society as a critical and active citizen (SA, 2001:3-4; Van der Horst & McDonald: 1997, 5). Outcomes-based education is a learner-centred, results-orientated approach to learning, which is based on the following beliefs (Olivier, 1998:34; Spady, 1994:7; Van der Horst & McDonald, 1997:7):

- All individual learners must be allowed to learn to their full potential, i.e. both educators and learners must have high expectations for successful learning, regardless of background, learning style or gender.
- The learning environment is responsible for creating and controlling the conditions under which learners can succeed. The atmosphere in a classroom should be positive, and it should be conducive to the promotion of a culture learning.

The digital divide, changes and the re-engineering of learning towards an outcomes-based education system in South Africa was described in the previous section, and the international background will be described in the following section.

1.2.3 International background

The international background focuses on the availability of computers in the first and third worlds. A large percentage of the population of the third world does not have access to proper medical facilities, clean water and nutritious food. Only a small percentage of the population has access to schools with computer facilities. Friedland (2001:13) refers in his research to the 'digital divide'. According to Friedland, the term 'digital divide' has assumed a universal meaning. It is currently used to describe the widening gap between population groups who have access to information and communication technologies and are thus reaping the related benefits, and those who, up to now, have been left out. Co-operative learning, constructivism and learner-centred learning and the international perspective thereof will be described in the following section.

The *co-operative learning* model is not a new concept of the new millennium. Its roots date back to the early Greek civilisation. In 1916, the American John Dewey promoted the use of co-operative learning in the classroom. Dewey emphasised small problem-solving groups of learners searching for their own answers. More recently, the American brothers, Johnson & Johnson, did extensive research on co-operative learning. They were published widely in books and journals during the

1970s and the 1980s (Johnson & Johnson, 1991:17-20; Van der Horst & McDonald, 1997:128-129).

Exponents or originators of the constructivist theory are Jerome Burner, Jean Piaget and Lev Vygotsky. The term *constructivism* refers to the idea that learners construct knowledge for themselves – each learner individually (and socially) constructs meaning – as he or she learns. They are of the opinion that learning is more effective if the learners are encouraged to discover the principles themselves and are not spoon-fed by the educator (Hein, 1991:1-2).

The United States has seen a revolution in education in the past twelve years. It entails the philosophy of how educators educate, the relationship between educators and learners, and the nature of the curriculum. At the heart of *learner-centred learning* is the idea that learners learn best when they are engrossed in the topic and motivated to seek out new knowledge and skills because they need them to solve the problem at hand (Hansen 2000:1; Norman & Spohrer,1-4). The research problem of this study is described in the following section.

1.3   RESEARCH PROBLEM

In considering the implications of Theme Days, the research for this dissertation focuses on determining aspects to consider in designing and running computer-integrated Theme Days. The researcher followed a systems approach and focused on contextual aspects, input, process and outcome(s), as well as those benefits that make Theme Days worthwhile, thus forming the feedback loop that ensures sustainability. Figure 1.1 illustrates the systems approach followed in studying Theme Days.

Figure 1.1   Diagram of the systems approach to determining the implications of Theme Days (Adapted from Roux, 1989:176)
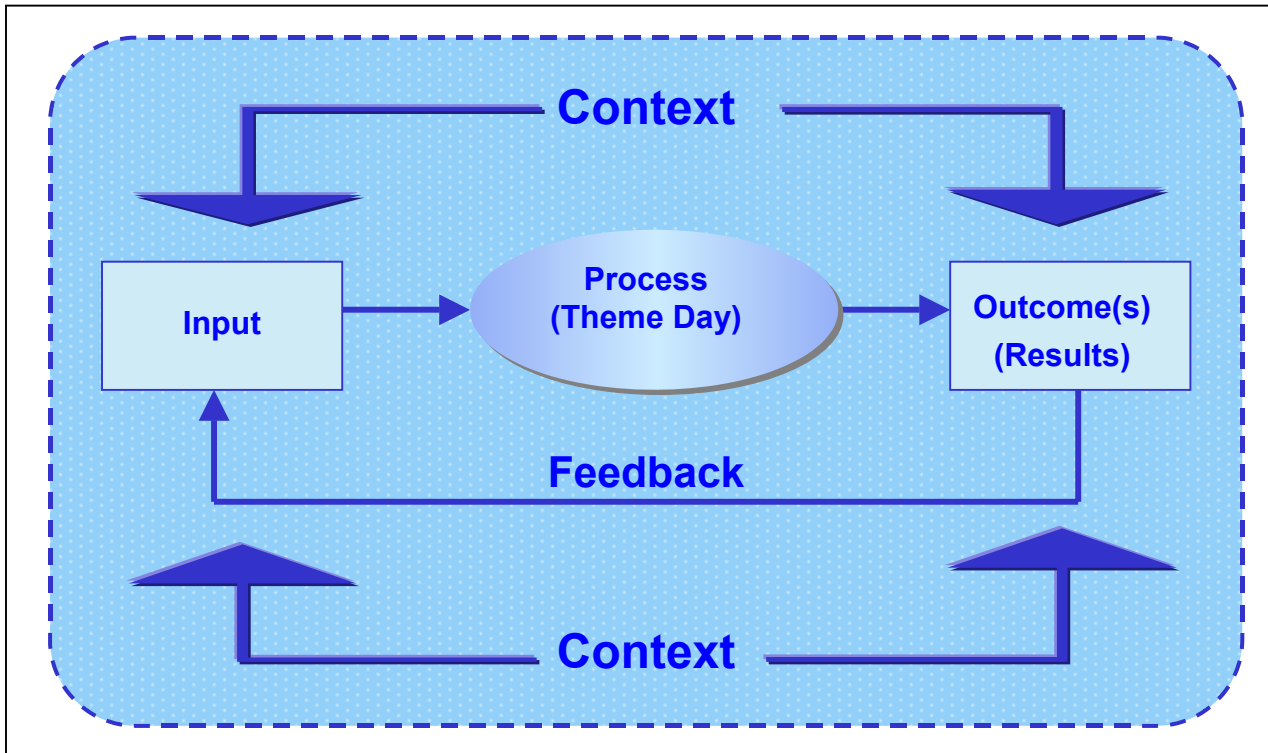
The aim of research for this dissertation will be described in the following section.

1.4   AIM OF THE RESEARCH

The aim of this study is to determine the implications of computer-integrated Theme Days for administrators, educators and learners at St Alban's College. Aspects such as the learning community, pedagogy and technology were considered to achieve the aim of this dissertation. The benefits and limitations of computer-integrated Theme Days for learners were investigated, as well as how they influenced the learning process. Figure 1.2 illustrates the learning community of St Alban's College. The learning community at St Alban's can be visualised by making use of the following figure.

Figure 1.2   The St Alban's College learning community
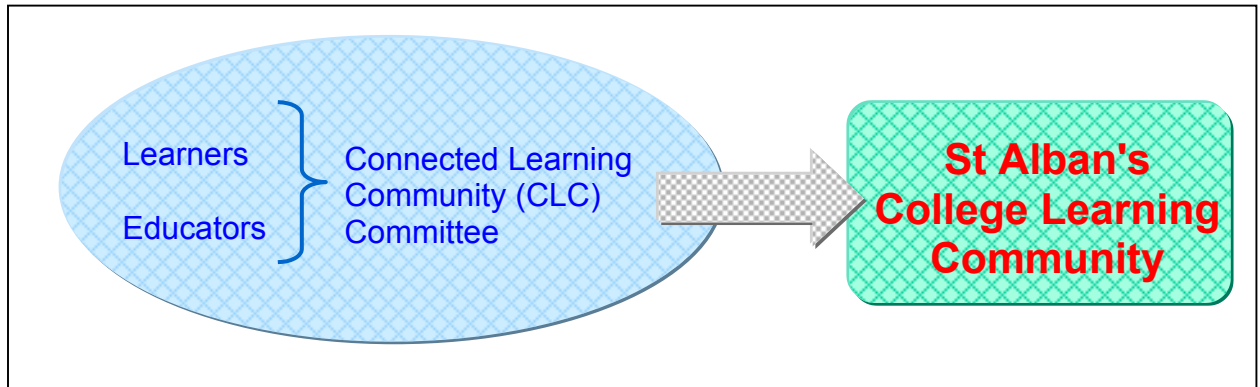
1.5   OBJECTIVES OF THE RESEARCH

The specific objectives of the research are to determine the aspects to consider in planning, implementing and evaluating computer-integrated Theme Days. Three categories of aspects have been identified, namely

- learning community aspects,
- pedagogical aspects, and
- technological aspects.

Figure 1.3   Overview of the study
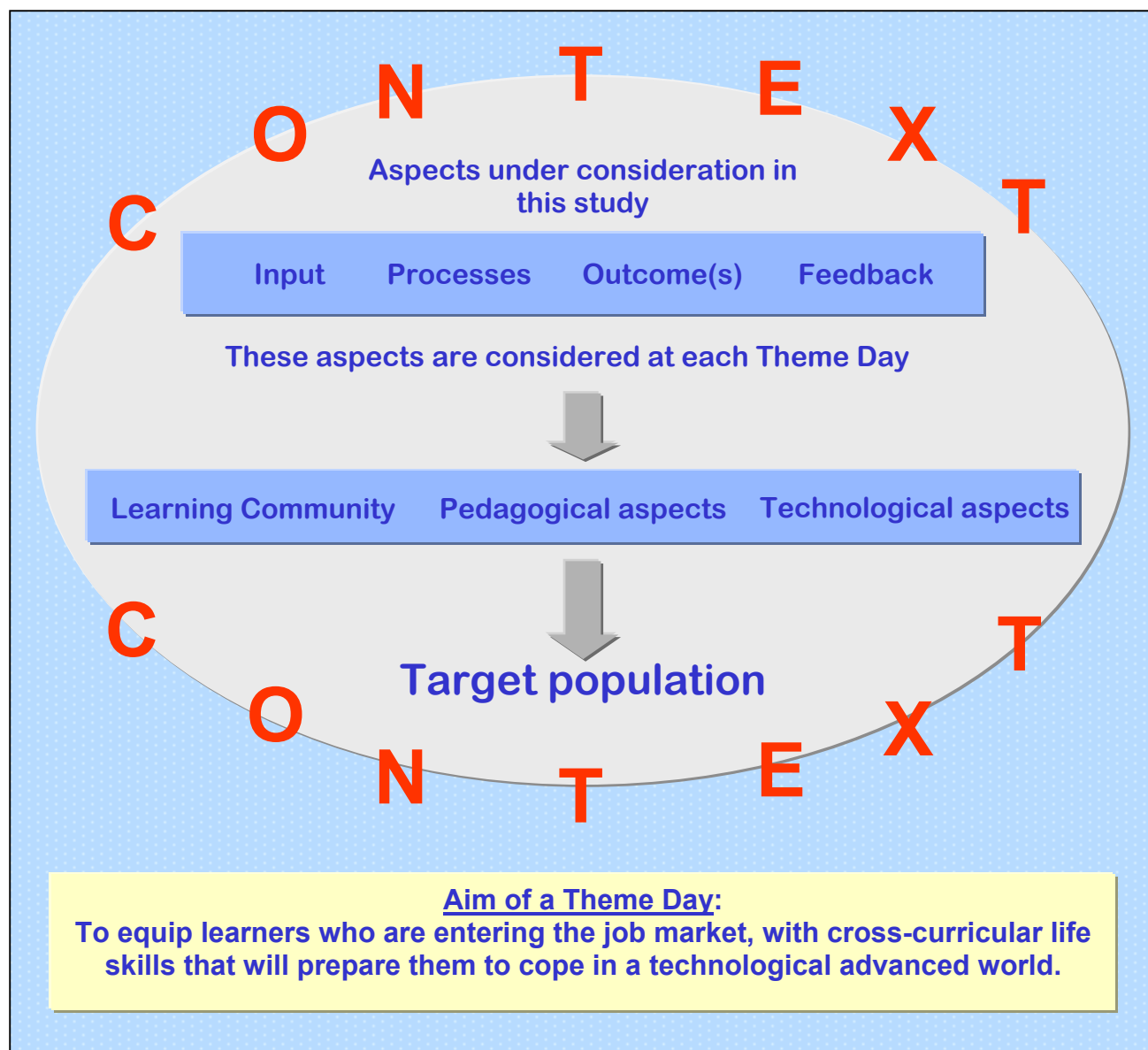
The main research questions are described in the following section.

1.6   RESEARCH QUESTION

The main research question and five sub research questions, which are to be explored in this study, are the following:

> **What are the aspects to consider in planning, running and evaluating computer-integrated Theme Days for learners at St Alban's College?**

The main research question can be refined by the following sub questions regarding the different contexts investigated in this study:

a)   What is the institutional and contextual influence of computer-integrated Theme Days?

b)   What inputs are required from the educators, the Connected Learning Committee and the learners?

c)   What processes occur during computer-integrated Theme Days?

d)   What outcome(s) do the educators, the CLC Committee and the learners achieve?

e)   How is the feedback loop completed to ensure sustainability?

The main research question and sub-questions will be answered in Chapters 2 to 5 of this study. Five Theme Days were observed during the period between May 2001 and October 2002, and are schematically represented in Table 1.2. The primary subject of this research is the *Earthly Aliens Theme Day* that took place on 31 May 2001.

Table 1.2   Theme Days observed during the period May 2001 to October 2002

Date of Theme Day	Form group involved	Topic of Theme Day
31 May 2001	Form 3 (Grade 10)	*Earthly Aliens (primary focus of this study)*
3 October 2001	Form 2 (Grade 9)	*Water conservation and technology*
5 July 2002	Form 4 (Grade 11)	*Entertainment*
29 September 2002	Form 3 (Grade 10)	*Top Secret*
9 October 2002	Form 1 (Grade 8)	*Insects*

Previous research undertaken on the NEXUS database will be described in the following section.

1.7   PREVIOUS RESEARCH

In order to place this research project in the context of research conducted in South Africa, a review of the NEXUS database was undertaken. According to this review conducted in April 2003, six related research studies were identified. Research by Friedland is an exception, as research was done for at a university in Germany. These related studies are described in Table 1.3.

Table 1.3   Related research topics

Researcher	Title	Year	Degree	Institution
Addo, H.	Utilisation of information and communication technology for education in South Africa: An examination of the World Links for Development (WorLD) programme	2003	Ph.D.	University of Pretoria
Cossa, G.G.	Implications of introducing Information and Communication Technology in Mozambican schools	2002	M.Ed. (CAE)	University of Pretoria
Friedland, C.	The Application of Information and Communication Technologies in Learning and Training in Developing Countries	2001	Master of Computer Science	Karlsruhe University, Germany
Kennedy, I.M.	Co-operative learning with computers: Three model lessons	1993	M.Ed. (CAE)	University of Pretoria
Miller, P.A.	The integration of computers at Pinelands High School: A case study	1997	M.Ed. (CAE)	University of Pretoria
Morgan, S.K.	Computer Integration in South African Schools with reference to St Stithians College	2001	M.Ed. (CAE)	University of Pretoria

From Table 1.3 it can be seen that this research is relevant to research conducted by the researchers Cossa, Friedland, Miller and Morgan. Research by **Miller** (1997) was done in 1996 to 1997, and focused on the effective integration of computer-integrated education at Pinelands High School. The purpose of **Morgan's** (2001) research was to assess the relevance of dominant discourse. Morgan emphasises the intrinsic value of computers used in education in South African schools. **Friedland** (2001) provides an international perspective and insight for this study. **Kennedy** (1993) conducted research on co-operative learning with computers. The research of **Cossa** (2002) documents the introduction and utilisation Information and Computer Technology (ICT) in Mozambican secondary schools over a period of three years. Among the significant challenges to be addressed in the area of ICT-related education in Mozambique are the high level of illiteracy and the limited financial and technical resources. The research of Addo (2003) focuses on a World Bank initiative to introduce computers in 25 South African schools.

The value and relevance of this study will be addressed in the following section.

1.8   VALUE OF RESEARCH

South African schools may consider the implementation of computer-integrated Theme Days. Learners at public and private schools could benefit from the implementation of computer-integrated Theme Days. Learners from St Alban's College tremendously enjoyed participating in Theme Days, and at the end of the day the successes thereof proved that learning can still be fun.

St Alban's College has more than ten years of experience of ICT in education and they view themselves as pacesetters in the utilisation of the latest information technology in education. St Alban's made mistakes since their first implementation of the Theme Day concept in 1999, but has since streamlined and improved the concept to the current format. St Alban's College presented an *Information Leadership Conference* from 4 to 6 July 2002 and the conference delegates represented public and private schools. Papers presented by guest speakers included *Technology in the classroom*, *Intranets in the classroom* and the *Connected*

Learning Community. Delegates were educators teaching computer studies. The delegates attended the conference with the aim to learn from the St Alban's experience. The delegates can implement a simplified and modified Theme Day concept at their respective schools based on the St Alban's Theme Day concept, even though they don't have ample resources and a well-equipped StaTech computer complex as is the case at St Alban's College (Viljoen, 2002).

The research methodology for this study will be addressed in the following section.

1.9 RESEARCH METHODOLOGY

The research methodology for this study is discussed in this section, as well as the data collection methods which were utilised to obtain information. An evaluation matrix is provided in Table 1.4, which correlates the main research questions with the main research methods used to compile this study.

The systems approach will be described in the following section.

1.9.1 The systems approach

The systems approach was applied in this study to provide a structure and layout for the dissertation. Gillies (1994) provide a theoretical perspective of a systems approach. The five elements of the classic system were the aspects considered at each Theme Day, and these elements are important headings in chapters of this study. According to Gillies (1994:60) a *systems approach* is especially necessary for the planning and control functions of management. A *system* is a set of objects or elements that interact to achieve a specific goal. It is not just an orderly arrangement of parts but an ongoing process that consists of diverse elements and their interrelationships. The classic system elements are the environment, input, processes, outcome(s) and feedback. For the purpose of this study, the environment will be referred to as the context. Gillies (1994: 66-67) identifies the elements as follows:

- Each system is defined in relation to its *context,* and the systems context can be defined only with reference to the system and its boundaries. The context for this study is the St Alban's learning community, pedagogy and technological aspects that influence computer-integrated Theme Days.

- *Input* is the energiser and operating material of the system. Inputs may consist of information, time, money or raw material. The input component of a system is that element that receives the operating material from the context. The inputs of this study include the St Alban's College learning community, pedagogy and technology. Inputs of the aforementioned make a Theme Day a possibility.

- *Process* is a series of actions by which the system converts energy input from the context into products and services that are usable by the system itself or by the context. The process of this dissertation is the actual Theme Day, such as the role of the learning community, pedagogy or technology in the processes.

- *Outcome(s)* includes the final product or service resulting from the system processing of technical, social, financial or human inputs. If the outcomes are unsatisfactory, the inputs and process can be changed to avoid the same unsatisfactory outcomes a second time. For instance, if a few learners were lazy or did not participate in Theme Day tasks, the concept of group work will be revised, or the learners, who were passengers, will be placed in different groups during a following Them Day.

- The *Feedback* is information about some aspect of data or energy processing that can be used to monitor and evaluate system performance and guide it to more effective performance. A certain percentage of maladaptive responses can be expected in any system, feedback components are needed to detect system errors and signal need for correction. At the first CLC meeting after a Theme Day the errors of a Theme Day are highlighted, and these errors are eradicated or rectified to avoid the occurrence thereof in a forthcoming Theme Day.

The research design for this study will be addressed in paragraph 1.9.2.

1.9.2 Research design

According to Merriam (1997:27) a qualitative case study can be defined as ". . . an intensive, holistic description and analysis of a single instance, phenomenon, or social unit". A case study could be a person such as a learner, an educator, a group such as a class, a school or a community (Merriam, 1997:27; Cohen, Manion & Morrison, 2000:181; Holloway & Wheeler, 2002:284).

Merriam (1998:41-43) mention a few examples of the strengths and the limitations of case studies. Because of its strengths, a case study is a particularly appealing design for applied fields of study such as education. According to the strengths of a case study as outlined by Merriam (1998:41), a case study design was selected for this dissertation because of the nature of the research problem and the research questions being asked.

Although strengths of case studies do exist, the limitations thereof should also be noted. Merriam (1998:42) quotes Guba and Lincolin (1981:377) as follows: "… case studies tend to masquerade as a whole when in fact they are a part – a slice of life." The researcher does not fully agree with the aforementioned statement of Guba and Lincolin. This study is a dissertation and of limited scope. If the scope of the study is broadened, the researcher will not meet the intended aim for this study, which is also reflected in the title of this dissertation. Limitations of this study do exist and are mentioned in section 1.12 of this chapter. Data collection methods for this dissertation will be described in the following section.

1.9.3 Data collection methods

Observation and interviews as well as the data collection instruments utilised to conduct research for this study will be described in the following section.

1.9.3.1 Observations

A key issue in case study research is, according to Cohen, Manion & Morrison (2000:181), the selection of information. Observations are an important data collection instrument. The case study researcher observes the characteristics of an individual unit such as a learner, a class or a school. The researcher of this study took on the role of non-participatory observer. A non-participatory observer is an observer who visits a site, sits at the back of a classroom and records notes without becoming actively involved in the activities of the participants (Creswell, 2002:200-203; Holloway & Wheeler, 2002:101).

Observations were made during five Theme Days from 31 May 2001 to 9 October 2002. The *Earthly Aliens Theme Day* of 31 May 2001 was used as the case for this study. Data obtained by attending and observing the subsequent four Theme Days, October 2001 to October 2002, are utilised to answer the research questions for this dissertation. Learners and educators as well as aspects such as the CLC, technology and pedagogy were considered at every Theme Day. The researcher observed:

- The learners by walking around in the StaTech computer centre during events and field notes were taken.
- The learners at five Theme Days. The observation was done over a period of 17 months.
- The key role players during each Theme Day.
- The use of technology and in particular the use computers and the functioning of co-operative groups.

1.9.3.2 Interview(s)

Data collection for case studies also includes a researcher conducting interviews to collect information. Interviews are the process where researchers ask one or more participants in a study general questions, open-ended questions and then record their answers. In qualitative research, open-ended questions are asked so that the

participants can best voice their experiences unconstrained by any perspective of the researcher or past research finding. An advantage of interviews is that the interviewer also has better control over the types of information received since specific questions can be asked to elicit this information. A disadvantage of interviews is that researchers might only provide filtered information that is relevant to the study (Cohen, Manion & Morrison 2000:187-188; Creswell, 2002:202-204).

Interviews were conducted with Connected Learning Community (CLC) committee members to elaborate on their involvement in computer-integrated Theme Days. The interviews were mainly conducted in StaTech 1, StaTech 2 and at the work stations while the learners were working on their tasks. Key role players interviewed during Theme Days are the:

- learners,
- Director of Technology,
- educators,
- CLC committee members,
- secretary of the Director of Technology, and
- network manager.

E-mail is a form of interviewing and is useful in collecting qualitative data quickly (Creswell, 2002:207). E-mails proved to be a valuable tool to communicate and to obtain information. The researcher sent e-mails to Ron Beyers, Director of Technology at St Alban's College, and *de facto* organiser of the event (Appendix 2). E-mails were utilised to obtain dates of Theme Days and which forms were to be utilised. Interviews and observations were utilised during the five Theme Days at St Alban's College. The literature survey for this dissertation is described in detail in Chapter 2.

A letter dated 8 July 2002 was sent to Mr Tom Hamilton, Headmaster of St Alban's College, requesting his permission and consent to conduct the research for this dissertation (Appendix 1). Mr Hamilton replied in a letter dated 25 July 2002 in which

the researcher was given permission to conduct a research at St Alban's College (Appendix 1).

The three main methods of collecting data were utilised in this study, as tabulated in Table 1.4, is a literature review, interviews and observations.

Table 1.4   Data collection methods/Matrix of research questions and methods

Research questions	Document analysis	Interview	Obser-vation
1. What is the institutional and contextual influence of computer-integrated Theme Days?	✓	✓	✓
2. What inputs are required from the educators, the Connected Learning Committee and the learners?	✓	✓	
3. What processes occur during computer-integrated Theme Days?	✓	✓	✓
4. What outcome(s) do the educators, the Connected Learning Committee and the learners achieve?		✓	✓
5. How is the feedback loop completed to ensure sustainability?		✓	✓

1.9.4 Use of the first person

The use of 'the researcher' in first person, as it is the case in the introduction of this dissertation, is justified in literature. According to Hollow and Wheeler (2002:267) it is acceptable to write in the first person, especially when writing the introduction and the methodology. Hollow and Wheeler (2002:267) quote Wolcott (2001:21) as follows, "...the use of the first person because researcher roles become integrated into the study. For reporting qualitative research, it should be the rule rather than the exception."

The outline of this dissertation as well as a diagrammatic illustration of the dissertation will be provided in the following section.

1.10   OUTLINE OF THE DISSERATION

This dissertation comprises five chapters, of which an outline is tabulated in Table 1.5. This is followed by a diagrammatic illustration of the outline of the dissertation, as depicted in Figure 1.5.

Figure 1.4   Outline of the dissertation
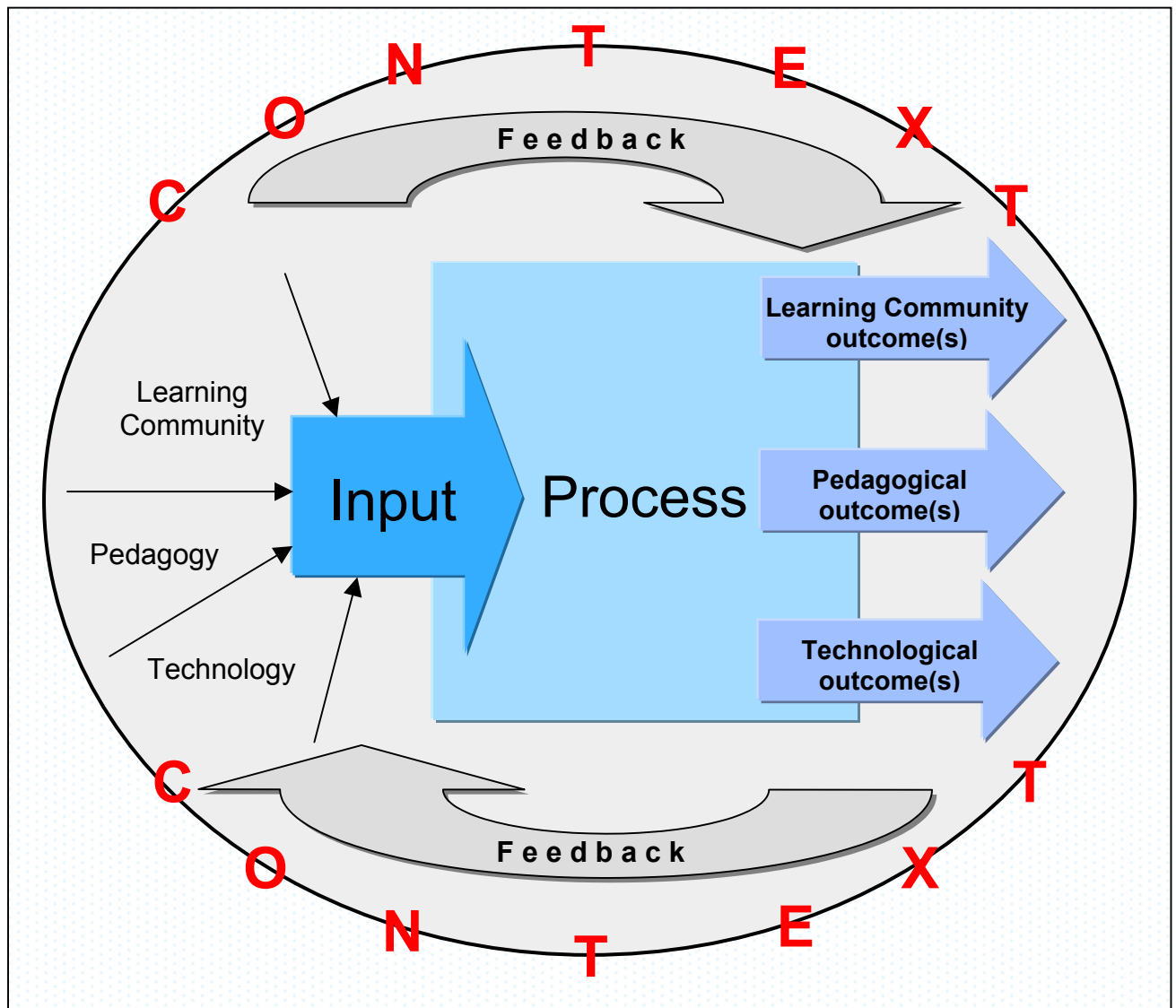
The outline of this dissertation is tabulated in Table 1.5.

Table 1.5   Outline of dissertation

Chapter	Name of chapter	Description
1	**Introduction**	The framework within which the research problem is situated, is described in this section. This chapter outlines the main points of the study, i.e.: What are the implications of computer-integrated Theme Days for learners at St Alban's College? The research questions are posed in this introductory chapter.
2	**Literature review**	A review of relevant literature on aspects related to a community of learning, pedagogical aspects and technology. The context of the research for this dissertation is outlined in this chapter.
3	**Research methodology**	This chapter discusses the research context, which is St Alban's College, and the research methodology used during the research for this study.
4	**Findings**	The first part of this chapter discusses the *Earthly Aliens Theme Day* of 31 May 2001. The second part of this chapter contains the data obtained by attending and observing the subsequent four Theme Days, 3 October 2001 to 9 October 2002.
5	**Conclusions and recommendations**	In this concluding chapter, a description will be provided of "how the loop is completed". The concluding chapter of this study reports on the successes and failures of the study and includes recommendations for future research.

The demarcation, inclusions and exclusions from this study are described in the following section.

1.11   DEMARCATION, INCLUSIONS AND EXCLUSIONS FROM THIS STUDY

The target population used for the research on the implications of computer-integrated Theme Days for learners at St Alban's College are learners in Form 1 to Form 4. Form 1 is the equivalent of Grade 8 in South African public schools. The learners are all males, and the age group of these learners range between 14 to 17 years. The Form 4 learners did not participate in any Theme Day in October 2002. These learners prepared for their November 2002 examinations. The Form 5 (Grade

12) learners didn't participate in any Theme Day in 2002 and are not included in the research for this dissertation. The reason is that their academic year is rather short due to preparations for their mock exams in August and end of the year exams in October and November. An exception does exits. Two Form 5 learners who are members of the Connected Learning Committee team were involved in the Theme Days of 29 September and 9 October 2002.

Extensive research at other schools in Pretoria was excluded from the research for this dissertation. The integration of computers in schools was also excluded from this study because research was previously done in that specific field. Two former Master's in Computer-Assisted Education students, PA Miller (1997) in Pinetown and SK Morgan at St Stithian's College (2001), undertook the research. The racial groupings of the learners of St Alban's College were excluded from this dissertation due to the sensitivity of the issue in South Africa. Limitations of this study are described in paragraph 1.12.

1.12   LIMITATIONS OF THIS STUDY

Certain limitations were experienced in this study, namely:

- The research on computer-integrated Theme Days was limited to only one school. St Alban's College is a private school and has a well-equipped computer centre namely the StaTech Computer Centre. St Alban's College is a school rich in resources and cannot be regarded as representative of the broader South Africa school community where many schools lack educators who have received proper training, textbooks and libraries. Moreover, regular access to facilities such as well-equipped computer centres do not exist.
- This dissertation represents a single case study (*Earthly Aliens Theme Day*). Limited comparative studies were made to determine the impact of computer-integrated Theme Days at other schools, e.g. private or public schools in Pretoria or surrounding areas.
- Dissertations and theses in computer-assisted education focuses mainly on the use of computer-assisted education at tertiary institutions. The reason therefore

might be that students who enrol for the Master's degree in Computer-Assisted Education are mainly from tertiary or training institutions and the business sector.

▪ The case studies dealt with small segments of the subjects. The reason therefore was that only small segments of the subjects or curriculum were covered in the Theme Days.

▪ Research for this dissertation proved that a limited number of resources was available on the subject.

▪ No statistical analysis of data was included in this study due to the small segment of learner population utilised during the research process for this dissertation.

1.13 SUMMARY

The dissertation reports on the implications of computer-integrated Theme Days for learners at St Alban's College. This section provided a framework within which the research problem is situated, the background and the research methodology of this study. Chapter 2, the literature survey, sets out to answer the main research question and the five sub-questions by undertaking a literature review in order to contextualise the research for this study. Chapter 3 is the description of the project.

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│  │     CHAPTER 1      │      │  2.1 Introduction    │      │ 2.2.1 Learner characteristics│ │
│  │    Introduction    │      │                      │      │   of the net generation   │ │
│  └────────────────────┘      └──────────────────────┘      └──────────────────────────┘ │
│                                                            ┌──────────────────────────┐ │
│  ┌────────────────────┐      ┌──────────────────────┐      │ 2.2.2 New-generation and │ │
│  │     CHAPTER 2      │      │                      │      │       the media          │ │
│  │    Literature      │      │                      │      └──────────────────────────┘ │
│  │     survey         │      │  2.2  Learning       │      ┌──────────────────────────┐ │
│  └────────────────────┘      │       community      │      │ 2.2.3 Learner characteristics│ │
│                              │                      │      │   of the digital child    │ │
│                              └──────────────────────┘      └──────────────────────────┘ │
│                                                            ┌──────────────────────────┐ │
│  ┌────────────────────┐                                    │ 2.2.4 The impact of the  │ │
│  │     CHAPTER 3      │                                    │ computer on the learner   │ │
│  │     Research       │                                    │ in digital environment    │ │
│  │    methodology     │                                    └──────────────────────────┘ │
│  └────────────────────┘                                    ┌──────────────────────────┐ │
│                                                            │ 2.2.5 New-generation      │ │
│                                                            │       educators           │ │
│  ┌────────────────────┐                                    └──────────────────────────┘ │
│  │     CHAPTER 4      │                                                                  │
│  │     Findings       │      ┌──────────────────────┐      ┌──────────────────────────┐ │
│  └────────────────────┘      │  2.3  Pedagogy       │      │ 2.3.1 New-generation      │ │
│                              └──────────────────────┘      │       learning            │ │
│                                                            └──────────────────────────┘ │
│  ┌────────────────────┐                                    ┌──────────────────────────┐ │
│  │     CHAPTER 5      │                                    │ 2.3.2 What is cooperative │ │
│  │  Conclusions and   │                                    │       learning?          │ │
│  │  recommendations   │                                    └──────────────────────────┘ │
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CHAPTER 1 Introduction

CHAPTER 2 Literature survey

CHAPTER 3 Research methodology

CHAPTER 4 Findings

CHAPTER 5 Conclusions and recommendations

2.1 Introduction

2.2 Learning community

- 2.2.1 Learner characteristics of the net generation
- 2.2.2 New-generation and the media
- 2.2.3 Learner characteristics of the *digital child*
- 2.2.4 The impact of the computer on the learner in digital environment
- 2.2.5 New-generation educators

2.3 Pedagogy

- 2.3.1 New-generation learning
- 2.3.2 What is cooperative learning?
- 2.3.3 Cooperative learning: a historical perspective
- 2.3.4 Defining cooperative learning
- 2.3.5 Essential elements of cooperative learning
- 2.3.6 Cooperative learning groups
- 2.3.7 Size of groups
- 2.3.8 Cross-curriculum

2.4 Technology

- 2.4.1 The digital divide
- 2.4.2 Technology today
- 2.4.3 The history of the StaTech centre at St Alban's College

2.5 Summary

CHAPTER 2
Literature survey

2.1   INTRODUCTION

The literature survey for this dissertation focuses on aspects such as the learning community, pedagogy and technology. This chapter commences with a literature review of individual components of a computer-integrated Theme Day. Numerous sources were consulted in search of appropriate material. Printed material in the form of journal articles and books, electronic journal articles, electronic database such as www.iearn.com, ITFORUM and the World Wide Web were consulted in the literature search. Resources were also retrieved from an ERIC database. The learning community will be described in the following section.

2.2   LEARNING COMMUNITY

"Today's kids bring a new culture to the family landscape. Children understand computers because they can control them. They love them because they can make their own windows of interest. Remember sitting in class? If what the teacher said was too simple, you lost interest. And oh how tiny that window was." (Negroponte in the foreword to Seymour Paper's *The Connected Family*, 1998 IN: Lemke & Coughlin).

The learning community, as illustrated in Figure 1.2, are the learners, educators and the Connected Learning Community at St Alban's College. The learning community of St Alban's College belongs to the net generation. This community are working in cooperative groups, using digital technology to its utmost potential during computer-integrated Theme Days. In this section, the learners of the *Net Generation*, *Net Generation* learning, the *digital child* and new generation educators will be described.

2.2.1   Learner characteristics of the Net Generation

Digital technology is not intimidating for the children of today, and according to Tapscott (1998b:1), a new generation has emerged. This new generation is known as the Net Generation. These learners differ from their predecessors because they grow up surrounded by digital media. Cellular phones, computers and digital technologies, such as digital cameras, are commonplace to the Net Generation or in short the *N-Gen*. They work with all these technologies at school and at home. These new technologies are increasingly connected to the Internet and an expanding web of networks, which are attracting many new users monthly. The N-Gen children are constantly surrounded by technology and are accustomed to its strong presence in their lives. The N-Gen is the new generation, who, in profound and fundamental ways learn, work, play, communicate and create communities very different from that of their parents (Tapscott, 1999:1; Miller, 2003: 22-24).

The age of N-Geners is between 2 and 20 years. This new generation is exceptionally curious, smart, focused, high in self-esteem and has a global orientation (Tapscott (b) 1; De Villiers, 2001:41). The generation category of the three generations before the "arrival" of the N-Gen is tabulated in Table 2.1:

Table 2.1   Generation category

Generation category	Description
The Baby Boom	People born between 1946 and 1964.
The Baby Bust	People born between 1965 and 1976.
Baby Boom Echo	People born between 1977 and 1997. The Baby Boom Echo eventually gave way to a new generation, i.e. the *Net Generation*. This generation is influenced by intensive Internet usage.

(Tapscott 1998a:15-22; De Villiers, 2001:41-42; Miller, 2003: 22-24)

In the period following the Second World War, the so-called baby boom occurred, i.e. babies born between 1946 and 1964. Between 1977 and 1997 a great number of babies were born. The children of the baby boomers are known as the baby bust,

i.e. babies born in 1965 to 1977 (De Villiers, 2001:41). The Internet penetrated US households almost as fast as the television did in the 1950s. In 2000, almost 40 percent of American households were connected to the Internet and new technologies appeared on the market such as Web browsers and e-mail (Tapscott, 1999:4). The Baby Boom Echo generation tried to prolong their youth. This wave of youth coincides with the digital revolution, which is transforming society. Together, these two factors are producing a new generation where the Baby Boom Echo eventually became the *Net Generation* (Tapscott, 1998a:20-22; De Villiers, 2001:41). The Baby Boom Echo becoming the *Net Generation* can be visualised by making use of Figure 2.1.

Figure 2.1   Baby Boom Echo becomes the *Net Generation*
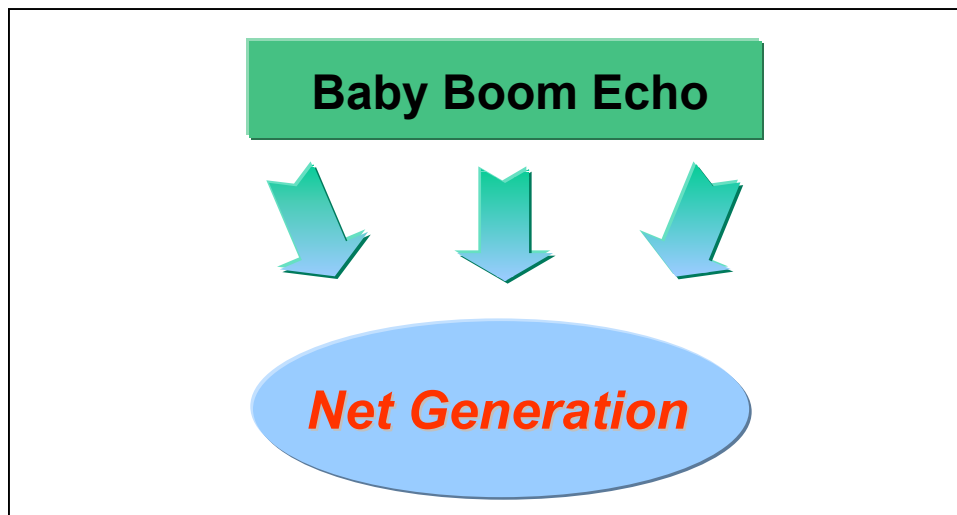
Therefore, this study inquires into the appropriateness of the Theme Day concept for the Net Generation learner. This new generation and the media they use will be described in the following section.

2.2.2   New Generation and the media

The cornerstone of the New Generation is the shift from broadcast to interactive media. The learners want to be users of media, not just its viewers or listeners. Research in the USA detected a decline in television viewing from 1995 to 2000. Nielsen Media Research projects that the population between the ages of 2 and 17 year view 100 hours television less a year (Tapscott, 1998:2).

The penetration of the new media into the American households meant less hours in front of the television but an increasing number of hours spent at the computer surfing the Internet. The new generation finds the new media increasingly more popular because it is interactive. The learners have to search for information on the Internet, rather than simply looking at the information on a television screen or reading text in a textbook. The learners of the Net Generation developed into critical thinkers – they have to decide which web sites are worth visiting and which ones are not (Tapscott [a], 1998:29 & Tapscott [b], 1998:4; De Villiers: 2001:43).

The learner characteristics of the *digital child* will be described in the section to follow.

2.2.3   Learner characteristics of the *digital child*

Although Tapscott refers to a whole new generation of children i.e. the *Net Generation*, it is important to provide a description of the *'digital child'*. Table 2.2 tabulates a summary of the *digital child*, how they use technology and the learning styles of these children.

Table 2:2 Characteristics of the *digital child*

Who is the *digital child*?	▪ The *digital child* is a boy or a girl who lived his or her entire life in a digital world. ▪ The *digital child* is the offspring of parents who were not born in a digital world but grew up during the transformation from an analogue world to the digital one. ▪ The *digital child* was born in the latter half of the 20th century. ▪ For the *digital child*, life is a balance between working, learning and playing.
Relationships	▪ Relationships with other human beings are the most important aspect of life. ▪ Family relations, community relations, learning and working relationships form the fabric of the *digital child*.
Learning style	▪ *Digital learners* do not learn in isolation. ▪ They learn in groups even if the group members live in other countries. ▪ Learning is collaborative and social, not solitary and competitive. ▪ *Digital learners* want recognition for real accomplishments.

Table 2:2 (Continue)

Digital curriculum	*Digital children* must learn to read critically, write effectively and speak fluently. - The *digital learners* must be prepared for life in their own time, i.e. to cope in the digital world. - The digital curriculum must produce citizens who are extremely discerning. The *digital child* must be able to distinguish between the useful information and the hype, or the truth from the propaganda. - Excellent education is the key to thriving in a digital world.
Use of technology	The *digital child* is comfortable with new technologies and makes the most of these new technologies in his/her professional life, confidently awaiting the next new technological breakthrough.

(Vail, 2001)

The impact of the computer on the learner in a digital environment will be described in the following section.

2.2.4   The impact of the computer on the learner in a digital environment

The impact of the computer on the learner in a digital environment will be described in this section. Computers do not necessarily have only positive effects on learners in the digital environment. Computers can have a negative influence on learners and this leads to behavioural and/or health problems. Research in the United States of America has revealed that the American youth between the ages of 2 and 17 are viewing 100 hours a year less television but this has resulted in the increasing number of hours the children have spent surfing the Internet or chatting with their "cyber friends" (Tapscott, 1998:2). Literature revealed that aspects such as the ergonomic risks, communication skills of learners and computer anxiety might have an impact on the new generation learners. These aspects are summarised in Table 2.3.

Table 2.3   Communication skills, social problems, ergonomic risks and computer anxiety in a digital environment

Communication skills	- Learners prefer to communicate by means of e-mail even if they are sitting in the same classroom. - Computer and the use of e-mail resulted in poor communication skills with other learners sitting in the same classroom.
Social and related problems	- Children spending too much time in front of the computer have the tendency to be: - overweight, - displaying poor life skills, - experiencing reading and writing problems, - have a declining interest in reading books, - experiencing visual and perceptual problems, - are less creative because the computer has many graphic software packages available and they can just cut and paste images. - The potential danger of children viewing pornography on the Internet exists. - An emotional dependency on the computer develops.
Ergonomic risks	- Poor posture, inadequate furniture and lack of frequent breaks can cause injuries. - Furniture in schools is not always adjusted to suit the school's computer centre. Warning signs are younger learners whose feet don't touch the floor and learners who tilt their heads and necks because the computer screens are too high. - Research by a neurologist of the Centre for Occupational and Environmental Neurology in Baltimore shows that teenagers and young adults are showing repetitive-stress injuries, which once were seen only in adults. The neurologist believes that these injuries are preventable if the necessary preventative measures are implemented at school computer centres. Table 2.4 suggests some preventative solutions.

Table 2.3   (Continue)

Computer anxiety	• Frustration and irritation leads to panic attacks.
	• Fear of embarrassment, failure and disappointment in front of other learners in the classroom.
	• Physical symptoms of anxiety are:
	o becoming cold and sweaty,
	o getting clammy hands,
	o feeling like crying, and
	o increased heart rate.
	• Time causes anxiety when educators place an emphasis on the speed in which assignments have to be completed.

(Vail, 2001; Monk IN: Vail, Fajou, S).

A lack in communication skills, social and related problems, computer anxiety and ergonomic risks can be addressed, and possible solutions are tabulated in Table 2.4. The *Reader's Digest Oxford Complete Wordfinder* (1996:409) defines 'ergonomics' as 'the study of the efficiency of persons in their working environment'.   The impact of the computer and its usage in the digital environment resulted in learners, who lack proper communication skills, as learners prefer the computer as a medium of communication, using e-mail and chat rooms to communicate. Learners are thus isolating themselves in the process. Educators and parents play an increasingly important role in the digital environment, as they should monitor learners and the time they spend in front of the computer (Vail, 2001:5). Literature reveals that educators and parents can implement measures to assist learners to acquire proper communication skills, how to curb computer anxiety and reduce ergonomic risks. These aspects are summarised in Table 2.4.

Table 2.4   Possible solutions to communication skills, social problems, ergonomics risks and computer anxiety in a digital environment

Communication skills	▪ Motivate learners to discuss a topic in class instead of using the computer to search for solutions.
Social and related problems	▪ Educators should be trained properly to utilise computers appropriately in their classrooms. ▪ Computers are becoming increasingly a part of life, and children who don't use them, will be disadvantaged! ▪ A balance between the time spent in front of the computer and time on the sports grounds is important. ▪ The moderate use of computers is of the utmost importance. ▪ Install software packages that will prohibit children from accessing pornographic web sites on the Internet.
Ergonomic risks	▪ Schools need to pay attention to ergonomic risks of all their learners, especially the junior learners, who are acquiring work habits at the computers that will last into adulthood.
Computer anxiety	▪ Educators can curb learners' computer anxiety by providing appropriate feedback to the learners. Feedback is important as it provides the learners with an indication how they are progressing and which sections of the work need more attention. It is often the case that the learners who need more feedback receive less than the more competent learners who may have fewer problems. ▪ Educators' motivation can help learners to overcome anxiety. Computer games can help learners feel more relaxed about computers in general and thus help them overcome any computer anxiety they may experience.

(Vail, 2001; Fajou, S; Truter, 2003 IN: Sarie; Bouwer, 2003 IN: Sarie)

New-generation learners growing up in a digital world need new-generation educators. The new-generation educators and the role they fulfil in the life of new-generation learners in a digital world will be described in the following section.

2.2.5   New-generation educators

The new-generation learners require new-generation educators. The role of the educator has now become that of a facilitator. Since the new media is drastically

changing the learning milieu, the educators have to change their roles and become better adapted to their new system of learning. The changing role of the educator will be described in the following section.

2.2.5.1 From educator-centred to learner-centred education

New media has shifted the centre of the learning experience to the individual rather than the transmitter (the educator). The shift from educator-centred education to learner- centred education does not imply that the educator has a less important role to fulfil. The educator is equally critical in learner-centred education, and still plays an essential role in creating and structuring the learning experience. The new media provides a vehicle to focus the centre of the learning process on the learner and no longer just on the educator. Unfortunately, education in the past tended to focus on the educator and not so much on the learner. Many of the classroom activities used to entail that the educator was talking and the learners listening (Tapscott, 1998a:144-145; Tapscott, 1998b:5).

Learner-centred education begins with an evaluation of the abilities, learning style, social context and other important factors of the student that affect learning. Learners would use software programs extensively, which can structure and tailor the learning experience for the learner. The learning experience would therefore become an activity, with learners discussing, debating researching and collaborating on their projects facilitated by a new generation of educators (Tapscott, 1998:5-6 & Tapscott, 1999:6).

2.2.5.2 From the educator as transmitter to the educator as facilitator

A new-generation educator facilitates learning. Educators are no longer the transmitters or sole providers of knowledge. Instead, where learning is facilitated, learners construct their own knowledge. These changes are also visible in the South African education system, as the role of the educator as well as that of the learners has changed with the implementation of the outcomes-based education. The new generation of educators need to learn new tools, new approaches and new skills to

educate the new generation of learners. This means that educators should go for further training or attend workshops to keep up to date with the new trends in education (Tapscott, 1998a:148-149; Olivier, 1998:34-35).

Learners should be prepared to live, learn and work successfully in the digital age. According to Lemke & Coughlin (1988:16), in order to prepare these learners for survival in a digital age, their education requires:

- high academic standards,
- technological fluency,
- communication skills,
- information literacy,
- independent in learning,
- critical thinking abilities, and
- economic viability . . . within the context of a digital communication age.

Educators at St Alban's College do fulfil the role of facilitators and they are well adapted to these new roles. The importance of new technology and the integration of computers are not neglected. Furthermore, these educators are no longer the sole providers of knowledge. They provide the St Alban's learners with learning experiences where they can construct their own meaning. This opportunity becomes a reality by means of the computer-integrated Theme Day concept. A detailed description of the role of the Connected Learning Community (CLC) in this study is provided in Chapter 3: Project description. So, this study investigates the new role of the educator of the Net Generation learner and the role the educator would play in a computer-integrated Theme Day environment.

2.3   PEDAGOGY

The new-generation learning from instruction to construction and discovery will be described in the following section.

2.3.1 *New-generation* learning

Tapscott (1998:5) is of the opinion that there is a shift away from pedagogy – the art, science and profession of teaching – to the creation of learning partnerships and learning cultures. A school can become a place to learn rather than a place to teach. Learners don't want pre-designed information, they want to learn by doing where they synthesise their own understanding, which is usually based on trying things out. Educators describe this approach as the constructivist approach to education. Learners are not assimilating knowledge by being instructed by educators, rather, the learner constructs knowledge anew. Constructivism argues that people learn best by *doing* rather than simply being told what to do. Constructivism is the opposite of instructionism. The evidence for constructivism is persuasive, but it shouldn't be too surprising. The enthusiasm that young learners have for a fact or concept 'discovered' on their own is much more likely to be meaningful and retained than the same fact simply written out on the classrooms blackboard by the educator (Tapscott, 1998:143-145, Hein, 1991:1-2).

Cooperative learning, a historical perspective thereof and the essential elements of cooperative learning will be described in the following section.

2.3.2 What is cooperative learning?

A short historical perspective of cooperative learning is followed by a definition of the terms cooperate and cooperative learning. Montagu (1965) is quoted as follows in Johnson & Johnson (b):

> *"Without the cooperation of its members society cannot survive, and the society of man has survived because the cooperativeness of its members made survival possible … It was not an advantageous individual here and there who did so, but the group. In human societies the individuals who are most likely to survive are those who are best enabled to do so by their group."*

2.3.3   Cooperative learning: a historical perspective

Cooperative learning is an old idea and as early as the first century, Quintilian argued that learners could benefit from one another. In the last three decades of the nineteenth century, Francis Parker was one of the most successful advocates of cooperative learning. Parker believed that learners would fully develop their capacities only if shared learning was encouraged and competition was eliminated as the main motive in school tasks. Following in Parker's lead, John Dewey promoted the use of cooperative learning groups as part of his method in instruction. Dewey argued that if humans are to learn to live cooperatively, they have to experience the living process of cooperation in schools (Johnson & Johnson, 1991:17-20).

More recently, Johnson & Johnson published the first edition of *Learning Together and Alone* in 1975. Literature has revealed that the two American brothers, David W Johnson and Roger T Johnson, did extensive research on cooperative learning practices and published widely in numerous books and journals. A number of researchers began to develop cooperative learning procedures to be used in classrooms. David de Vries, Robert Slavin, Spencer Kagan, Shlomo Sharan and Elliot Aronson, to mention but a few, have also contributed to cooperative learning practices (Johnson & Johnson, 1991:18-20).

2.3.4   Defining cooperative learning

Cooperation and cooperative learning can be defined as follows. **Cooperation** is working together to accomplish shared goals. According to Johnson & Johnson ([a] 1) **cooperative learning** is the instructional use of small groups of learners. These learners work together to maximise their own and each other's learning. Cooperative efforts result in participants striving for mutual benefit so that all the group members gain from each other's efforts. All the group members share a common fate, i.e. 'we all sink or swim together here'.

A heart transplant or brain surgery are examples of major operations, and the success of these operations cannot depend on the work of a single surgeon who operates alone. The success and outcome of the operation depends on the surgeon's skills and knowledge as well as the entire medical team who cooperates with the surgeon operating on the patient. Cooperation is an inescapable fact of life. From cradle to grave, humans cooperate with others. The five essential components of cooperative learning will be described in the following section.

2.3.5   Essential elements/components of cooperative learning

It is only under certain conditions that cooperative efforts may be expected to be more productive than competitive and individualist efforts. Figure 2.2 illustrates the five essential components of cooperative learning.

Figure 2.2   The essential components of cooperative learning (adapted from Johnson, Johnson & Holubec, 1994:10)
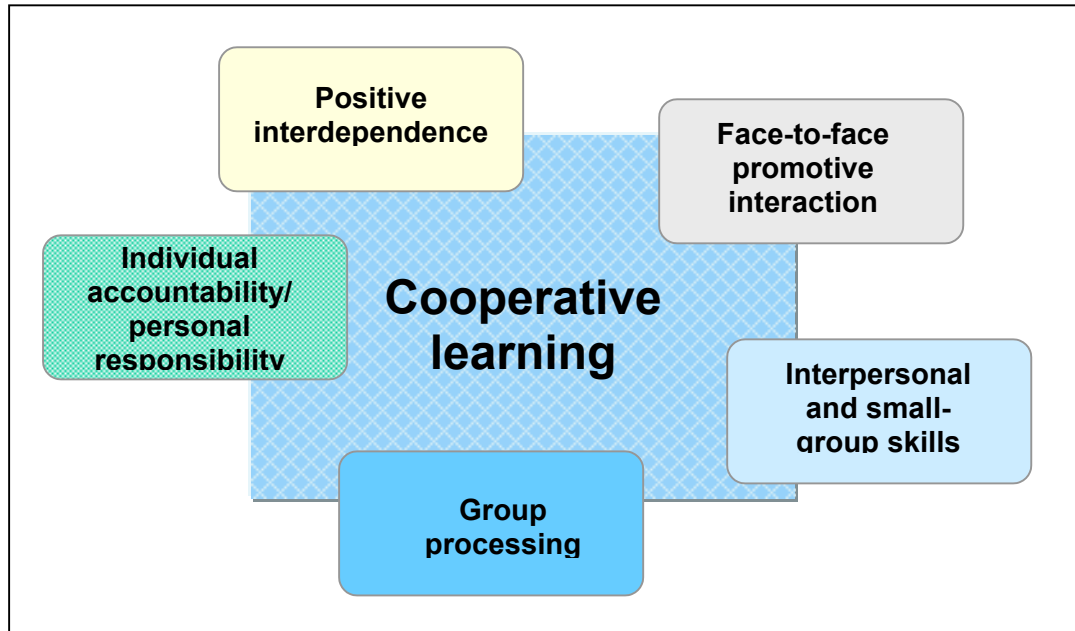
The five basic elements of cooperative learning must be included for small-group learning to be truly cooperative. These essential elements are discussed in the following section.

2.3.5.1   Positive interdependence

"*All for one and one for all.*"

Alexandre Dumas (IN: Johnson & Johnson, 1991:55)

The first and the most important element of cooperative learning is *positive interdependence*. The educator should provide clear task and group goals so that the learners would know that they will 'sink or swim together'. Group members have to realise that every learner's efforts will not only benefit that of the individual alone but the group as a whole. Positive interdependence exists when learners coordinate their efforts with the efforts of their fellow group members to complete a task (Johnson & Johnson, 1991:55-56; Kennedy, 1993:17).

2.3.5.2   Face-to-face promotive interaction

The second element of cooperative learning is *face-to-face promotive interaction* among the members of the group (Johnson, Johnson & Holubec, 1994:9). Promotive interaction is characterised by individuals providing each other with efficient and effective help and assistance, exchanging needed resources, such as information and materials, and providing each other with feedback in order to improve their subsequent performance. To obtain meaningful face-to-face interaction, groups should be small – the number of learners in a group should range between two and six. According to Johnson & Johnson (1991:57), the perception does exist where each learner's contribution and efforts increases as the number of learners in the group decreases. Whereas the larger the groups become, the more pressure peers can place on unmotivated learners (Kennedy, 1993:18).

2.3.5.3   Individual accountability and personal responsibility

The third element of cooperative learning is *individual accountability*. The group must be accountable for achieving its goals, and each member has to be accountable for contributing to a fair share of the work. A lazy or uncooperative learner cannot 'hitchhike' on the work of the others and in the process receive

recognition for it. The purpose of cooperative learning groups is to make each member of the group a stronger individual in his or her own right. Individual accountability is the key to ensuring that learning cooperatively strengthens all group members (Johnson, Johnson & Holubec, 1994:10-11; Johnson & Johnson, 1991:57; Kennedy, 1993:18).

To ensure that each learner is individually accountable for his or her fair share of the group's work, educators need to assess how much effort each member is contributing to the group's work. Johnson & Johnson ((a) 4) suggested the following ways to structure individual accountability:

i.   Keep the size of the groups small.

ii.   Randomly examining learners orally by calling on one learner to present the group's work to the educator or the entire class.

iii.   Assign one learner in each group the role of checker (leader). The checker asks other group members to explain the reasoning and rationale underlying group answers.

iv.   Observing each group and recording the frequency with which each member contributes to the group's work.

2.3.5.4   *Interpersonal and small-group skills*

The fourth element of cooperative learning is teaching learners some essential *interpersonal and small-group skills*. By placing socially unskilled individuals in the same group and telling them to cooperate is no guarantee that they will work effectively together. The group members must know how to provide effective leadership, get to know each other, to manage conflict and to communicate with other group members. Learners must be taught interpersonal and social skills. If learners are to work together in cooperative groups, they must be equipped with the appropriate skills (Johnson & Johnson, 1991:57; Johnson, Johnson & Holubec, 1994:10-11; Kennedy, 1993:17).

2.3.5.5   Group processing

> *"Take care of each other. Share your energies with the group. No one must feel alone, cut off, for that is when you do not make it."* (Willi Unsoeld, renowned mountain climber, IN: Johnson & Johnson, (b) 5).

The fifth element of cooperative learning is *group processing.* According to Johnson, Johnson & Holubec (1994:11), group processing exists when group members discuss how well they are achieving their goals and how well they maintain effective working relationships. In order to ensure that small-group processing takes place, educators allocate some time at the end of each class session for each cooperative group to process how effectively members worked together. Groups need to describe what member actions were helpful and not helpful in completing the groups tasks. An important aspect of small-group processing is group or class celebrations. It is the feeling of being successful, appreciated and respected that builds commitment to learning and the enthusiasm about working together in cooperative learning groups, and a sense of self-efficacy in terms of subject-matter mastery and working together with classmates (Johnson & Johnson, (b) 5; Kennedy, 1993:17-19).

2.3.6   Cooperative learning groups

A group of learners sitting at the same table doing their own work, but being free to talk with each other as they work, is not structured to be a cooperative group, as there is no positive interdependence. Study groups, project groups or reading groups are not necessarily cooperative. Placing learners in the same room and calling them a cooperative learning group does not make them one (Johnson & Johnson, 1991:55; Johnson, Johnson & Holubec, 1994:6). Before the cooperative learning event, the educator makes two pre-instructional decisions, i.e. the size of the group and the assignment of learners to a group.

2.3.7 Size of the groups

According to Johnson, Johnson & Holubec (1994:24) there is no ideal size for a cooperative learning group. The appropriate size depends on the outcomes of individual lesson, the learners' ages, materials and/or equipment available and the time limits for the learning event. The size of cooperative learning groups ranges between two and four learners per group, but smaller groups are advisable (Kennedy, 1993:34).

According to Geistert and Futrell (2000: 245) small groups of four to five learners can use a computer station at the same time. The number of users per computer are best utilised within some cooperative learning format with individuals being given specific responsibilities and with a clear designation of one learner with the role as the computer operator (Kennedy, 1993:42). The educator should consider the tasks and the time frame wherein learners should complete their assignments. Each group is assigned a set time to work on a specific task. According to Geisert & Futrell (2000:243-244) educators should be cautious with the use of time to complete assignments on computers. Although it appears to be the fairest method of allocating the computer's time, it hides the fact that the quicker learners will learn more than the slower learners in the same group.

Chapter 2 of this study investigates the concept of cooperative learning, the utilisation of cooperative learning groups and the size of cooperative learning groups for learners of the net generation. Computer-integrated Theme Days at St Alban's College implemented cooperative learning, and learners worked in cooperative groups. This concept is described in Chapter 3 of this study.

Cross-curriculum will be described in the following section.

2.3.8 Cross-curriculum

According to Morrison (1994:1), the responsibility rests upon schools to prepare the learners to cope with change. Furthermore, there is at present a need for learners to

be adaptable and flexible as never before. The school also has the task to prepare learners for life outside and beyond the school. In this sense, cross-curriculum plays an important role (Siraj-Blatschford, 1995:2, 27).

According to Morgan (2001:23), the computer is a technological tool that adds to the hidden curriculum by structuring thinking and, in so doing, prescribes how individuals process information. Furthermore, as an educational tool, the computer communicates value as the significance of knowledge, the importance of the individuals as problem solvers, and the supremacy of logic.

The learners of St Alban's College are in a fortunate position to benefit from the hidden curriculum, as it is not part of the College's prescribed curriculum. The benefit lies in 'experiencing and participating' in computer-integrated Theme Days. It was not only the learners as part of the CLC team who benefited, but also the learners as the participants. The learners of form CLC team gained managerial skills and conflict resolutions skills by being involved in the planning and execution of a Theme Day. The participating learners, on the other hand, learned how to work in cooperative teams, sharing knowledge and assisting fellow group members where necessary. A detailed discussion of the learners and the leaders who were members of the CLC team is provided in Chapter 3, i.e. the Project description.

The digital divide where the 'haves' have access to computers versus the 'have-nots' as those who do not have access to computers, as well as the initiatives to bridge the digital divide in South Africa, will be described in the following section of this study.

2.4 TECHNOLOGY

Technology does have benefits and limitations, which includes the accessibility or non-accessibility to technology, schools with computer centres and those without it. Resources, be they human resources, i.e. well-trained educators or financial resources, will always be a contributing factor. There are examples of schools that have computers, but the educators do not know how to utilise them, or are not willing

to use them. Technology and the universal problem, which is the digital divide, will be described in the following section of this study.

The aim of this dissertation is not to provide an in-depth and detailed description of technology and its use during Theme Days. The technological aspects do have an influence and without it, a computer-integrated Theme Day will not be possible. Technology and a universal problem, which is the digital divide, will be described in the following section of this study.

2.4.1   The digital divide

The aspects of the digital divide were described in the introductory chapter, section 1.2.1. As information technology becomes more important for economic success and societal wellbeing, the possibility of 'information apartheid' as Tapscott (1998:11) refers to the term 'digital divide' in a different manner, becomes increasingly real. The most widely feared prediction surrounding the digital divide is that it will splinter society into a race of information 'haves' and 'have-nots', 'doers' and 'do-nots' – a digital divide (Tapscott, 1998:255; Tapscott, 1999:2; Morgan, 2001:22).

Research for this study focuses on literature relevant to computer-integrated Theme Days. The case study under discussion is about a computer-integrated Theme Day at school that can be classified as being part of groups who are the 'haves'. Research relevant for this study is 'about the haves' and how technology is implemented and utilised by the learning community belonging to those 'haves'.

Although the scenario sketched is that of a school with a richly equipped computer centre, the opposite scenario does exist in many South African schools. Many disadvantaged schools have not yet integrated computers into their teaching and learning process. Even if these schools had computers, they would not use them or give little thought to the idea of how to utilise computers in their school system, or the computers donated to the school were stolen. Cossa (2002:19-21) referred to the example of Katlehong High School. The principal and educators had no idea what to do with the computers that were donated to the school. They did not even plan to use them.

2.4.2   Technology today

Four components of technology, which is the local area network, the intranet, the Internet and bandwidth, will be described in the following section. These components are important factors contributing to the education of new-generation learners growing up in a digital environment. E-mail and the Internet are an integral part of the lives of these learners. Specific technological aspects at school make it possible for the new-generation learners go about their daily activities at school. These four aspects will be described in short, and the complicated technical detail of a computer centre will be not be described as it is not part of the research for this study.

2.4.2.1   The school's local area network (LAN)

A local area network (LAN) connects computers within a limited area. A LAN distributed throughout a school's facilities offers a connection between learners, educators, administrative staff members and school-wide resources. Educators leave assignments on one computer and learners can access it from another computer, or the school principal can send messages to all computers with the click of a button. Figure 2.3 illustrates the layout of a LAN for a computer centre.

Figure 2.3   A local area network (LAN) for a computer centre (Adopted from Heinich, et al. 2002: 276)
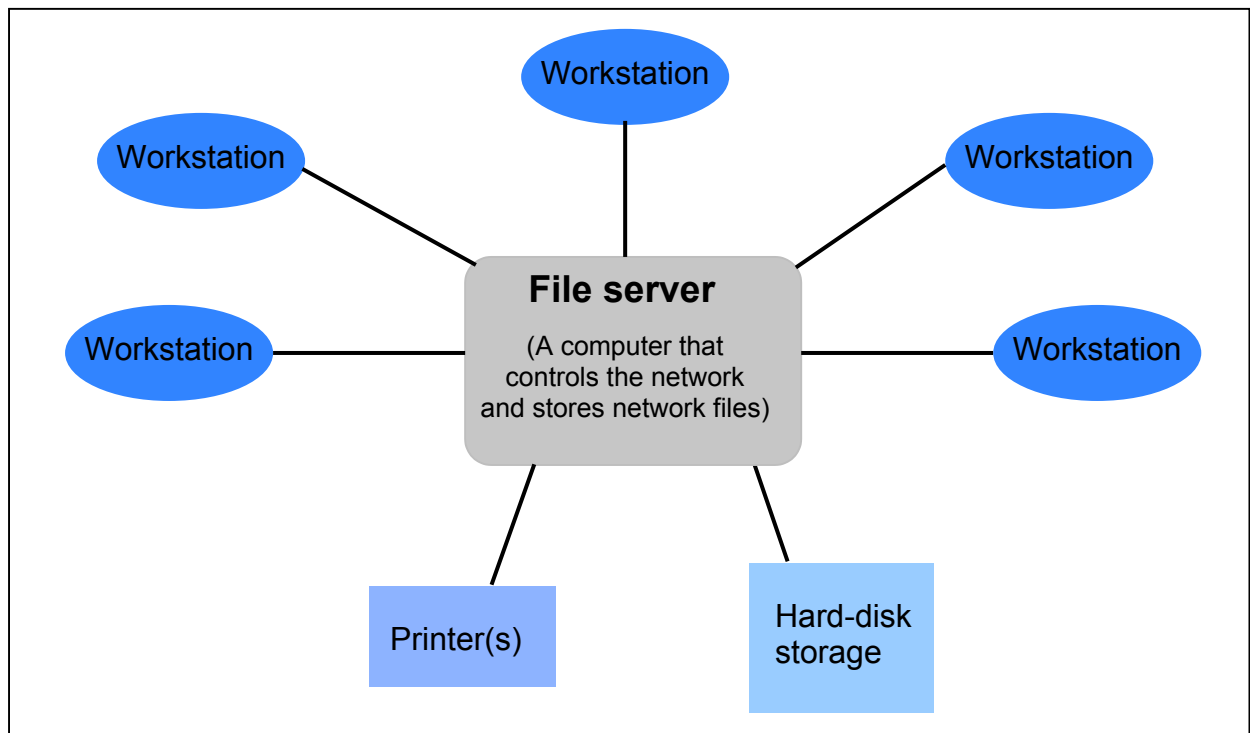
A LAN alone does not provide educators or learners access to the Internet. The technological infrastructure of a school allows learners, educators and parents to be connected via an Internet Service Provider (ISP) or have access via a dial-up facility to the Information Hub housed on an Intranet (Beyers (c), 1998: 6). The aforementioned means of access provide the essential connections to facilitate the process of allowing the educator to

- publish learners' work at any time of the day,
- check e-mail for responses from learners,
- respond to e-mail requests from parents,
- search the Internet for information on the next section of work,
- publish test results on a database, and
- restructure and publish lesson plans directly onto the intranet.

2.4.2.2   The Intranet

Intranets are internal networks for schools, and are a way of increasing communication, collaboration and information dissemination within schools. Users can access the intranet directly without a password or user name. The intranet is connected to a larger network, e.g. the Internet. A software package called a firewall prevents external users from accessing the internal network, while allowing internal users to access external networks. Refer to figure 2.4 for an illustration of an intranet, the Internet and a firewall.

According to Heinich et al. (2002:274), the development of an intranet is not a one-person project. When using the intranet, it is important that it is coupled with the structure of the computer centre, the instructional designers and information technology of the school. Instructional designers will work in cooperation with the managers of the computer centres, staff members of the school and curriculum specialists.

Parents might find intranets useful. They can, for instance, access the intranet to review their child's work or to correspond with educators. Parents without computers at home can log on to a school's network to gain access to the learners' work from the computer centre or the school's library. The intranet can easily be updated with the latest information. Figure 2.4 illustrates the intranet and a firewall of a computer centre.

Figure 2.4   An intranet and firewall of a computer centre (Adopted from Heinich, et al. 2002:274)
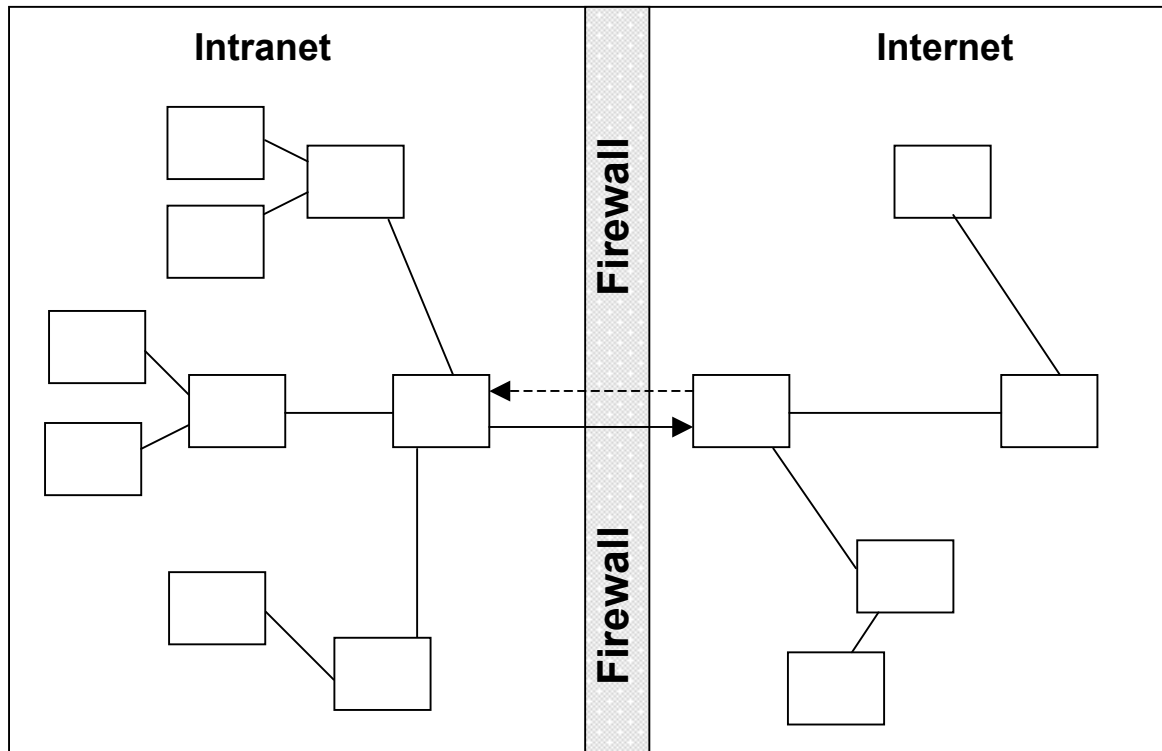
2.4.2.3   The internet

Computer networks come in many sizes and are used for many types of applications. The Internet is the most widely used network (Heinich, et al. 2002:262-263). To gain access to the Internet, a user has to maintain an account with an Internet Service Provider (ISP). Examples of ISP's in South Africa are www.mweb.co.za, www.icon.co.za or www.iafrica.com. Figure 3.4 illustrates the Internet as a collection of computer networks.

The Internet forms the foundation of the information superhighway. According to Heinich, et al. (2002:263) the Internet is an expanding network of cables, fibres and telephone lines that forms the physical structure of the electronic 'universe' known as cyberspace. The Internet delivers vast amounts of information directly to individuals at school, tertiary institutions or work. The Internet connects millions of computer networks across the globe and it provides several services such as (Heinich, et al., 2002:263):

- Electronic mail (e-mail), which makes person-to-person communication possible.

- Information search capabilities for accessing libraries or databases of information throughout the world.

- Live communication, allowing individuals on the Internet to 'chat' or 'talk' to each other in real time.

2.4.2.4   The bandwidth

Technology advances at a startling rate, and new facilities are available, e.g. the use of optical fibres instead of cables. The use of cables limits what can be transferred from one computer to another. Phone lines are too slow and operate on a too narrow bandwidth to handle multimedia applications such as video, sound and animation (Heinich, et al. 2002:296-297). Wireless networks promise to prove easier and better transmission of multimedia materials.

The history of the StaTech centre at St Alban's College will be described in the following section.

2.4.3   The history of the StaTech centre at St Alban's College

A brief historical description on the creation and establishment of StaTech Centre at St Alban's College is as follows. Lippert (1993:127) refers in her research in the early 1990s to the StaTech Centre at St Alban's College as ". . . a role model for the nineties". In 1988, the management council of St Alban's College decided to conduct a feasibility study regarding technology in education. Simultaneously, a staff member conducted research abroad in the United Kingdom (UK) and in the United States of America (USA) to review the use of computers in twenty-four high schools. The aforementioned actions gave "birth" to a project that is presently known as StaTech – an acronym for the St Alban's Technology Centre (Vieyra, 1993:9-10, 38). St Alban's had to overcome the problem of learners going to technology as opposed to turning to technology to solve the problem. The construction of the StaTech complex meant that the learners had to leave their traditional classes and move towards technology

(Beyers (b) 1999:6). The StaTech centre served as a model for the nineties and with the implementation of the computer-integrated Theme Days in 1999, the centre surely serves as a model for 2003 and the future.

According to Lippert (1993:128-129) the mission of StaTech became to research and deliver cost-effective courses, products and services for the key customers of St Alban's College, the wider community and organisations committed to innovative people development strategies. The StaTech centre was designed to use computers as a fully integrated educational delivery centre. St Alban's College has an ethos of concern and introduced outreach programmes, which makes the College facilities available to disadvantaged township communities such as communities in Mamelodi and Hammanskraal (St Alban's brochure, 5 July 2002). Mamelodi is a black township next to Pretoria and Hammanskraal is situated approximately 50 km north of Pretoria.

The technological purpose of this research is to consider the role of technology in assisting learners and educators in a cooperative learning community in the context of a Theme Day.

2.5   SUMMARY

Chapter 2 provided the literature survey for this dissertation. The literature review of the four aspects investigated for this dissertation, namely learners, educators, pedagogical and technological aspects are described in this chapter. The arrival of the New Generation, New Generation learning and the use of cooperative learning to educate these new-generation learners was described. Literature focused on learners growing up in a digital world; the impact of the use of computers and related problems were highlighted. The relevant literature that has an influence on a computer-integrated Theme Day was described in detail in each of the aspects under discussion. Chapter 3 is the project description of this study, which is the *Earthly Aliens Theme Day* of 31 May 2001.

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CHAPTER 3
Research methodology

3.1   INTRODUCTION

Chapter 3 is the description of the project aimed at discovering the implications of computer-integrated Theme Days for learners at St Alban's College. This chapter discusses the research project. The first part of this chapter describes the research context, which is St Alban's College and its Connected Learning Community (CLC) committee. The second part of the chapter discusses the research methodology used during the research for this study.

3.2   THE INTRODUCTION OF THEME DAYS AT ST ALBAN'S COLLEGE

Learners, educators, pedagogical and technological aspects form an integral part of the process, and without these four aspects, a computer-integrated Theme Day for learners at St Alban's College will be futile. Group work and the way in which the learners behaved in their groups will be discussed in chapter 4.

The aim of the Theme Day is to equip learners entering the job market with the necessary cross-curricular skills to cope in a technologically advanced world. The learners and the educators of St Alban's College, as well as the pedagogical and technological aspects, have an influence on the success and outcome(s) of a Theme Day. Aspects such as the context, inputs, processes, outcome(s) and feedback of St Alban's Theme Days will be discussed in part one of Chapter 4.

The introduction of Theme Days at St Alban's College in 1999 is but one component of the development of a Connected Learning Community (CLC) committee, which strives to make essential learning connections (Beyers, 2003). The emphasis at St Alban's College is the development of skills in a competitive environment, to help the

learners cope with the demands of a modern and technologically advanced society. A small committee of learners, the CLC team, is also provided with the opportunity to assist in the development and management of stimulating learning opportunities such as Theme Days. Barriers between subjects are broken down and the use of resources in solving a common problem is highlighted.

Group work is part of the Theme Day concept and at the commencement of each Theme Day; the learners are reminded of its importance. The entire form group is divided into smaller randomly generated groups. A competitive element is always built into the tasks, with tasks assessed throughout the day and scores presented online, which led to an increase in the level of commitment from most of the learners. Only one form group participates in a Theme Day. The remaining forms follow the usual timetable. The reason for this is that the resources at the StaTech centre cannot accommodate learners of two form groups concurrently.

The computer literacy level of the St Alban's learners is high. Computer training as such does not form part of the curriculum, the reason being that computers are integrated into the learners' daily activities and learning processes.

Assessment of Theme Days is not based on formal assessment criteria, and the drafting of the assessment criteria is a responsibility of the CLC committee. This project is a subset of the CLC project, which emphasises the connectedness of learners in a vibrant community. Theme Day assessment criteria vary from task to task and from Theme Day to Theme Day, depending on the nature of the task and not necessarily according to the assessment criteria of outcomes-based education (Beyers, 2003). The outcome of assessment is to determine an eventual 'winner' for the day, although everyone is a winner at the end of the day. The reason why the assessment of Theme Day tasks is not necessarily according to OBE criteria, is that it is about providing a real learning experience to the St Alban's learners, be it the participants or the CLC team who managed the Theme Day.

The CLC committee will be discussed in the following section.

3.2.1 The Connected Learning Community (CLC) committee

3.2.1.1 The original CLC

According to Beyers (1999b:1), a Connected Learning Community (CLC) is a new concept in South Africa. The CLC has its origins in a collaborative venture between Microsoft, the Council for Scientific and Industrial Research, Gauteng Schools Network, SchoolNet South Africa and St Alban's College. St Alban's has been experimenting with new methodologies and technologies in an attempt to come to terms with a paradigm shift in education towards an outcomes-based approach to education. According to Beyers (2003), there is a subtle change between the CLC as described in this paragraph and the existing CLC of St Alban's College as described in the following paragraph.

3.2.1.2 The difference between the original and the St Alban's CLC committee

The existing Connected Learning Community committee of St Alban's College should not be confused with the original Connected Learning Community that was established in a collaborative venture between Microsoft, the Council for Scientific and Industrial Research (CSIR), Gauteng Schools Network, SchoolNet South Africa and St Alban's College (Beyers, 1998a:1).

Beyers (2003) identifies the differences between the original CLC and the St Alban's CLC. St Alban's College made subtle changes to the original CLC and the 'St Alban's Model' emerged from it. The principles of the St Alban's CLC committee remain the same as those of the original CLC, but there will be further changes in the future. The St Alban's CLC committee is a way of providing the learners with an opportunity to contribute to the bigger picture where the 'form CLC' is merely a subset of the committee, which is a subset of the whole College. This study focuses mainly on the CLC committee's function and its involvement in computer-integrated Theme Days at St Alban's College. A CLC, as it is presently being implemented and utilised at St Alban's College, can be visualised by making use of Figure 3.1.

Figure 3.1   The St Alban's CLC committee
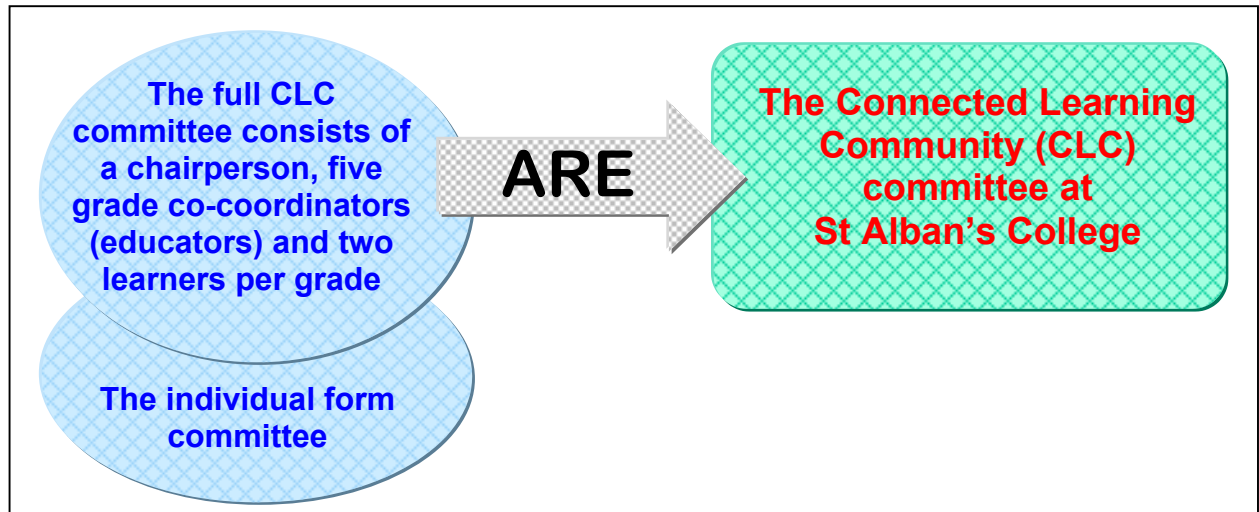
The foundations for the CLC project was laid approximately nine years ago when St Alban's was wrestling with the issues of developing an information warehouse. According to Beyers (1999b:5), the Internet provided the medium to achieve the information warehouse and the St Alban's intranet was conceived. The intranet serves as an information warehouse for St Alban's educators to develop courses customised for the learners. The learners, trained in elementary web page design and Hypertext Markup Language (HTML) coding, provided a significant contribution to the intranet. Equipped with new skills, the learners were given the freedom to explore their creativity within the context of new learning environments. Learners working in cooperative teams were assigned to do research, data analysis, and HTML coding to mention just a few. This flow of events eventually gave way to the introduction of Theme Days at St Alban's College in 1999.

3.2.1.3   The CLC form committee

The full CLC committee at St Alban's consists of the chairperson, the CLC secretary, five form coordinators (educators) and two learners per form. Each form has an individual CLC committee consisting of the form coordinator (educator) and a number of learners depending on their commitments. Only two learners attend the College CLC meetings (Beyers, 2003). They form the working committees for the development and management of the Theme Days. The form committees are also collectively responsible for the development and maintenance of material for the

Connected Learning Community (CLC) committee web pages via the subject departments. A individual form CLC committee consisting of one form coordinator, i.e. an educator per form, two form learners and the CLC coordinator meets to approve the topic (St Alban's CLC web page, 2003). A form at St Alban's College is the equivalent of a grade in the South African public schools.

The structure of a Theme Day, previous Theme Day topics and the method of presentation will be described in the following section.

3.2.2 The structure of a Theme Day

Theme Days at St Alban's College generally conform to the structure as tabulated in Table 3.1.

Table 3.1   Theme Day structure

Item of the day	When is the item taking place
Introduction	At the commencement of a Theme Day.
Programme for the day	The programme is online available for the duration of a Theme Day.
Group work with specific tasks set	The group work starts as soon as the topic and Theme Day's tasks are announced.
Presentation of findings	After all the activities and/or tasks have been completed.
Announcing the winners of the Theme Day	At the conclusion of a Theme Day.

3.2.3 Previous Theme Day topics

Previous topics for Theme Days at St Alban's College included –

- Wine production (Business Management).
- Murder mystery (Interactive on-line subject based learning).
- Formula One.
- Colonisation of Mars.
- Forensic Entomology.

- Egypt, a virtual reality experience using 3DML.
- Entertainment.
- The Pressure of Diving (St Alban's, 2003).

3.2.4 The method of presentation

The method of presentation of a computer-integrated Theme Day includes –

- Web pages.
- 3DML virtual reality.
- Lectures by experts in their field.
- Visual Basic Scoring programs.
- Video presentations (St Alban's, 2003).

Research methodology, research approach and data collection instruments will be discussed in part two of this chapter.

3.3 RESEARCH METHODOLOGY

The qualitative research approach, data collection instruments, validity and reducing researcher biases of data, and the target population of this study will be discussed in the paragraphs to follow.

3.3.1 Qualitative research approach

A qualitative research approach was utilised for this dissertation. According to Holloway & Wheeler (2002:3) qualitative research is a form of social inquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live.

A quantitative research approach was not applied in this study. Reasons for this are that data collection instruments, the research method and the method applied to analyse the data according to the quantitative approach were not suitable for the

target population and focus of this study. Quantitative research aims at testing a hypothesis; the approach is context free, and research is often conducted in an artificial or laboratory setting. Data collection methods include questionnaires and standardised interviews, and the outcomes of the research have measurable results (Creswell, 2002:62-63; Holloway & Wheeler, 2002:16).

The quantitative approach, as described in the aforementioned paragraph, was not used for this study. The focus of this study was the qualitative approach, researching the implications of computer-integrated Theme Days for learners at St Alban's College. Furthermore, the data collection methods, the aim of research and the outcome of these qualitative research results have no measurable results, as they thus differ for example from that of a quantitative approach. The CLC committee and the behaviour of the Theme Day participants were observed while they were working in groups on their tasks. The outcome of their behaviour is not predictable, nor measurable by means of statistics. The setting where the learners were observed was the St Alban's StaTech centre and not an artificial setting or laboratory.

In the following section, a theoretical description of interviews and observations as data collection instruments as well as the two main data collection instruments utilised during computer-integrated Theme Days at St Alban's College, will be discussed.

3.3.2 Data collection instruments

The two main threats to the validity of *observation* and interview studies are according to Gay & Airasian (2003:213) the observer bias and the observer effect. *Observer bias* refers to invalid information that results from the perspective a researcher brings to a study. It occurs when a researcher consciously or unconsciously interprets data based on attitudes or beliefs held prior to the research. All researchers must try to avoid to be biased, as no research can be totally unbiased. The *observer effect* occurs when a researcher's presence leads participants to behave atypically. Gay & Airasian (2003:224) suggest that the way to

handle the observer bias and observer effect is to make observers aware of it so that they can attempt to be as inconspicuous as possible.

According to Gay & Airasian (2003:224) an *interview* is a purposive interaction between two or more persons, with the one (the researcher) trying to obtain information from the other (participants or educators). Interviews permit a researcher to obtain information that cannot be obtained from observations. Qualitative interviews are free flowing and open ended, with the interviewer probing to clarify and extend the participants' comments. Gay & Airasian (2003:224) strongly encourage transcribing, as transcripts are the interviewer's field notes and become the data a researcher will analyse. This researcher made field notes during Theme Days, and these notes proved to be valuable information which was used to describe the implications of computer-integrated Theme Days for learners at St Alban's College. The information in the field notes were also analysed to answer the dissertation's research questions.

According to Cohen, Manion & Morrison (2000:305), unstructured observations are used when the researcher is less clear on what he or she is looking for. Researchers will therefore have to go into a situation and observe what is taking place before deciding on its significance for the research. Holloway & Wheeler (2002:101) are of the opinion that the observer as participant is an observer who participates only by being in the location rather than working there, and is only marginally involved in the situation. The advantage of this type of observation is the possibility of asking questions and being accepted as a researcher but not called upon as a member of the work force.

The researcher initially observed the Theme Day participants from the back of StaTech 1. As the day progressed, the researcher's role as observer changed to that of participatory observer by being present in the StaTech complex. This was the case during the five computer-integrated Theme Days. The participants were observed, and the researcher did not participate in any of their group activities or render any advice to a specific group that might eventually have benefited the participants of that group. Theme Day observations were unstructured, as the

researcher attended the five Theme Days mainly to obtain information for this dissertation. Aspects such as the participant behaviour; participation cooperation in groups; participants and their use of technology were observed. The educators, the CLC committee and the roles they fulfilled, and the processes in which they were involved during Theme Days were observed as well.

The researcher interviewed the participants by asking them questions whenever a specific incident arose or when the researcher identified the need to obtain data regarding one of the research aspects. Information obtained during interviews was transcribed in field notes. These notes, as in the case of observations, were used to describe the implications of computer-integrated Theme Days for learners at St Alban's College, as well as to answer the research questions as described in Chapter 4 of this dissertation.

A few interviews for this study were conducted after the five Theme Days took place, and are thus considered as *post facto* interviews. These interviews took on the form of e-mail interviews with the Director of Technology at St Alban's College. These e-mails were sent weeks and even months after the five Theme Days, the reason being that when data was analysed, limitations of certain aspects were identified.

The researcher used two data collection instruments while attending the five Theme Days at St Alban's College. The key role-players were *observed* and *interviewed* to collect data for this research project. The researcher moved freely between the computer labs in the StaTech complex where interviews were conducted with the key role players. The learners never viewed the researcher as an intruder and were always eager to answer all the researcher's questions. The methods used to collect data at a Theme Day are tabulated in Table 3.2.

Table 3.2   Data collection instruments at a Theme Day

Interview(s)	▪ Interviews were conducted with Connected Learning Community (CLC) Committee team members to elaborate on their involvement in computer-integrated Theme Days.
	▪ Key role players interviewed during Theme Days are:
	   o The learners.
	   o The Director of Technology.
	   o The educators.
	   o The CLC team members. (Each form group has its own CLC team)
	   o The secretary of the Director of Technology.
	   o The network manager.
	▪ The interviews were mainly conducted in StaTech 1, StaTech 2 and at the workstations while the learners were working on their tasks.

Observation(s)	▪ The learners were observed by walking around in the StaTech computer centre, and the events were then documented. ▪ The learners were observed at five Theme Days, and the observation period stretched over a period of approximately 17 months. ▪ The key role players were observed during each Theme Day. ▪ The use of technology and in specific the use computers and the functioning of cooperative groups were observed.

The systems approach will be described in the following section.

3.3.3 The systems approach

The systems approach was utilised in this study to provide a structure and layout for this dissertation. The theoretical aspects of the systems approach are described in more detail in paragraph 1.9.1 of Chapter 1. According to Gillies (1994:60), a systems approach is especially necessary for the planning and control functions of management. Gillies (1994:66-67) furthermore identifies the five elements of a classic system, i.e. the context, input, process, outcome(s) and feedback. These five elements were used throughout the dissertation and are referred to as research aspects. The three key aspects investigated for this study are the learning community aspects, pedagogical aspects and the technological aspects.

In this study, the context, input, process, outcome(s) and feedback of aspects such as the St Alban's College learning community, pedagogy and technology are discussed. Chapter 4 contains a detailed description of the learning community context, inputs, processes, outcome(s) and feedback. The implications of these aspects for the St Alban's learners, educators, pedagogy and technology are furthermore discussed in the second part of chapter 4.

The activities of a Theme Day, the planning, the management and key role players are described in order to answer the main research question and sub research questions relating to the aspects under investigation in this study. Table 3.3 tabulates the research aspects under discussion in this study.

Table 3.3   Research aspects under discussion in this study

The five aspects under consideration in this study	At each Theme Day, the following key aspects were under investigation in order to answer the sub-research questions.
▪ Context. ▪ Input. ▪ Process. ▪ Outcome(s). ▪ Feedback.	▪ The learning community, i.e. the learners, educators and the CLC committee. ▪ Pedagogical aspects. ▪ Technological aspects.

3.3.4 Ethical considerations

Ethical considerations such as the photos displayed in chapter 4, were considered during observations of computer-integrated Theme Days at St Alban's College. The Director of Technology announced at the commencement of all five Theme Days that a researcher of the University of Pretoria is present to conduct research. The learners at St Alban's were aware that photos were taken of them while participating in Theme Day activities. They had no objections to the photos being used in the research for this study.

Research validity and methods to reduce researcher biases will be discussed in the following section.

3.3.5 Validity and reducing researcher bias of data

According to Gay & Airasian (2003:214), data collected from and about participants in qualitative research studies are voluminous, non-quantitative and rich in detail. Qualitative data extend far beyond superficial issues because each researcher brings his or her own perspective and bias to a study. Gay & Airasian (2003:215, 224) suggest a number of strategies that can be used to improve validity and reduce researcher bias (Cohen, Manion, & Morrison, 2000:281; Holloway & Wheeler, 2002:256-257). A researcher can strive to

- obtain a participant's trust,
- recognise his or her own bias,
- use verbatim observation, and
- triangulate varied data sources.

The Director of Technology at St Alban's College welcomed and introduced a guest speaker(s) to the participants at the commencement of a Theme Day. Furthermore, the Director informed the learners that a researcher from the University of Pretoria was going to observe and interview them for the duration of the day. This was the case at the commencement of the five Theme Days where key role-players were observed and interviewed to obtain information for this study.

The target population of this study will be described in the following section.

3.3.6 Target population

The target population for this research is the St Alban's College learners, who are all males. The *Top Secret Theme Day* of 29 September 2002 was an exception. A few learners of St Mary's Diocesan School for Girls were selected to participate in this Theme Day. St Mary's DSG is a private school situated in Hillcrest, Pretoria, and the learners of St Mary's are all females.

The ages of the learners participating in the five Theme Days ranged between 14 and 17 years. The only exception is a few CLC team members. They are in form 5 and fall in the age group of 17 to 18 years. The remainder of the form 5 learners didn't participate in any Theme Day activities during 2002. The academic year of the Form 5 group is too short and their final year at the College is mainly dedicated to tutoring and preparations for the mock exams in August and the Independent Examination Board's (IEB) exam that started towards the end of October 2002.

3.4   SUMMARY

The introduction of Theme Days at St Alban's College, the CLC committee, the structure of Theme Days and the target population interviewed and observed in this study was described in the first part of this chapter. The difference between the original CLC committee and the St Alban's CLC committee was highlighted to avoid confusion. The research methodology discussed in the second part of this chapter described the methods utilised to collect information. The reasons why a qualitative research approach was selected for this study instead of a quantitative approach, were described, as the main reasons are the data collections methods and the outcome of this study. Chapter 4 contains the discussion of the project findings, as well as the result of an analysis of five computer-integrated Theme Days at St Alban's College.

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CHAPTER 4

Findings

4.1   INTRODUCTION

This chapter contains the discussion of the project findings, which is the result of an analysis of five Theme Days at St Alban's College. This chapter is divided into two sections. The first section is a discussion case study under investigation, and utilised to compile this dissertation is the *Earthly Aliens Theme Day* of 31 May 2001. The second part contains the data obtained by attending and observing the subsequent four Theme Days, 3 October 2001 to 9 October 2002. This data is then utilised to support the answers of the research questions of this dissertation.

The learning community of St Alban's College, as well as the pedagogical and technological aspects, have an influence on the success and outcome(s) of a computer-integrated Theme Day. Analysis and interpretation of aspects such as the context, inputs, processes, outcome(s) and feedback of computer-integrated Theme Days will be discussed. In this chapter the researcher answers the main research question and sub-research questions relating to the implications of computer-integrated Theme Days for learners at St Alban's College. The St Alban's context will be discussed in the following section.

PART ONE: DISCUSSION

4.2.   THE ST ALBAN'S COLLEGE CONTEXT

The context for this dissertation is the learning community aspects, and pedagogical and technological aspects of computer-integrated Theme Days at St Alban's College. St Alban's College is private school situated in the well-established suburb of Lynnwood Glen in Pretoria. Form 1 at St Alban's College is the equivalent of Grade 8 in South African public schools.

4.2.1.   Vision, mission and context of St Alban's College

St Alban's College's vision can be described as: *St Alban's College is a learning community of students, staff and parents, connected by human networks and information communication technologies*. St Alban's College is committed to quality service and encouraging personal responsibility in the interest of the all-round development of the learner as an individual. St Alban's College is an Anglican Church School and strives for Christian values and principles (St Alban's College, 2003).

The motto of St Alban's College is *It takes a school with a vision to prepare a young man for life*. The College views itself as a pacesetter in the educational application of the latest information technology. St Alban's strives to create an exciting environment for the learners where change is stimulating rather than threatening. St Alban's College is furthermore of the opinion that a school life, which is positive, productive and purposeful, will succeed in fostering a positive, productive and purposeful approach to life beyond school (St Alban's College, 2003). Images of the St Alban's College logo and McRobert boarding house are displayed in Figure 4.1.

Figure 4.1   Images of St Alban's College logo and McRobert boarding house

The mission of St Alban's College is that they dedicate themselves to a stimulating, balanced programme, which is sensitive to the needs of individual learners. Learners are increasingly encouraged to assume responsibility for themselves. The College aims to equip learners with the technological and life skills which will enable them to make a positive contribution in an open and dynamic society. The aim of the College is, furthermore, to create a just, peaceful, united, productive and caring community (St Alban's College, 2003).

St Alban's College came into being on 1 February 1963 with 37 learners and three masters, and will be celebrating its 40th anniversary in 2003. The number of teaching staff has risen to more than thirty. The total number of learners enrolled at St Alban's College has grown to 508 in 2002. The exception is Form 1 with 108 learners for 2002. A decision was made by the management of St Alban's College to keep the number of learners at 100 per form group (Ashton, 2002).

The College follows a holistic approach. Culture and music in particular figure prominently in the life of the school. Furthermore, appreciation of the cultural diversity within the school community leads quite naturally to mutual respect (St Alban's College, 2003). The medium of instruction at St Alban's College is English to accommodate learners who do not understand or speak Afrikaans. A relative large percentage of the St Alban's learners' mother tongue is Afrikaans.

4.2.2 The learners of St Alban's College

The learners of St Alban's write the Independence Examination Board's examination at the end of Form 5 (Grade 12), and not the Gauteng Department of Education or the National Department of Education's exam papers (Denby & Ashton, 2002). The educational changes that took place at St Alban's College are, for example, the introduction and implementation of the Theme Day concept in 1999. St Alban's is taking the lead in curriculum development, problem-solving methodologies, cross-curricular modules, thinking skills and entrepreneurship (St Alban's College, 2003).

Some of the learners at St Alban's College are 'day boys', while the remaining ones are 'residence boys'. The College has six college houses, three of which are boarding houses, e.g. Macrobert, and three day boy houses. Vast ranges of extra-mural activities are available for the St Alban's learners. The College emphasises the all-round development of every member of the school community in cultural and sporting pursuits. All the boys are involved in sport activities such as cricket and hockey. More recently, the boys began competing in the local rugby and basketball leagues (Carl Yssel; St Alban's, 2003).

4.2.3 The educators of St Alban's College

Male educators in the St Alban's College context are addressed as "Sir", whereas the female educators are addressed as "Ma'am". The ratio of male to female educators is 29 male educators including the headmaster, 9 female educators and 22 additional or support staff members which include the librarian, secretaries, administrative and financial staff members, the IT team and estate manager. The present headmaster is Mr Tom Hamilton. Mr Hamilton was appointed as the fifth headmaster at St Alban's College and took up the position of headmaster in March 2001 (St Alban's College, 2003).

4.2.4   Pedagogical aspects

St Alban's College has a concern for the individual. The College places emphasis on abiding moral values and personal interaction. Some of the strategies employed at St Alban's are computer-integrated Theme Days, which incorporate cooperative learning, a comprehensive life skills programme, conflict resolution and a learner support programme for those in dire need thereof (St Alban's College, 2003).

Far too often what goes on in the classroom is merely restricted to another 'typical' educational experience during a normal day at school where the educator makes huge assumptions about the prior knowledge of the learners. For more able learners this is not really a problem as they are able to draw on their own past experience to construct knowledge, but weaker learners have very few reference points from which to make the connections. The College is of the opinion that learners learn best when the context of their education matches their interests (Brochure of St Alban's College, 5 July 2002).

4.2.5   Technology at St Alban's College

One DOS computer and modem provided the learners with access to the Internet in 1995. Since 1995, the StaTech developed into a technologically advanced computer centre with six servers. The StaTech centre consists of 134 workstations excluding the personal computers of the day and hostel boys (Naudé, 2002). The StaTech complex, with its network of computers, provides a vital and stimulating learning environment for all the St Alban's learners (St Alban's, 2003). The StaTech complex is divided into 4 sections. StaTech 1 functions as a lecture hall; StaTech 2, StaTech 3 and StaTech 4 are computer labs. Most of the computer-integrated Theme Day activities take place in StaTech 4. Figure 4.2 displays images of the entrance to the StaTech and learners working in StaTech 3.

Figure 4.2   Images of the entrance to StaTech complex and the participants at workstations in StaTech 4

4.2.6   St Alban's College: outreach projects

St Alban's College has a long and proud history of involvement in outreach projects. During the political turmoil of the 1980s when conditions in the South African black townships were untenable, St Alban's College made its facilities available for these disadvantaged learners to write their exams. Another example of an outreach project was a group of 43 educators from Mamelodi who have never touched a computer before they attended the course at St Alban's College. Their training included Windows, spreadsheets, creating carts, manipulating tables and searching the Internet to mention just a few examples. Mamelodi is a black township adjacent to Pretoria (St Alban's College, 2003).

The inputs of the key role-players will be described in the following section.

4.3   INPUT

Learner and educator contributions, technological and pedagogical aspects form an important part of the inputs for computer-integrated Theme Days and will be described in the following section.

4.3.1   The planning of a Theme Day

A Theme Day cannot happen overnight and requires meticulous planning. Various role players are involved in the planning of a Theme Day, including the form's CLC team, educators and learners as the key role players. The educators and learners as members of the CLC team use a Theme Day Checklist to verify whether the Theme Day planning is progressing according to schedule. Kevin Coles, Director of Training and Development at St Alban's College, designed the Theme Day Checklist (Appendix 3). The Theme Day Checklist was presented to the delegates at the Information Leadership Conference, 4-6 July 2002 (Coles, 2002). The Theme Day Checklist is divided into the following sections:

a)   Well in advance of the Theme Day.
b)   Two days before the Theme Day.
c)   The actual Theme Day.
d)   The day after the Theme Day.

The actual Theme Day and the day after the Theme Day will be discussed in the processes and outcome(s) section of Chapter 4. Figure 4.3 illustrates the steps in the planning of a Theme Day. The section under discussion is shaded for the purpose of orientating the reader.

Figure 4.3   The planning of a Theme Day
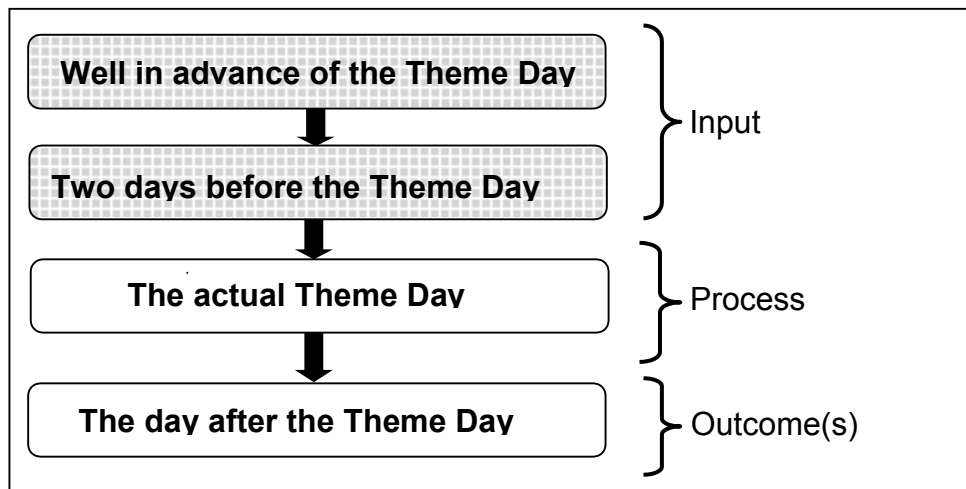
a)   <u>Well in advance of the Theme Day</u>

The CLC team plays an important role in the planning of Theme Days. The CLC committee uses the Theme Day Checklist to plan a Theme Day. The CLC committee brainstorms on aspects such as the topic of a Theme Day, learning areas, the tasks and the groups participating in the Theme Days. The date and the venue of a Theme Day is planned and set well in advance. Special invitations are sent to invite guest speakers to participate in a Theme Day. A member of the Egyptian embassy was invited to *the Egyptian Theme Day* in July 2002, while Professor Mansel was invited as guest speaker to the *Earthly Aliens Theme Day* of 31 May 2001. The CLC team does a trial run after the web pages are posted to the server, and the CLC team acts as learners.

b)   <u>Two days before the Theme Day</u>

The network manager is responsible for posting the Theme Day's web pages to the server. The participants do not have access to the Theme Day's web site until the morning of the Theme Day. The Theme Day's homepage links are not active until the official commencement of the Theme Day. The learners participating in the forthcoming Theme Day are divided into groups. A group leader is appointed for each group. The groupings need to be checked, and there should be a specialist in each

group, such as a computer wizard or artist if necessary. The CLC team buys gifts for the guest speakers (Kevin Coles, 2002).

4.3.2 The Connected Learning Community (CLC) committee

The role of the Connected Learning Community (CLC) committee, the inputs of its members for Theme Days and the requirements to become a CLC committee member will be described in the following section.

#### 4.3.2.1   The role of the CLC committee team

The CLC team fulfils an important function and key role during the planning of a Theme Day, as well as its management. The form CLC committees operate in collaboration with the subject departments responsible for the development and maintenance of material for the Theme Day's web page. Each form has a separate committee consisting of the form coordinator and two learners, and these two learners form the working committee for the development and management of Theme Days. The committee subdivides the workload of Theme Days because the workload is too extensive to be done by a single member. The CLC form committee meets regularly to consolidate the planning and the progression of a Theme Day. The CLC form committee invites St Alban's educators and guests, and is also responsible for mailing the guest speakers' invitations.

4.3.2.2   CLC form committee inputs for Theme Days

The CLC form committee inputs in Theme Days will be described in this section. The researcher obtained this information by interviewing the learners during the *Insects Theme Day*. While the *Insects Theme Day* of 9 October 2002 was still in its planning phase, Sep Vrba invited Francois Scheepers and Heinrich Willemse to become members of the form 1 CLC committee. Sep Vrba, a Form 5 learner in 2002, was in charge of the CLC committee on the *Insects Theme Day*. Francois Scheepers planned, designed and developed the *Insects Theme Day's* web site as illustrated in

Figure 4.4. This web site was only available on the St Alban's College intranet the morning of the Theme Day and not beforehand.

Figure 4.4   Images of the *Earthly Aliens* and the *Insects Theme Day* home pages

"Butterflies", Siegfried Sassoon, 1920
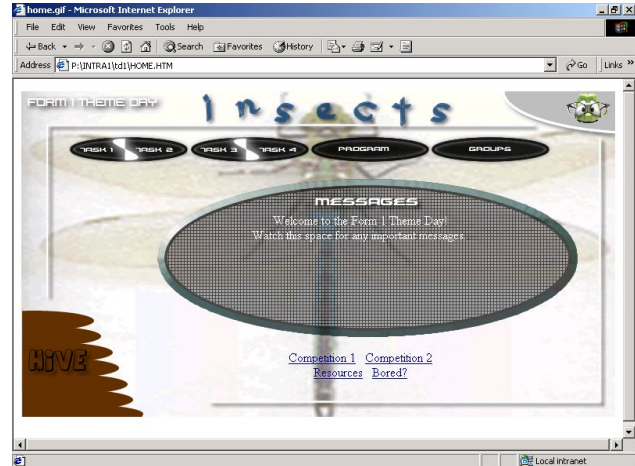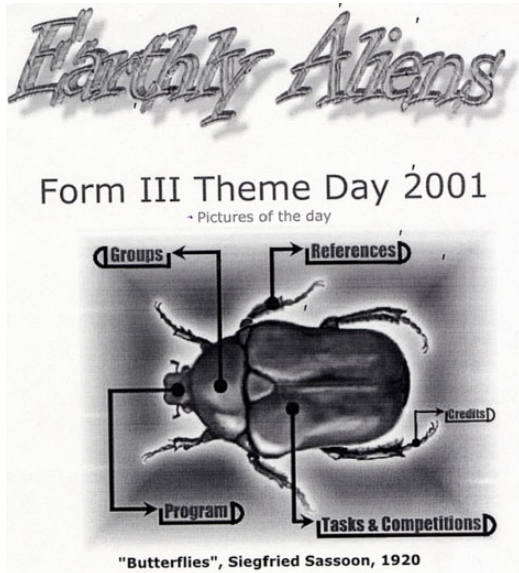
4.3.2.3   Requirements for learners to become members of the CLC form committee

A St Alban's learner needs special skills and abilities to become a member of a CLC form committee. It is recommended that the computer literacy of prospective CLC team members should be at such level that they would be able to design and construct a Theme Day web site. These learners are not necessarily the College's academically best performers, but they do perform well in subjects such as Maths (Scheepers & Willemse, 2002; Beyers, 2003).

4.3.3 Pedagogical inputs

The CLC committee inputs in pedagogical aspects such as the topic and the tasks of a Theme Day determine the successful outcome of a Theme Day. The tasks and Theme Day's topic should complement each other; furthermore, tasks must be on the level of the learners participating in the Theme Day. The educational value of tasks is of the utmost importance, and a fun element to keep the learners involved for the duration of the Theme Day has to be included. Each task has a time restriction, and the tasks must be completed within a specific time.

The topic of a Theme Day is top secret and is only announced on the morning of a Theme Day. Although some learners tried to gain access to a Theme Day's topic and tasks the day before a Theme Day took place, none of them managed to be successful. If, for instance, the topic is known beforehand, various problems might arise. For example, if the topic is Rugby and 20% of the learners do not like rugby but prefer soccer instead, they will not give their full cooperation on the Theme Day. Some learners might even persuade their parents to let them spend the morning of the Theme Day at home (Scheepers & Vrba, 2002).

The CLC committee members informed the learners the afternoon before the *Top Secret Theme Day* , 29 September 2002, that all the participants should dress in tracksuits. The announcement was made at such a short notice to keep the learners inquisitive about the following day's topic. The tracksuits were comfortable dress for the learners to participate in the obstacle course on the College's sports grounds (Vrba, 2002).

4.3.3.1   *Assessment criteria*

There are no formal assessment criteria on which Theme Days are presently based. The CLC form committee sets the assessment criteria.

4.3.3.2 Assigning learners into groups

Before the commencement of a Theme Day, the learners are divided into groups consisting of ten learners. One member of each group acts as the group leader. The compilation of groups must be balanced, as each group needs an artist, mathematician or computer wizard to complete the Theme Day tasks. Groups are randomly selected and it never consists of the same learners, as new groups are formed for each Theme Day (Carol Aston, Theme Day, 31 May 2001).

4.3.3.3 The design and arrangement of a classroom

The manner in which an educator arranges the classroom or computer centre, will influence the success of cooperative learning. Classroom arrangement can increase or decrease the number of discipline problems. Johnson, Johnson & Holubec (1994:32-33) suggested that educators should keep learners moving around in the classroom so that none of the learners sit at the back of the classroom for too long, without doing their work or disturbing other groups.

The seating positions of learners in the StaTech centre are rather informal, and learners can sit wherever they wish to. The learners often move around in the StaTech centre, visiting friends and comparing their tasks. The learners were occupied in the StaTech centre for the duration of the Theme Day and only left the centre for tea and lunch breaks. Refer to Figure 4.5 for a simplified layout of a cooperative computer centre.

Figure 4.5   Layout of a cooperative computer centre
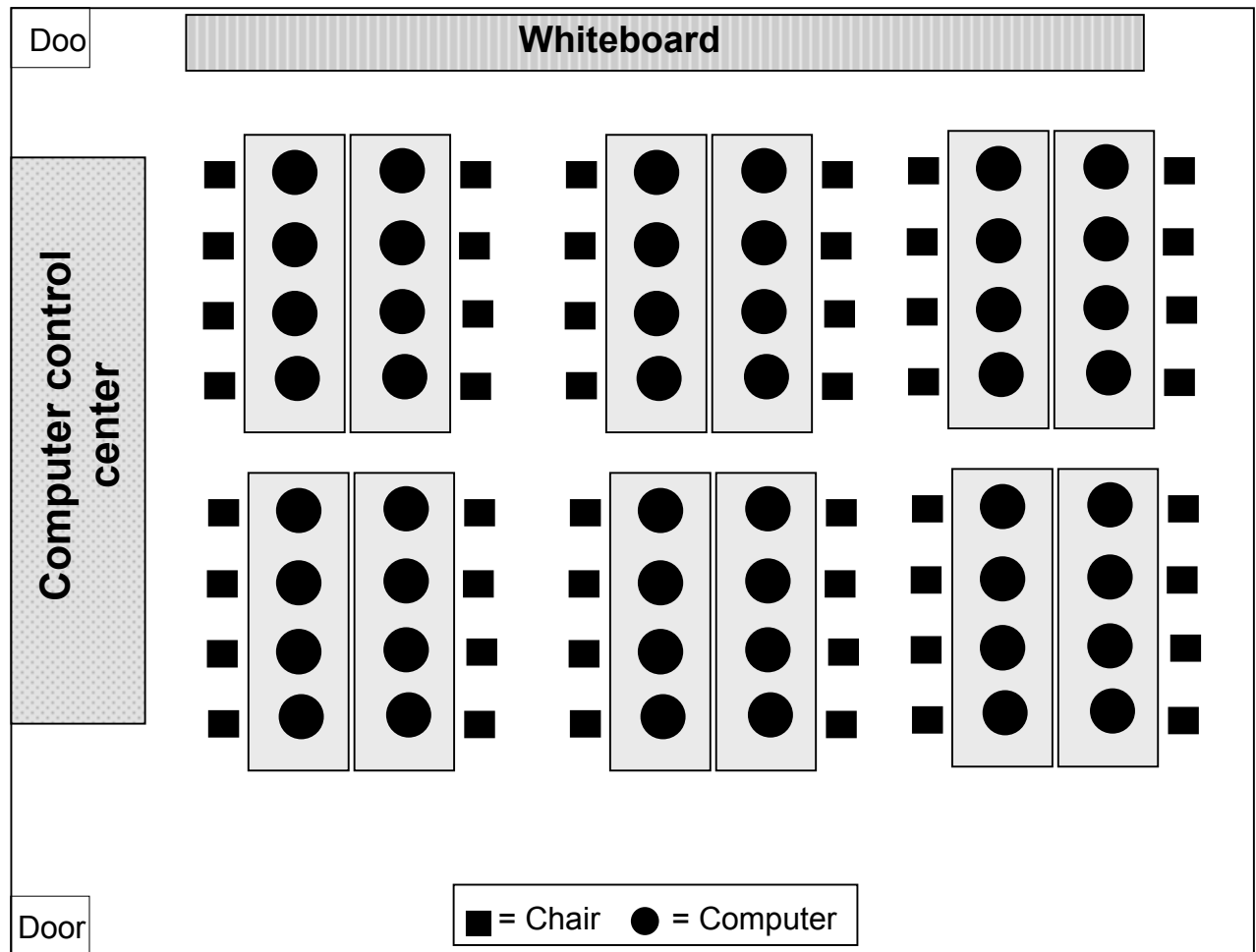
Figure 4.5 is an example of a cooperative computer lab that is more or less the same as the design of St Alban's College StaTech 4 computer centre. The technical inputs will be described in the following section.

4.3.4 Technological inputs

The learners who are CLC form committee members, used the software available on the StaTech computers to develop the web site for the respective Theme Days. Learners may use their personal computers to develop Theme Day web sites if they prefer to do so. The educators do not prescribe the type of media the CLC committee should use to create the form's web site. The learners design and create the Theme Day's web site at their own pace but will always work according to the schedule as

displayed in the Theme Day's checklist (Appendix B). The level of difficulty of the web site and the amount of programming involved in the Theme Day web site will determine how long before the time the CLC members will start with the development of a Theme Day web site (Yssel, 2002).

The *Top Secret Theme Day* was presented in a different manner. The day's web site did not entail difficult programming. The tasks were not fully computer-integrated as two of the Theme Day's activities took place on the sports grounds of St Alban's College. The marks a group obtained at the completion of a rotation were thus not reflected on the web site during the morning but only at the closure of the Theme Day. The reason therefore was the fact that the learners rotated between the different activities (Yssel, 2002).

4.3.5 Programme for the Theme Day

The CLC team develops the programme of a Theme Day well in advance. The programme for the *Earthly Aliens Theme Day* serves as an example. This programme was published on the intranet of St Alban's College and was part of the Theme Day's web site. The layout of the day's programme is tabulated in Table 3.4 and are as follows:

Table 4.1   Programme for the day: *Earthly Aliens Theme Day* of 31 May 2001

Time	Activity
07:30 – 08:30	Dr Mervyn Mansel describes the topic of forensic Entomology. (Dr Mansel is a forensic Entomologist and was the guest speaker for the *Earthly Aliens Theme Day.*)
08:30 – 08:50	Learners divide into groups and allocate tasks to pairs.
10:30 – 11:00	Break: tea to be served.
12:00 – 12:30	Judging of Art, and all Question Mark questions to be completed.
12:30 – 13:25	Judging of the presentations and the song.
13:30	The *Earthly Aliens Theme Day* comes to an end.

The processes and the role of the learning community, pedagogy and technology will be described in the following section.

4.4 PROCESS

Learners, educators, pedagogical and technological aspects and their involvement in the processes of a computer-integrated Theme Day will be described in the following section.

4.4.1 To do on the Theme Day

Figure 4.6 illustrates the steps in the planning of the actual Theme Day. The section under discussion is shaded for the purpose of orientating the reader.

Figure 4.6   The planning of the actual Theme Day
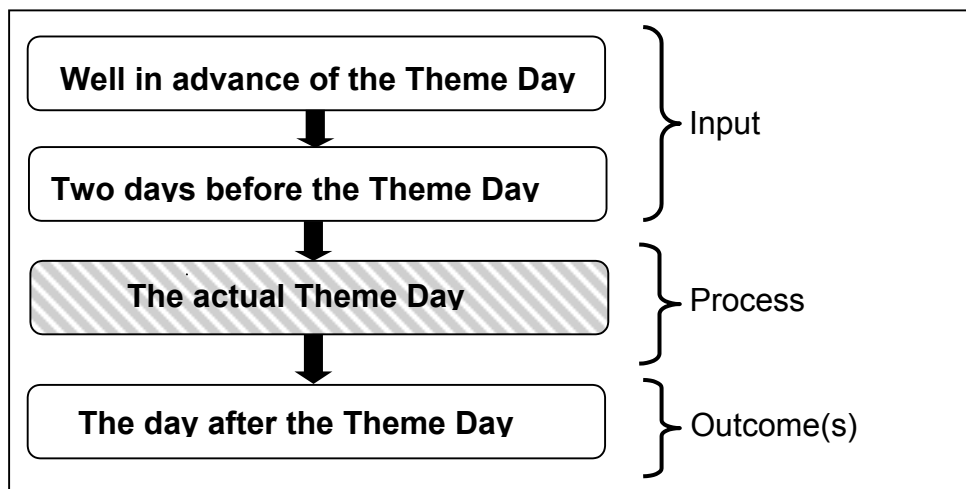
The actual Theme Day forms part of the Theme Day checklist and the CLC form committee has a list of activities which is the "To do on the Theme Day". The activities listed on the Theme Day checklist are the following:

- The network team check to see that the system is working.
- The Head Quarters (HQ) is set up and the groups are set up per computer.
- The Intranet is linked to the Theme Day's home page.
- The introduction of the Theme Day and the guest speaker.

- At the conclusion of the Theme Day, the tidying-up begins (Coles, 2002).

A detailed description of the learners at St Alban's, the educators, the CLC involvement, as well as the pedagogical and technological aspects will be described in the following section.

4.4.2 The learners of St Alban's College

The learners fulfil two separate roles during a Theme Day and can be divided into two groups. One group consists of learners who participate in a Theme Day, and the other group is the learners who are CLC form committee members. The roles of the learners can be visualised by making use of Figure 4.7.

Figure 4.7   The role of the learner during Theme Days
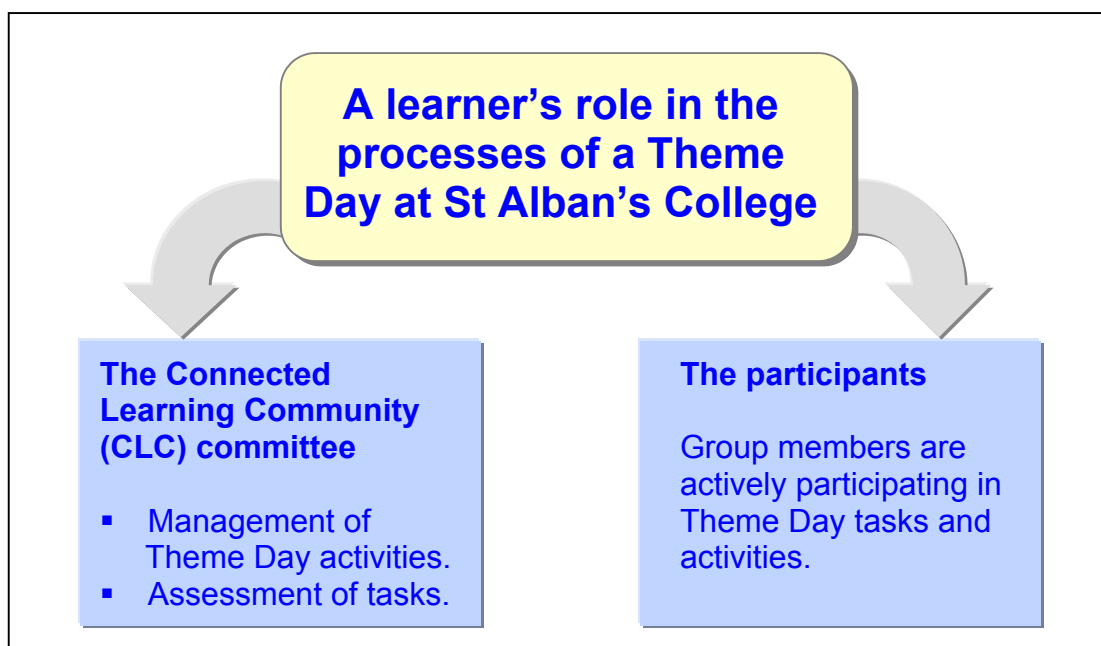
4.4.2.1   Group behaviour and discipline

Learners participating in the Theme Day have to adhere to the behavioural code of the StaTech centre. At the commencement of each Theme Day, the learners are informed that poor behaviour and lack of interest in the activities and tasks would not be tolerated. The researcher interviewed a few learners and asked them what would

happen if one or two members of their respective group did not give their full cooperation. The learners informed the researcher that the group members and more specific the group leader would first try to solve the problem. If they had no success, the leader would call one of the educators on duty that would then intervene and solve the problem (Theme Day, 31 May 2001).

An educator informed the researcher that some of the learners were passengers and gave little or no assistance to their fellow group members during a previous Theme Day. On the morning of the *Earthly Aliens Theme Day*, all those lazy learners were placed in the same group. They assured the educator that they would cooperate and challenge the rest of the groups. Their aim was to be one of the day's winners (Carol Ashton, Theme Day 31 May 2001). The Director of Technology disqualified three learners from their group on the *Insects Theme Day*. These three learners didn't adhere to the rules of the Theme Day and could not participate in any activities for the remainder of the Theme Day. These three learners were punished with additional homework and had to complete it at the closure of the Theme Day (Theme Day, 9 October 2002).

4.4.2.2   *Establishing the Head Quarters (HQ)*

The CLC form committee members who manage and control the Theme Day are located at the Head Quarters (HQ). The HQ was called 'The Hive' for the duration of the *Earthly Aliens Theme Day*. The HQ manages a Theme Day from the commencement, the presentation of tasks and finally the prize-giving. The HQ is small confined space situated at the front part of StaTech 1, and contains two computers which are operated by the CLC team consisting of two to three learners. The participants of the Theme Day are not allowed to enter the HQ for the duration of the Theme Day. Learners from other forms are not allowed to enter the StaTech centre during the Theme Day, but there can be exceptions. For example, a few learners were allowed to enter if they were part of the CLC committee, or learners who had to write an outstanding computer-based test or exam in the StaTech centre. Figure 4.8 displays images of the CLC committee in the HQ during the *Insects Theme Day*.

Figure 4.8   Images of the CLC committee in the Head Quarters

4.4.3 What is the educator doing?

The role of the educator on Theme Days and the resistance towards change will be described in the following section of this chapter.

4.4.3.1   *The educator's role on a Theme Day*

Emphasis in this study is not on the role of the St Alban's educators although they gave their inputs; their role will be described in short. St Alban's educators' roles during Theme Days are not that of policemen, as the learners work independently. Yet, in case there are uncertainties regarding Theme Day tasks, educators are available to assist learners. Educators do not have a free day if a Theme Day takes place. The educators whose learners are participating in a Theme Day are supposed to supervise the learners.

4.4.3.2   *Resistance to change*

A percentage of the staff members are against the utilisation and implementation of the Theme Day concept. Those educators with a negative sentiment are of the opinion that Theme Days increased their existing workload. The majority of the staff at St Alban's College is in a neutral position, and has the teachers for Theme Days on the one side and educators against it on the other side. The teachers who are

positive about Theme Days intend to change the attitude of their colleagues who are against the Theme Day concept (Ashton, 2001).

The pedagogical aspects such as the tasks, the assessment and learners working in groups will be described in the following section.

4.4.4 Pedagogical aspects

The tasks must be on the level of the learners but must also pose a challenge to the learners, such as Competition 1 and 2 of the *Earthly Aliens Theme Day*. The educational value of tasks is important, and all tasks have a time restriction. The programme of the *Earthly Aliens Theme Day* as displayed on the Theme Day's web site indicated the time in which all the assignments had to be completed and submitted. The programme of the *Earthly Aliens Theme Day* of 31 May 2001 is represented in Table 4.2.

Table 4.2   Tasks of the *Earthly Aliens Theme Day*

Earthly Aliens Theme Day included the following four tasks	
Task 1	Insects in history.
Task 2	Insects in human culture.
Task 3	Insects did it first.
Task 4	This question is divided into two section: a. Art – Making an insect or an insect mask. b. Questions – Answers to be entered on Question Mark.

4.4.4.1   Assessment of Theme Day tasks

The assessment of the learners' work, processes and criteria will be described in the following section. The learners' tasks are continuously assessed during the Theme Day, and group scores were reflected on the Theme Day's web site. The participants could therefore see who was leading the day, which contributed to the competitive

element of the day. At the end of a Theme Day, the participants submitted their PowerPoint slide shows and completed tasks in electronic form via email to the HQ. The learners compiled their Microsoft PowerPoint slide shows and they had to reflect on their work. Theme Days end between 12:00 and 12:30 and then all the tasks have to be completed. After the boys had their lunch break from 13:15 to 14:00, they gathered in StaTech 1, which is similar to a lecture hall, to present their slide shows of no longer than five minutes. Images of presentations and assessment at the end of a Theme Day are illustrated in Figure 4.9.

Figure 4.9   Images of presentations and assessment at the end of a Theme Day

The headmaster and a few educators were invited to assist with the final assessment on the *Earthly Aliens Theme Day*. The language educator, for example, assessed the poems, while the art educator assessed the insects created by the various groups. As soon as the assessment process came to an end, the winners and the runner-up of the day were announced and prizes awarded.

4.4.4.2   Learners and group work

The welcoming note on the *Top Secret Theme Day* home page read as follows: "This is the CLC mainframe. The point of the day is to stimulate interaction and group

work. You should try to work together with your group and win big in the world of information" (Theme Day, 29 September 2002).

Cooperative learning plays an important role, and its importance is stressed at the commencement of each Theme Day. Groups are selected randomly, and group members only know to which group they belong on the morning of the Theme Day. One of the educators informed the researcher that new groups were formed for each Theme Day. Each group consisted of 10 learners, and one of the group members acted as group leader.

Competition 1 of the *Earthly Aliens Theme Day* was a murder mystery, and the whole group had to work throughout the morning to solve the mystery. Detailed information was provided on the web site, and this information assisted the learners in solving the problem. After the problem was solved, it indicated who committed the murder. For Competition 2 the learners had to answer the question "Which insect is the heaviest?" The answer to Competition 2 was worth double marks, and the first correct answer e-mailed to Head Quarters received bonus points. The competitive element of the two competitions contributed to group work that is such an important aspect of Theme Days. Figure 4.10 displays images of group work.

Figure 4.10   Images of group work during computer-integrated Theme Days

The use of technology during Theme Days will be discussed in the following section of this study.

4.4.5   How was technology used during the Theme Day?

According to Lippert (1993:127), the management council of St Alban's College decided in 1988 to conduct a feasibility study regarding technology in education. A staff member did a simultaneous research in the USA and UK to review the use of computers in schools. The outcome of this study paved the way for the development and inauguration of the St Alban's Technology Centre (StaTech) and eventually the introduction of the Theme Day concept at St Alban's in 1999. The Network Manager and Leonard Tleane, the IT consultant at St Alban's, worked behind the scenes on Theme Days and were responsible for the management and maintenance of the

servers, the College's network and workstations in the StaTech centre (Naudé, 2002).

The learners could surf the Internet freely in search of information to complete Theme Day tasks. St Alban's does not have content filtering software (e.g. Net-Nanny), and the learners can assess appropriate web sites to complete their Theme Day tasks. The learners are aware of the rules of the StaTech centre as well as the consequences if they do not obey those rules. The learners who access illegal web sites such as pornographic web sites and who are caught will appear before the College's disciplinary committee (Naudé, 2002). The theoretical aspects of the Internet are described in the literature survey of this study. Figure 4.11 illustrates the Internet as a collection of computer networks and where the St Alban's College learners and the College LAN fit into that network.

Figure 4.11 The Internet as a collection of computer networks (Adapted from Heinich, 2002:263)
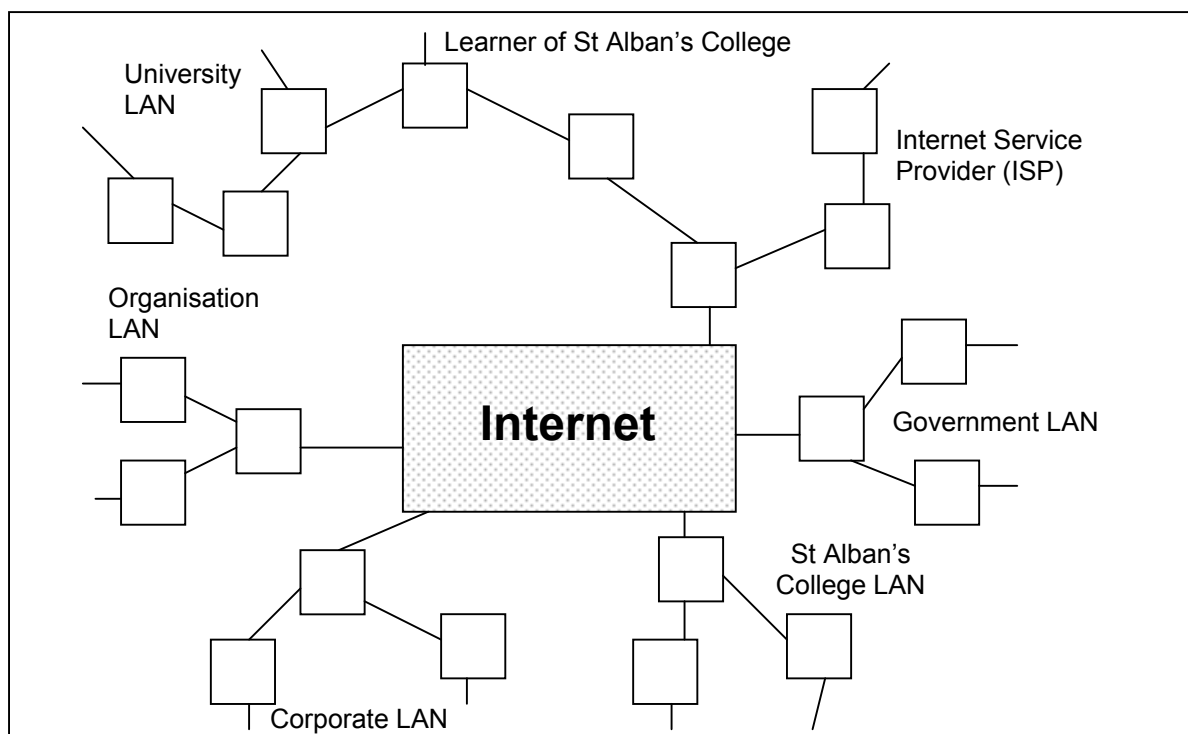
4.4.5.1   *How was technology utilised?*

Almost 40% of the learners have their own notebook computers. All the learners have access to the StaTech computer centre and do not necessarily bring their own notebook computers to school. The assignments are available online on the College's intranet, and the learners seldom receive assignments on paper. Some of the learners' computer literacy level is more advanced than that of the educators. The educators do not view this as a threat; rather, they feel that they have succeeded in their mission. Their mission is to equip learners who are entering the job market with cross-curricular life skills that will prepare them to cope in a technologically advanced world (Beyers, 2001).
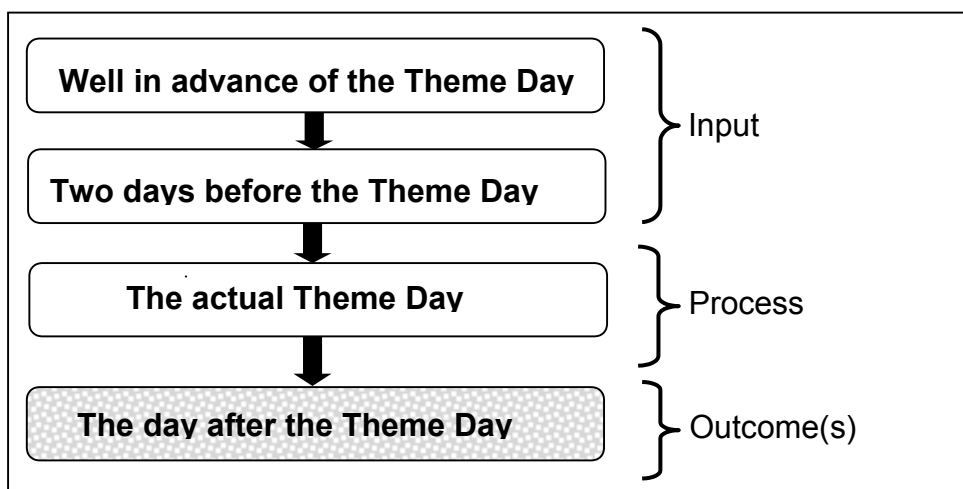
4.5   OUTCOME(S)

The learners, educators, pedagogical and technological outcomes will be described in the following section.

4.5.1   The day after the Theme Day

Figure 4.12 illustrates the activities after the Theme Day. The section under discussion is shaded for the purpose of orientating the reader.

Figure 4.12   The day after the Theme Day

The completion of the Theme Day is no guarantee that the work has been completed too. Certain functions can only be performed once the Theme Day comes to an end. Therefore, "To do the day after the Theme Day" includes the following:

- The CLC form committee writes thank you letters to the guest speakers, thanking them for all their hard work. These letters are typed and then distributed.
- Debriefing with the CLC form committee leader starts as soon as possible.
- If any problems occurred during a Theme Day, they have to be rectified so that the same problems will not occur during a next Theme Day.
- The content of the learners' tasks completed during the Theme Day must be saved on the College's server (Coles, 2002).

4.5.2 The learners of St Alban's College

The behavioural outcomes of the *Insects Theme Day* of 9 October 2002 were a bit different. This was the Form 1 learners' first Theme Day, and a few learners took their lunch break without completing their tasks or submitting it in time to the CLC team. A few learners were very nervous and uncomfortable standing in front of an audience. One learner read the entire presentation without making eye contact with the audience.

The first opportunity that the Form 1 CLC committee had to plan, implement and assess a Theme Day was for the *Insects Theme Day* of 9 October 2002. Although they were still inexperienced, they were eager to learn. The Form 4 CLC committee assisted the Form 1 CLC members in assessing the Theme Day tasks. The Form 4s participated in the *Earthly Aliens Theme Day* of 31 May 2001 and were familiar with answers as well as the assessment criteria of the tasks. The assessment of the learners' tasks will be described in more detail in outcome(s) of a Theme Day.

4.5.3 The outcome(s) and the educator

The educators put a great deal of effort into the preparations for every Theme Day. The educators and learners who are members of the CLC form teams who work side by side before, during and after Theme Days. On the other hand, the educators are awarded for their hard work and efforts at the end of each Theme Day.

4.5.4 Pedagogy

Some outcomes of Theme Days include the St Alban's learners as -

- confident ICT users who constantly learn how to utilise new media,
- dynamic group workers where learners know how to share their expertise,
- data miners by searching the Internet for relevant information,
- information and knowledge managers,
- lateral thinkers solving realistic problems,
- learning to meet deadlines, and
- being good communicators and gaining presentation skills (Tapscott, 1998:156).

4.5.4.1   Cross-curricular activities

The learners of St Alban's College benefit from the 'hidden curriculum' outcomes. The hidden curriculum is not part of the official curriculum followed at St Alban's College, and can be described as the skills the learners gained by participating in the Theme Day concept throughout their school careers at St Alban's College. Learners who were part of a form CLC committee gained managerial skills by being involved in the planning and executing process of a Theme Day. The topic of a Theme Day had to be determined well in advance, tasks had to be drafted, the web site had to be designed and developed and on the morning of the Theme Day, these learners were responsible for the smooth running of the day.

The CLC committee members gained conflict resolution skills. When conflict arose, the CLC team members had to resolve it. The Form 1 CLC team members reprimanded the learners who misbehaved the morning of the *Insects Theme Day,* 9 October 2002. A few learners were noisy and restless, and the CLC team assisted the educators to restore order in StaTech 1.

Theme Day participants learn how to function and how to cooperate in groups. Not the individual effort but the team effort determines at the end of day the success of the Theme Day. Learners presented their PowerPoint slide shows at the conclusion of the Theme Day. In the process of presenting slide shows, the learners became confident speakers. At the conclusion of the Theme Day, the process of tidying-up begins (Coles, 2002).

4.5.5 The role of technology

The topic of a Theme Day made the computer an inseparable part of the day. Computer training as such does not form part of the curriculum of the learners at St Alban's College. The computer is integrated into the learners' daily activities and learning processes and is thus not a subject on its own.

The bandwidth at St Alban's College at present is 128 kb/second. The College intends to expand it to 192 kb/second in the near future. Infosat is the College's Internet Service Provider (ISP), and the College pays a monthly instalment of approximately R12 000,00. The learners have unlimited access to e-mail and the Internet, and the Internet costs are included in their annual school fees (Y Naudé). Although it involves high costs to maintain the excellent standard of equipment such as computers, the network and printers in the StaTech centre, the St Alban's learners benefit from it, and it also contributes to the successful outcome of Theme Days.

No paper copy of the Theme Day tasks or programme was issued to the learners. The tasks as well as the programme of the *Earthly Aliens Theme Day* was available online on the day's web site. The *Earthly Aliens Theme Day* tasks contained useful

online references as well. The learners just had to click on the active 'click here' button, which linked directly to the references such as *K12 Educator Resources, Department of Entomology, MP3 Index* and *Entomology.UNL.* CD ROMS of insects and the Microsoft Encarta Encyclopaedia 2000 were available to the learners. Links to worthwhile search engines were available on the tasks page, and the learners could easily access the Internet via these search engines.

4.6   FEEDBACK

In the feedback section, the success and failures of Theme Days as observed by the researcher will be described.

4.6.1 The loop was completed: Feedback

The aim of a Theme Day is to equip learners who are entering the job market with life skills that will prepare them to cope in a technologically advanced world. The aim of the Theme Day is displayed in the overview of this study as illustrated in Figure 1.3. At the end of the Theme Day, the excitement and the enjoyment on the learners' faces are a reward for the CLC committee for all their hard work and preparations for the Theme Day. The loop was successfully completed and the aim of the Theme Day was reached. The success and outcomes of the various Theme Days lead to the use of at least three Theme Day activities for each Form group per annum. The Theme Day concept is a success, and the College intends to expand it to a Theme Week in the near future (Beyers, 2002).

4.6.2 The learners and pedagogical aspects

Cooperative learning and group work proved to be a success. The learners gave their cooperation to their fellow group members, and worked hard to complete their respective tasks. The learners didn't let their fellow group members down. Mr Beyers, the Director of Technology, underlined the importance of group work and cooperative learning at the commencement of each Theme Day. The St Alban's learners did work

together and that the competitive element of the Theme Day tasks contributed to cooperative learning and group work in the various groups. The learners shared their expertise with each other and assisted fellow group members where necessary. This was especially visible with arts project on the *Earthly Aliens Theme Day* on 31 May 2001, when the learners had to create an insect with the art materials provided to them at the commencement of the Theme Day. The second example was at the *Top Secret Theme Day* 29 September 2002 when the groups had to assemble a raft. The raft had to be able float in the swimming pool carrying the weight of a single learner rowing to and fro across the width of the pool. At the completion of this, the group had to disconnect all the parts of the raft before the time lapsed for the rotation.

4.6.3 Failures at Theme Days – isolated incidents

All the successes of Theme Days that were observed during the period of 17 months were reflected in this dissertation. But the researcher observed a few failures. The failures of the Theme Days were not failures as such but rather a few isolated incidents that might have a negative influence the success of the future Theme Days at St Alban's College. The negative attitude of a few educators and the behaviour of a small group of learners were identified as two prospective problem areas.

4.6.4 Technological aspects

No technological hiccups were detected or reported by the key role players of the five Theme Days. The availability of the software packages did not influence the completion of the loop. The St Alban's learners are privileged to have access to workstations with the latest software packages to complete the Theme Day tasks. The well-equipped StaTech centre contributed to the successful completion of Theme Days.

4.6.5 Long-term feedback

Presently, no direct statistical data is available to indicate whether the aim has been reached to equip learners entering the job market with life skills that will enable them to cope in a technologically advanced world. From time to time the College does receive positive feedback from graduates. These graduates report that, were it not for the CLC committee, Theme Days and/or the laptop project, they would not have succeed in what they were doing. The College also receives overwhelming support from the parents, learners and the staff for the Theme Day concept.

The research results and findings will be discussed in part two of this chapter.

PART TWO: RESEARCH RESULTS

Part two reveals the answers to the research questions. Aspects discussed in all five sub-research questions are the learning community, the pedagogical aspects and the technological aspects. The instruments to yield information to answer the research questions are observations and interviews of key role-players.

4.7   ANSWERS TO THE RESEARCH QUESTIONS

The answers to the five sub-research questions will be discussed in the following section. The sub-research questions are:

a)   What is the institutional and contextual influence of computer-integrated Theme Days?
b)   What inputs are required from the educators, the CLC committee and the learners?
c)   What processes occur during computer-integrated Theme Days?
d)   What outcome(s) do the educators, the CLC committee and the learners achieve?
e)   How is the feedback/loop completed to ensure sustainability?

Aspects contributing to the answers in the five sub-research questions to be answered in this section can be visualised by making use of Figure 4.13.

Figure 4.13 Aspects contributing to the answers in the sub-research questions
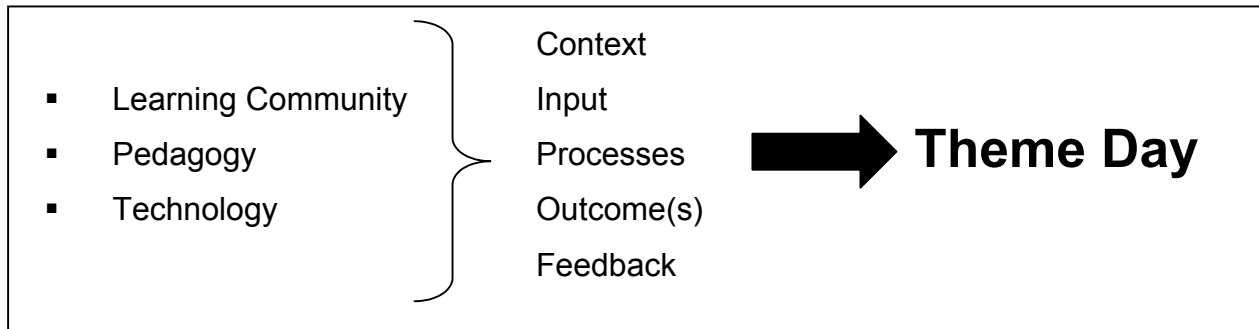
Aspects such as the context, learning community, educators, pedagogy and technology will be answered in sub-question 1. This will determine the institutional and contextual influence of computer-integrated Theme Days.

4.7.1   What is the institutional and contextual influence of computer-integrated Theme Days?

4.7.1.1   The learning community aspects

The instrument that yielded the best information to answer this aspect was observations. From the observations it could be seen that the learners coped well with the technology. This is probably because they all come from wealthy backgrounds and are familiar with the Internet. The interviews confirmed this as the learners participating in the *Earthly Aliens Theme Day* utilised their personal notebooks for the Theme Day tasks that day. Observations proved that the racial context of the St Alban's learner population had no negative effect on the Theme Day activities or group work.

On the other hand, observations yielded the best information to analyse the aspects that had a negative impact on the context, such as the behaviour of the learners and the manner in which they coped with the Theme Day activities. The Form 1 learners' behaviour during the *Insects Theme Day* differed from the behaviour of senior

learners during the other Theme Days observed. The junior learners still had to get used to the Theme Day concept, whereas the senior learners participated in numerous Theme Days and know what is expected of them and how they should behave.

Interviews with the educators and the Theme Day participants determined the appropriateness of the target population for Theme Days. Interviews yielded furthermore that the Form 5 learners had no influence on the target population, as they did not participate in Theme Days due to their short academic year. The exception was a few Form 5 learners who were members of the CLC team.

Observations during the Theme Days revealed that the learners' skills levels varied from form group to form group. Form 4 learners are, in comparison with the Form 1 learners, more experienced Theme Day participants. Form 3 and 4 learners coped better with the Theme Day concept as they have been exposed to it previously, while the Form 1 learners only had one opportunity to participate in a Theme Day and had to get used to the concept. This was especially visible in the learners' behaviour and the manner in which they completed their Theme Day tasks.

Johnson, Johnson & Holubec (1994:24) is of the opinion that there is no ideal size for a cooperative learning group. The appropriate size depends on the individual lesson's outcomes, learners' ages, materials and/or equipment available and the time limits for the learning event. In an interview with an educator it was indicated that the best method to compile Theme Day groups is randomly, and this practice proved to be successful at numerous Theme Days. The learners of St Alban's are from various population groups and backgrounds across the globe, and the St Alban's learners serve as a good example of racial integration. Learners are from countries such as the Far East, Europe, Mauritius and neighbouring countries in Southern Africa. The largest percentage of the learner population at St Alban's College is from South Africa. This leads to a wide variety in cultural and religious backgrounds. The learners were observed while they were working in their groups. From the observations it was obvious that the learners did not experience racial tension and

that they worked in harmony during Theme Days. This cultural and racial diversity of the St Alban's learners never had an influence on the compilation of groups. Although the literature states that the size of cooperative learning group ranges between two and four learners per group, the average size of the St Alban's Theme Day groups was ten learners per group.

From the interviews with educators it became clear that the facilities and resources of St Alban's can presently only accommodate 500 learners per annum, i.e. 100 learners per form group. More learners place an extra burden and strain on facilities at St Alban's. The additional eight learners enrolled in the 2002 form 1 group increased the workload of the then staff members. If the College intends to increase the learner population, there would be a need to build additional classrooms, expand the facilities at the hostels and appoint additional staff members.

4.7.1.2   Pedagogical aspects

Interviews with educators and learners revealed that the Theme Day tasks were designed to incorporate more than one subject. Observations of the *Earthly Aliens Theme Day* tasks revealed that subjects included language, science and art items. These activities were thus cross-curricular and designed to break down the barriers between subjects.

4.7.1.3   Technological aspects

A literature survey and interviews with educators and support staff such as the network manger revealed that the technological aspects and the development of the StaTech at St Alban's had significant implications for computer-integrated Theme Days. The absence of a well-established computer centre and ICT infrastructure would make computer-integrated Theme Days at St Alban's College impossible. Observations could not provide the appropriate answer regarding the technological aspects and its influence on the context.

The answers regarding the inputs required from educators, the CLC committee and the learners are discussed in the following sub-question.

4.7.2 What inputs are required from the educators, the CLC committee and learners?

Aspects such as the inputs of the learning community, pedagogy and technology will be answered in sub-question 2 in order to determine what inputs are required. Interviews proved to be the best instrument to yield information regarding these inputs. No observations were used to yield information, as the role-players gave their inputs during the planning phase of Theme Days. The researcher could not observe these activities as the planning for Theme Days took place well in advance of a specific Theme Day.

4.7.2.1   *The learning community aspects*

Interviews with learners who are members of a CLC form committee revealed that the CLC provided their inputs before the actual Theme Day as it was during this phase that the planning was done for a Theme Day. Interviews were thus the appropriate tool to obtain data to analyse the role of the CLC committee in the planning of Theme Days. A Theme Day checklist was used plan the entire Theme Day. During this planning phase, important aspects such as the Theme Day tasks were drafted, including the design and development of the day's web site. Interviews yielded furthermore that the inexperienced Form 1 learners worked under the mentorship and supervision of senior CLC Form members such as Sep Vrba or Carl Yssel to plan the *Insects Theme Day*.

Staff members were interviewed and they revealed that educators provided their inputs by coordinating the planning of Theme Days. Educators furthermore assisted learners with the drafting of Theme Day tasks, as the learners could not determine the educational value of tasks.

4.7.2.2   Pedagogical aspects

Educators and learners were interviewed and they revealed that during the planning phase of a Theme Day, the CLC form committee identified a few possible topics for the forthcoming Theme Day. The CLC team will after discussion with the responsible educators, decide which topic is the most suitable option for a forthcoming Theme Day. A fun element is always built into the tasks of a Theme Day, as the fun element keeps the learners actively involved in all the Theme Day activities. Although the fun element is important, what the learners learn is still vital. The educational value of the topic and tasks and Theme Days are inseparable. The CLC form coordinator, who is also an educator, will as subject expert evaluate whether the tasks indeed have an educational value.

4.7.2.3   Technological aspects

Interviews with learners and educators revealed that the learners of the CLC form committee were responsible for the instructional design of a Theme Day web site. If required, the facilities of the StaTech complex were available to the learning community. Learners residing in one of the boarding houses have access to the hostel's computer but numerous St Alban's learners used their personal notebook computers or PCs and will therefore not use the facilities at the College. The percentage of educators utilising their own laptops or personal computers or that of St Alban's is not available, as this data was not collected during the five Theme Days. The learners of the CLC team indicated that they designed Theme Day web pages mainly in their private time and that their personal computers were utilised to do so.

The processes that occurred during computer-integrated Theme Days at St Alban's will be answered in sub-question 3.

4.7.3 What processes occur during computer-integrated Theme Days?

Observations and interviews yielded the answer of aspects such as the participant behaviour, the CLC committee, pedagogy and technology and their involvement in the processes of computer-integrated Theme Days. Document analysis and email interviews provided substantial information to answer sub-question 3.

4.7.3.1 The learning community aspects

Observations of Theme Day participants revealed that the learners behaved well and the educators seldom experienced difficulty to discipline them. Participant behaviour observed during the five Theme Days was compared. This comparison revealed that younger and inexperienced participants were a bit more restless and noisy than usual on the morning of the *Insects Theme Day* of 9 October 2002. The participants discussed their tasks with friends who were members of another group while other participants carried on with their work, ignoring the learners who weren't dedicated to their tasks. Form 1 participants' behaviour was different than that of the older forms because it was this form's first opportunity to participate in a Theme Day. Although these learners were more restless and noisy, their behaviour did not restrict or influence the processes of the *Insects Theme Day*.

Participant observations revealed furthermore that learners had two independent roles to fulfil during a Theme Day, i.e. those who were CLC form committee members and those who were the participants. The roles they fulfilled were different. The CLC members managed the Theme Day, whereas the participants actively took part in the Theme Day activities and tasks.

The Director of Technology and staff members were interviewed and they remarked that the level of computer literacy of the St Alban's learners is high. The levels varied from learner to learner and from form group to form group. Observations revealed

that it was especially noticeable in the PowerPoint slide show presented by the learners at the conclusion of a Theme Day. Observations furthermore yielded that a learner's computer literacy level also determined the swiftness of that learner's work. Some of the learners with lesser skills, for instance the Form 1 learners, were irresponsible and didn't even save their work during the *Insects Theme Day*. The literacy levels of these learners could influence the process.

Observations revealed that the learners obtained all the necessary information they needed for the duration of a Theme Day. Tasks of the *Earthly Aliens Theme Day* were available on the day's web page as well as the day's programme. Links to worthwhile search engines were available on the tasks page, and the learners could easily assess the Internet via these search engines.

Theme Days cannot occur without the CLC committee. Interviews with key role-players revealed that the CLC committee of St Alban's consists of educators as well as learners who are members of a form CLC team, and they have numerous roles to fulfil during Theme Days. The role of the educator is that of facilitator and coordinator of the process. The learners as CLC committee members work on 'grassroots level' with Theme Day participants. The CLC provided the learners as participants with assistance where required. The CLC committee assessed tasks during the morning and when the completed tasks had been submitted. Educators supervised the Theme Day activities.

4.7.3.2 *Pedagogical aspects*

Interviews with educators yielded that Theme Day tasks incorporated more than one subject. The *Earthly Aliens Theme Day* tasks included subjects such as science, technology, art and language.

Learners were observed while working in their cooperative groups. Observations revealed that the learners responded well to cooperative learning and that they enjoyed group work. Two to three learners worked together on a task at a single

workstation and shared their ideas and expertise. Group members themselves decided who in the group would be responsible for which task. The graphic artist had to build the insect item for the *Earthly Aliens Theme Day,* while the computer wizard had to compile the day's slide show.

4.7.3.3   Technological aspects

Document analysis reveals that the management council of St Alban's College decided in 1988 to conduct a feasibility study regarding technology in education. Another staff member did a simultaneous research in the USA and UK to review the use of computers in schools (Lippert, 1993:128). The outcome of this study paved the way for the development and establishment of the St Alban's Technology Centre (StaTech), and eventually the introduction of the Theme Day concept at St Alban's College in 1999. Since then, numerous successful Theme Days were presented at St Alban's College.

According to an interview with the Network Manager, she and Leonard Tleane, the IT consultant of St Alban's, worked behind the scenes on Theme Days. They were responsible for the management and maintenance of the College's servers, the network, intranet and workstations in the StaTech complex. Observations furthermore revealed no technical hiccups during the five Theme Days. The learners and the educators didn't complain about or experience any technical problems. If any technical problems did arise and the problems could be solved easily, it was either not observed at all, or the extent of the problems was so small that it went by unnoticed.

The answer to the outcome(s) that educators, the CLC committee and the learners achieved will be answered in sub-question 4.

4.7.4 What outcome(s) do educators, the CLC committee and learners achieve?

Observations and interviews yielded the information regarding aspects such as the outcome(s) that educators, the CLC committee and learners as the participants achieved on computer-integrated Theme Days at St Alban's College. The first aspect to be discussed is the learning community.

4.7.4.1   *The learning community aspects*

The outcome(s) of computer-integrated Theme Days at St Alban's included the College learners as:

- confident users of information technology to its maximum potential,
- dynamic and independent group workers where the learners know how to share their expertise with fellow group members,
- information and data miners searching the Internet for appropriate information to answer and complete the Theme Day tasks.

Interviews with key role-players revealed that a small percentage of the St Alban's educators are against the Theme Day concept. These educators are of the opinion that the learners learn little during a computer-integrated Theme Day and that they use valuable time in the StaTech centre to play with the computers or to surf the Internet. Interviews revealed furthermore that some of the educators viewed Theme Days as their 'day off', and that they are thus relieved from the normal school day's duties while colleagues are taking care of their learners. The percentage of educators against the Theme Day concept was not documented and is thus not available.

Although the negative sentiment of a few educators might influence the outcomes of computer-integrated Theme Days, the fact that the learners enjoyed participating in Theme Days is a reward for the educators and all their inputs. The Theme Day concept is a learning process for learners and educators at St Alban's. The repetitive

application of the Theme Day concept led to the smooth running thereof due to the fact that experience proved to the educators what worked and what didn't, which activities are popular with the participants and which ones are not.

The entire management and planning processes of a computer-integrated Theme Day at St Alban's College had a significant impact on the outcomes thereof. Selecting a topic that "grabs the attention and imagination of the boys", drafting the tasks and the subdividing the workload contributed to the successful outcomes of a computer-integrated Theme Day.

4.7.4.2   Pedagogical aspects

Observations revealed that cooperative learning had a significant influence on Theme Days. Form 1 constitutes the junior learners of St Alban's, and these learners are not as skilled in the concept of cooperative learning as for instance the form 4s. From the interviews conducted during Theme Days it became clear that the Theme Day topic and tasks had to correlate and that a fun element is important. The fun and competitive elements prevented participant boredom.

4.7.4.3   Technological aspects

A Theme Day usually starts with the Director of Technology welcoming the participants, guest speaker(s) or any other guests attending the Theme Day. After the word of welcome, a data viewer is used to present a PowerPoint slide show, presenting information to the participants, which is relevant to the Theme Day's topic. On the *Earthly Aliens Theme Day,* a video was shown to the learners about forensic Entomology, with specific reference to the fly. At the end of the video, the learners divided into groups, left StaTech 1, and moved to StaTech 4 to start with their tasks.

The monthly instalment of the St Alban's ISP is approximately R12 000, and this pays for the bandwidth of 128 kb/second. This unlimited access to the Internet was maximally utilised by the participants to complete their respective tasks. The

availability of and accessibility to high-tech equipment in the StaTech complex had a positive influence on the outcomes of computer-integrated Theme Days at St Alban's. The implications thereof are the implementation of at least three Theme Days for each form group annually. The possibility of introducing Theme Weeks is being investigated. The completion of the loop to ensure sustainability will be discussed in the following section.

4.7.5 How is the feedback/loop completed to ensure sustainability?

Observations and interviews yielded the answer to aspects such as the learning community, pedagogy and technology to describe how the feedback is completed to ensure sustainability.

4.7.5.1   The learning community aspects

Observations yielded that cooperative learning was effectively stimulated during Theme Days. Learners shared their expertise with each other and that the learners assisted fellow group members where necessary. This was especially visible with arts project on the *Earthly Aliens Theme Day* of 31 May 2001, when the learners had to create an insect with the art materials provided to them at the commencement of the Theme Day. Observations revealed furthermore that cooperative learning was effectively stimulated during the *Top Secret Theme Day* of 29 September 2002. On that day, group members had to assemble a raft. The raft had to float in the swimming pool carrying the weight of a single learner rowing to and fro across the width of the pool. At the completion of this, the group had to dissemble all the parts of the raft before the time lapsed for the rotation.

The emphasis of this study is the implications of computer-integrated Theme Days for learners at St Alban's College. This study thus focussed on learners (the participants and learners of the CLC form committees) and their involvement in Theme Days. Learner participation in computer-integrated Theme Days had a

significant influence on the feedback to ensure sustainability. Learner participation is the heart and soul of Theme Days, and without the participation of the learners, computer-integrated Theme Days at St Alban's College have no right of existence. The usage of the high-tech StaTech complex is a change in environment and this restricts boredom in the school life of St Alban's learners. The calendar and timetable of St Alban's College was adjusted to accommodate at least three Theme Days for each form group annually.

Groups were randomly selected, and new groups were formed for each Theme Day. The learners worked in harmony even though groups were compiled of a learner population coming from a variety of cultural backgrounds. Observations revealed that the compilation of groups had no significant influence on the feedback.

Although the participants are the heart and soul of a Theme Day, Theme Days don't just happen without the involvement of educators. In this study, the main focus was on the implications of computer-integrated Theme Days for learners at St Alban's College. Even though less focus falls on the educators, they play an indispensable role in the various phases of a Theme Day, be it the planning, inputs, process, and eventually the completion of the loop to ensure sustainability.

It took thorough planning of the CLC committee to devise and draft, implement and manage a Theme Day that will motivate and ensure participant involvement throughout the day. The wrong selection of topic and related tasks might lead to bored and unmotivated learners that will directly influence the feedback and the sustainability negatively.

4.7.5.2   *Pedagogical aspects*

Learners gained multiple skills by participating in computer-integrated Theme Days. The learners of the CLC committee learnt managerial skills, while the Theme Day participants gained cooperative learning skills. Peer assessment was viewed in a positive manner, and the learners who were assessed were not offended in any

manner. When conflict arose, the learners had to solve the problem among them and in the process acquired conflict resolution skills.

E-mail interviews revealed that presently no statistical data is available to determine whether those learners, when entering the job market, have indeed been equipped with appropriate cross-curricular life skills that will prepare them to cope in a technologically advanced world. Fortunately there has been an increase in the number of distinctions per Form 5 candidates in the final examinations. The main aim of Theme Days is to change the attitudes of learners from purely behaviouristic learning towards a constructivist approach.

4.7.5.3   Technological aspects

Literature has revealed that technology is constantly upgraded and adapted to ensure that the learners can use the high-tech equipment to its maximum potential. Document analysis reveals that St Alban's College initially had one DOS computer and modem, which provided the learners and educators with Internet access in 1995. In an interview with the network manager, it was revealed that the StaTech complex presently has 134 workstations with unlimited access to the Internet. A bandwidth of 128 kb/second makes this possible. The computer literacy of learners contributed to them using the maximum potential of the advanced technological equipment of the StaTech complex. The availability of technology in the StaTech complex positively influenced feedback to ensure sustainability. No technological hiccups were detected or observed, but unforeseen circumstances such as a power failure might restrict the completion of the loop and may have a negative impact on sustainability.

The summary of the research results will be discussed in the following section.

4.8   SUMMARY OF THE THEME DAY RESULTS

The target population and the compilation of the participant groups had no influence on the context. The additional eight Form 1 learners enrolled at St Alban's College in

2002 had an additional impact on the educators and StaTech. The impact thereof was that the workload of the educators increased, and strain was put on the facilities of the StaTech complex and the hostel's kitchen. A decision was made by the management structure of the College not to increase the learner population above 100 learners per form, as additional learners require additional staff members, access to the StaTech and additional rooms in the hostel.

Cooperative learning was notably stimulated during Theme Days. The senior Theme Day participants have adapted to the concept of cooperative learning, while the junior learners in form 1 will gradually adapt to the concept, once they have been exposed to more Theme Day experiences. Although the Theme Day participatory groups consisted of learners from various cultural and religious backgrounds, it had no influence on the context.

The senior participants coped better with the computer-integrated Theme Day concept than the younger participants, as the former have already took part in at least three to four previous Theme Days. The CLC committees assisted with the selection of Theme Day topics and tasks to keep the learners stimulated and motivated to complete the Theme Day tasks, while boredom was avoided.

Many educators carry the additional workload of computer-integrated Theme Days with dignity and do not complain about it. Unfortunately, some of the educators do not accept the Theme Day concept. They complain about the workload and are of the opinion that the learners do not really benefit when participating in computer-integrated Theme Days. Their attitude should change. If not, they might influence the sustainability of computer-integrated Theme Days at the College.

Theme day tasks were cross-curricular, and learners were thus exposed to more than one subject during a specific Theme Day.

The computer literacy levels of the St Alban's learners are high and none of the learners displayed any symptoms of computer anxiety. The learners furthermore

used the high-tech equipment available in the StaTech complex to its maximum potential. This is probably because many of the learners are from privileged backgrounds and are exposed to computers and digital equipment at home and at school from an early age.

Although the implications of computer-integrated Theme Days for learners of St Alban's College was the main focus of this study, the *Top Secret Theme Day* was not completely computer-integrated. The learners rotated between the workstations and the obstacle course on the sports grounds of the College. They had just as much fun as on the other Theme Days. This is an example to other schools that might be interested in implementing the computer-integrated Theme Day concept at their schools even if they do not have the same high-tech equipment or a computer centre that matches the facilities of the StaTech complex at St Alban's College.

Chapter 5 is the concluding chapter. In this chapter the conclusions and recommendations arising from the results of this study are presented.

CHAPTER 1
Introduction

CHAPTER 2
Literature survey

CHAPTER 3
Research methodology

CHAPTER 4
Findings

CHAPTER 5
Conclusions and recommendations

5.1 Introduction

5.2 Summary

5.2.1 Findings supporting the literature survey

5.2.2 Findings that differ from the literature

5.3 Recommendations

5.3.1 Recommendations for the implementation of computer-integrated Theme Days

5.3.2 Recommendations for future research

5.3.3 Research limitations of this study

5.4 A final word on computer-integrated Theme Days

CHAPTER 5
Conclusions and recommendations

5.1   INTRODUCTION

This is the concluding chapter of this dissertation. In this chapter a summary of the research findings, and an abridged discussion of the findings that differ from the literature and recommendations will be described. The research limitations of this study are briefly discussed. Recommendations for the implementation of computer-integrated Theme Days are made, as well as recommendations for future research. A summary of this study's research will be described in the following section.

5.2   SUMMARY

In this section, findings to support the literature survey and the findings that differ from the literature will be discussed.

5.2.1 Findings supporting the literature survey

The learner characteristics of the St Alban's learners are similar to that of the characteristics of the learners belonging to the *net generation* and the *digital child*. The learners of St Alban's College have been exposed to educational and digital technology, and more specific computers for many years. They have access to computers at home, the well-equipped StaTech complex at school or at the hostel if they are residing in one of the College's boarding houses. Many learners have their own laptop computers, are computer literate and are well adapted to technology as it poses no threat to them.

The essential components of cooperative learning as described in the literature by Johnson & Johnson (1991:55-57) were visible during Theme Days. The St Alban's learners worked in groups during Theme Days. The groups had to complete

tasks before the conclusion of the Theme Day. The learners coordinated their efforts with those of their fellow group members. The group members pooled their skills and worked together on Theme Day tasks. Each group member knew what was expected of him, and participants accepted the responsibility to complete their share of the work. Theme Day participants displayed proper social skills and inter-group relationships, as they knew how to resolve conflict when it arose. Document analysis stressed the importance of cooperative work during Theme Days while learner observation showed that the learners worked cooperatively in groups. No deviate conduct was observed during any of the five Theme Days. Adendorff (2000:117) quotes Confucius (c. 450 BC). This quote summarises learning of learners participating in computer-integrated Theme Days at St Alban's College in short.

Confucius noted:

I hear and I forget,
I see and I remember,
I do and I understand.

Document analysis reveals that St Alban's has been using the learner-centred model for many years where learners are motivated to construct knowledge and to apply lateral thinking skills during computer-integrated Theme Days. Learners who are members of the CLC form committee, are actively involved in the planning and management of Theme Day activities. While the learners as Theme Day participants construct meaning for themselves, they don't just sit in the class and absorb information, they participate and understand what they do.

Literature reveals that the new-generation learners require new-generation educators. The new-generation educators fulfil a new role. St Alban's educators are facilitators and they are no longer the 'sole providers of knowledge'. Educators coordinated the activities of the CLC form committees and assisted Theme Day participants where necessary.

Document analysis reveals that St Alban's learners were exposed to cross-curricular activities during Theme Days. The barriers between subjects were broken down as more than one subject were incorporated into Theme Day tasks. The *Earthly Aliens Theme Day* tasks, for instance, included language, art, history and natural sciences. Learners as members of the CLC form committee gained managerial and conflict resolutions skills. These learners managed Theme Days during the planning phase as well as on the actual Theme Day.

Literature refers to technological components such as the local area network, intranet, Internet and bandwidth. Document analysis reveals that St Alban's College has over ten years of experience of ICT in education, and the College views itself as a pacesetter in the utilisation of the latest information technology in education. The St Alban's learners have unlimited access to email and the Internet in the College's richly equipped StaTech complex, which houses 134 workstations. Boys who reside in a boarding house also have access to technology after hours.

5.2.2 Findings that differ from the literature and document analysis

Johnson, Johnson & Holubec (1994:24) are of the opinion that there is no ideal size for a cooperative learning group. The appropriate size depends on the individual lesson's outcomes, learners' ages, materials and/or equipment available and the time limits for the learning event. Although the literature states that the size of a cooperative learning group ranges between two and four learners per group, the average size of groups at the St Alban's Theme Day were ten learners per group. The size of the cooperative groups had no implications for the learners participating in computer-integrated Theme Days at St Alban's College.

Literature reveals that net generation learners living in a digital world where they spend many hours working on computers without a break, have the risk to display social and related problems. These social problems include children to be overweight, learners who experience reading and writing problems and learners who are less creative because they have access to software packages where they can just cut and paste images. Additional to the social problems are ergonomic risks

associated with computer labs and inappropriate furniture at schools. Observations the researcher revealed that the StaTech computer centre have appropriate furniture and posed no ergonomical risk to the participants. The Theme Day participants displayed good communication skills, they worked in harmony in their groups, discussed the Theme Day tasks and furthermore, they displayed no social problems.

Observations of Theme Day participants revealed that the aforementioned social problems are not applicable to the learners at St Alban's. Document analysis reveals furthermore that the College is committed to quality service and encouraging personal responsibility in the interest of the all-round development of the College learner as an individual participating in cultural, musical and sports activities. Theme Day tasks allow St Alban's learners to be creative. The *Earthly Aliens and Insects Theme Days* tasks included art activities. The learners had to create an insect with the art items provided to them. Ergonomic risks posed no threat to the St Alban's learners, as the furniture in the StaTech complex is suitable for computer usage. The learners did not spend hours at their workstations without a break. The learners had a tea break during the morning and during this break, all participants left the StaTech to have fresh air, tea and sandwiches next to the StaTech entrance.

According to the literature survey, computers do not necessarily have a positive impact on learners growing up in a digital environment. According to Vail (2001) learners prefer to use e-mail to communicate with their fellow classmates. This resulted in poor communication skills. Furthermore, learners experiencing computer anxiety have a fear of being embarrassed in front of other learners in the classroom. Research by means of participatory observations and interviews at St Alban's College during Theme Days have shown that this is not the case with the St Alban's learners. The learners did not display poor communication skills or indicated that they mainly preferred to communicate with peers via e-mail. The learners at St Alban's College are used to working with digital equipment, notebook computers at home and at the College and did not display computer anxiety. As part of the Theme Day tasks, at the end of each Theme Day, the groups presented their PowerPoint slide shows. The learners had no fear of being embarrassed when presenting their slide shows to the all the Theme Day participants in StaTech 1 when it was time for the final assessment.

Although the digital divide is a global phenomenon as indicated in the literature, the learners of St Alban's have access to a technology-intensive computer centre and cannot be categorised as the 'have-nots' but rather the 'haves'. Document analysis reveals that the College has even implemented measures to bridge this gap or divide by means of various outreach projects. The College made its facilities available to train educators from previously disadvantaged schools in the Pretoria surroundings.

Recommendations will be discussed in the following section.

5.3   RECOMMENDATIONS

Recommendations for the implementation of computer-integrated Theme Days, future research and the limitations of this study will be described in this section.

5.3.1 Recommendations for the implementation of computer-integrated Theme Days

Recommendations from the results and conclusions drawn from this investigation serve as guidelines for schools investigating the possible implementation of computer-integrated Theme Days. The main recommendations are the learning community, pedagogy and technology. The learning community refers to the school, the learners and the educators and is only applicable to the recommendations of this section. Hence, Table 5.1 presented over two pages, provides a summary of specific recommendations on the aspects that resulted from this case study on the implications of computer-integrated Theme Days for learners at St Alban's College.

Moreover, these recommendations derived from the present study, only involved computer-integrated Theme Days among a relatively small number of learners. The field is wide open for further research into the implications of computer-integrated Theme Days. Recommendations for the successful implementation of computer-integrated Theme Days are presented in Table 5.1.

Table 5.1   Recommendations for the successful implementation of a computer-integrated Theme Day

Aspect		Recommendations
Learning community	**School**	- A *school* board should conduct a feasibility study before computer-integrated Theme Days can be implemented. - Draft and design an educational technology policy for the school. - Schools can adjust the St Alban's Theme Day concept to suit their specific needs. - A school should determine what the aim of a computer-integrated Theme Day at their school would be.
	Educators	*Educators* should not be the 'sole providers of knowledge'. - The role of the educator is mainly that of a facilitator during computer-integrated Theme Days.
	Learners	- The number of *learners* per grade can influence the successful implementation of computer-integrated Theme Days. This aspect should be considered in the planning of Theme Day activities. - Learners should be exposed to cooperative learning and the concept of a computer-integrated Theme Day. Run a trial at the school to determine the impact of a computer-integrated Theme Day. - Set up a small committee of learners who can assist educators in the planning and execution of Theme Days, as the workload would be too much for a single educator to manage and coordinate. - Learners need to be assisted in the development and management of a Theme Day. - Provide learners with the opportunity to give their inputs.
Pedagogy		- The curriculum of a school should be redesigned to break down the barriers between subjects to accommodate the cross-curricular activities during a computer-integrated Theme Day. - Learning should be learner-centred and not educator-centred. - The school's timetable should be redesigned to accommodate at least two Theme Days per grade group annually. - Learners should be exposed to the concept of cooperative learning in a computer-integrated environment. - Theme Day learning activities should be fun but the educators should not neglect the educational components.

Table 5.1   (continued)

Technology	• A feasibility study should be conducted to determine whether the school's computer facilities would be able to accommodate and implement a computer-integrated Theme Day.
	• An impact study should be done to determine if a school's computer centre will be able to accommodate a learner population consisting of an entire grade group.
	• The school should budget for the maintenance of a computer centre, appointment of additional staff members specialising in the field of information technology, the upgrading and maintenance of existing equipment.

Recommendations for future research will be discussed in the following section.

5.3.2   Recommendations for future research

Computer-integrated Theme Days have been implemented with success at St Alban's College, and the implications thereof have been positive for the learners. It is therefore recommended that future research should be done into the implications of computer-integrated Theme Days in South African public and private schools. The following questions offer possible focus areas to pursue the findings from this study in future:

- To what extent is it viable to implement Theme Days in South African schools?
- To what extent are the appropriate technological resources available at public schools to influence the outcome(s) of computer-integrated Theme Days?
- To what extent will the learners cooperate during computer-integrated Theme Days?
- To what extent are educators willing to participate in the concept of computer-integrated Theme Days?

Future research should initially be restricted to a number of schools in a predefined area. For instance, research can be done at selected schools in the greater Pretoria area. If research is viable, it can be extended to a more broadly defined area, which could include a larger number of schools such as schools in the Gauteng province.

Research limitations of this study will be discussed in the following section.

5.3.3 Research limitations of this study

The researcher experienced numerous limitations during the research for this dissertation. The implications of a computer-integrated Theme Day for learners at St Alban's College as a case study cannot be compared with Theme Days at other South African schools, whether they are public or private schools. Obvious reasons contributed to the limitations. Time constrains and limited resources such as the availability of the necessary funds and absence of co-researchers, who require payment for their effort, made it impossible to conduct a nation wide research on the implications of computer-integrated Theme Days at South African schools. No statistic data and sampling were included in this dissertation. The target population utilised for this study was too small to include extensive statistical analysis.

A limitation in the available printed and electronic literature related to computer-integrated education, more in specific computer-integrated Theme Days, is that the literature and related research reflected in the literature focus mainly on events and schools in the United States of America. Previous research in South Africa that related to this topic is limited to the research conducted by the Director of Technology at St Alban's College and Lippert (1993). Furthermore, dissertations and theses in the field of computer-assisted education focus mainly on the use of computer-assisted education at tertiary institutions and not in South African secondary schools. The reason therefore might be that students who enrol for the Master's degree in Computer-Assisted Education are mainly from tertiary or training institutions and the business sector.

The methods of collecting data for this dissertation had a number of limitations. Observations of and interviews with key role players during the five Theme Days at St Alban's College were the main data collection instruments to answer and analyse the research questions for this study. The methods of data collected during that period had limitations, as some of the research questions could not be answered due

to a lack of appropriate information. E-mail correspondence with the Director of Technology at St Alban's College was utilised as an additional data collection instrument during the writing of this dissertation. These e-mails were sent to obtain supplementary information, as the data collected during the five Theme Days were insufficient to answer some of the sub research questions.

A final word on computer-integrated Theme Days will be discussed in the following section.

5.4   A FINAL WORD ON COMPUTER-INTEGRATED THEME DAYS

St Alban's College successfully managed to implement computer-integrated Theme Days. The implications of computer-integrated Theme Days were that the College managed to break down the barriers between subjects, as Theme Days provide the St Alban's learners the opportunity of an exciting and unforgettable learning experience that is closer to reality than just another 'typical' educational experience during an normal day at school. Furthermore, the learners as Theme Day participants are introduced to the concept of group work, and they are allowed to be creative, lateral thinkers and problem solvers.

A small committee of learners managed to acquire managerial skills while the College graduates who are entering the job market are equipped with the necessary cross-curricular life skills to cope in today's technologically advanced world.

Future research will determine the possibility whether research on the implications of computer-integrated Theme Days for learners in South African public and private schools is viable and whether a need therefore exists or not. These are all factors that need to be taken into consideration when assessing the implications of computer-integrated Theme Days for a school, the educators and its learners.

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Acknowledgements:

APPENDIX 1

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8 July 2002

</div>

Mr T Hamilton
Headmaster
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Dear mr Hamilton

Presently I am a master's student in Computer-Assisted Education at the University of Pretoria and I am busy writing my dissertation. The topic I have in mind for my dissertation is Computer-integrated Theme Days at St Alban's College. My supervisor is professor Johannes Cronjé a lecturer at the Department of Teaching and Training. Prof Cronjé suggested that I should contact mr Ron Beyers, which I did. Furthermore I attended two Theme Days in May and October 2001 and the Information Leadership Conference in July 2002.

I am very excited about Theme Days and the idea of research at St Alban's College but cannot carry on with my research for my dissertation without obtaining permission from you. I also need your consent to conduct interviews with certain staff members who are involved with the planning of Theme Days and the learners who participate. My research will not interfere with the timetable or at any time disrupt the classes.

In my findings and research, St Alban's College, the staff members and the learners will receive the necessary recognition.

Would you kindly consider my request favourably and let me have a written approval as soon as possible.

Yours sincerely

Marlene Viljoen

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Fax: 012 361-1917
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St. Alban's College
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HEADMASTER
Tom G. Hamilton
BSc (Ireland), HDE
    /dr

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25 July 2002
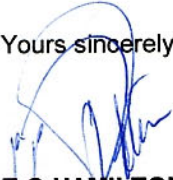
Mrs M Viljoen
P O Box 36552
MENLO PARK
0102

Dear Mrs Viljoen

Thank you for your letter dated 8 July 2002. I am delighted that you wish to conduct research here at St Alban's College, and am happy for you to approach Mr Ron Beyers in this regard. Good luck!

Kind regards

Yours sincerely

T G HAMILTON
Headmaster

"It takes a school with vision to prepare a young man for life"

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APPENDIX 2

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Marlene Viljoen

From: "Ron Beyers" <beyers@stalban.pta.school.za>
To: <marlene.viljoen@med.up.ac.za>
Sent: 12 September 2002 11:11
Subject: Re: dates

Dear Marlene

The dates for the Theme Days for this term are:-

Thursday 26 September Grade 10
Wednesday 09 October Grade 8

There is no Grade 11 TD as they need to focus on exams and no Grade 9 as they are involved in Common Task Assessments this term.

You are most welcome to join us.

Regards

Ron

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Chairperson : Gauteng Schools Network
http://www.gp.school.za

The Connected Learning Community and
Knowledge Management

APPENDIX 3

Theme Day Checklist

Well in advance	Person responsible	Date to be completed
i. Agree on a suitable topic (committee's decision) for the next Theme Day.		
ii. Confirmation of date of the Theme Day.		
iii. Confirmation of venue of the Theme Day.		
iv. Brainstorm possible activities for a Theme Day.		
v. Subdivision of the workload.		
vi. Report back from each sub group.		
vii. Consolidation of all work to be done for the Theme Day.		
viii. Special invitations sent out, e.g. to guest speakers.		
ix. Trail run on a stand alone PC with the CLC committee as pupils.		
Two days before the Theme Day	**Person responsible**	**Date to be completed**
i. Post website of Theme Day to (server) Intranet.		
ii. Purchase gifts and equipment (Keep receipts) for guest speakers.		
iii. Allocate pupils per group.		
iv. Any additional equipment needed.		
v. Trail run of Theme Day on the St Alban's network.		
The actual Theme Day	**Person responsible**	**Date to be completed**
i. Check to see that the system is working.		
ii. Set up Head Quarters (HQ) area in StaTech 1.		
iii. Set up groups per computer.		
iv. Link Intranet to Theme Day web page.		

		Person responsible	Date to be completed
v.	Introduction of the Theme Day and the guest speaker.		
vi.	Troubleshoot.		
vii.	The learners tidy of the StaTech centre up after the conclusion of the Theme Day.		

The day after the Theme Day	**Person responsible**	**Date to be completed**
i. The CLC team write thank you letters for the guest speakers.		
ii. Debriefing with CLC team leader.		
iii. Mistakes of the Theme Day must be fixed.		
iv. The tasks of the learners must be saved for later use.		