NELSON MANDELA METROPOLITAN UNIVERSITY

FACULTY OF ARTS

In fulfilment of the requirements for the completion of a degree of Doctor of Philosophy in Public Administration and Management

RESEARCH TITLE

An investigation of the attitudes of South African Police Service Management with respect to the viability of Computer-Assisted Training in the Eastern Cape Province

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DECLARATION:

In accordance with Rule G4.6.3, I hereby declare that the above-mentioned treatise/dissertation is my own work and that it has not previously been submitted for assessment to another University or for another qualification.

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ACRONYMS

A	-	Auditory
AC	-	Abstract conceptualisation
AE	-	Active experimentation
AFIS	-	Automated Fingerprint Identification System
BI	-	Business Intelligence
CAS	-	Crime Administration System
CAT	-	Computer-assisted training
CBT	-	Computer-based training
CE	-	Concrete experience
CIAC	-	Centre for the Interpretation and Analysis of Crime Information
CIR	-	Circulations System
CL	-	Classroom lecture
CMI	-	Crime Management Information System
CP	-	Crime Prevention
CRIM	-	Criminal Records System
CS	-	Case studies
CSC	-	Community Service Centre
CT	-	Computer Trainers
CTA	-	Crime Threat Analysis System
DET	-	Detective Service
DVD	-	Digital video disk
EC	-	Eastern Cape Province
EDI	-	Electronic Data Interchange System
EDT	-	Education, Development and Training
E learning	-	Electronic learning
FIN	-	Finance
FRS	-	Firearm Register System
FSL Admin	-	Forensic Science Laboratory Administration System
FT	-	Field Training
GIS	-	Geographic Information System
HRD	-	Human Resource Development

HRM	- Human Resource Management
ID	- Instructional Design
IRIS	- Incident Reporting Information System
ISD	- Instructional Systems Design
ISDD	- Instructional Systems Design & Development
ISIS	- Individuals & Structures Information System
ISM	- Information and Systems Managers
IST	- In-service EDT
IT	- Information Technology
ITC	- International Training Committee
K	- Kinaesthetic
LDP	- Leadership Development Programme
LGD	- Large group discussion
MBO	- Management by objectives
MD	- Management Development
MDS	- Mobile Data System
MIT	- Multinational Implementation Team
MMS	- Multi Media Messaging
NQF	- National Qualifications Framework
NSDS	- National Skills Development Strategy
OBA	- Outcomes-Based Approach
OD	- Organisational development
OPDOC	- Optically Stored Document Information Management
PAS	- Provision Administration System
PC	- Personal computer
PERSAL	- Personnel & Salary Administration System
	Personnel & Salary Administration Subsystem
PERSAP	- Personnel Support System for SAPS
POLFIN	- Financial Administration System
QA	- Questions and answers
RDP	- Resource and Development Programme
RO	- Reflective observation
RO	- Report out
RP	- Role play

S   - Simulation

SAP   - South African Police force

SAPS   - South African Police Service

SASSETA   - Safety and Security Sector Education and Training

                   Authority

SAT   - Systems Approach to Training

SC   - Station Commissioner

SCM   - Supply Chain Management

SGD   - Small group discussion

SMS   - Short Message System

TBVC   - Transkei, Bophuthatswana, Venda and Ciskei

V   - Visual

VCR   - Videocassette recorder

                   System

VT   - Video technique

SUMMARY

The South African Police Service (SAPS) as a constituent part of the public service was established to deliver a specific category of services to the public. These services have to conform to requirements that are prescribed by various legislative provisions to promote effective and efficient delivery of public services.

The implications of these provisions that are pursued by the study firstly, refer to the emphasis of government on the enhancement of public service delivery, with due consideration given to cost effectiveness and efficiency. Secondly, it refers to government's realisation of the important impact of education, development and training (EDT) on the competency of public service officials with an emphasis on the utilisation of information technology to enhance the effectiveness of EDT.

Consequently, the study explores the viability of the utilisation of information technology as a measure to assist EDT interventions within the SAPS of the Eastern Cape Province to equip members of the institution to better fulfil their functions and duties. In this respect the study commenced to ascertain the levels of computer literacy of role-players, access to the appropriate facilities and what the general attitude in the organisation would be towards the utilisation of such an intervention. It was found that the computer literacy levels of role-players may be perceived as a problematic issue in this regard. However, access to suitable facilities was found to be more than sufficient for this intention. Furthermore, role-players agreed that information technology could be optimally applied in the EC SAPS for the mentioned use, thereby portraying an optimistic attitude towards the use thereof to harmonise EDT in the SAPS.

The aim of the study has been to develop a model that will incorporate the use of information technology, given the strengths and weaknesses of the SAPS to enhance EDT and learning in the organisation.

CHAPTER ONE

INTRODUCTION

1. BACKGROUND TO THE STUDY

The South African Police Service (SAPS) as a constituent part of the public service was established to deliver a specific category of services to the public. These services have to conform to requirements that will satisfy the client of the organisation. The study explores the viability of the utilisation of information technology as a measure to assist the education, development and training (EDT) interventions within the SAPS to equip the members of the organisation to better fulfil their functions and duties.

The historical evolution of the Republic of South Africa has had a profound impact on the SAPS. The organisation experienced a fundamental transformation from a "force" to a "service" with a concomitant adoption of the concept of community policing. This fundamental shift in philosophical underpinning has necessitated the transformation of the vision and role of the SAPS. Furthermore, the SAPS were compelled to reorganise its divisions and functions, eventually impacting on the organisation's hierarchical and geographical re-structuring. This has had a significant influence on service accountability at police station level, as well as on the application of EDT within the organisation.

The advent of democracy in South Africa in 1994 largely affected the functioning of the public service as a whole, including the SAPS. It is therefore necessary to provide an overview of restructuring that took place post-1994 and how this impacted on the SAPS.

1.1   The public service

To accommodate the specific needs and interests of the community, the public service was developed (Meiring, 2001:98). The public service fulfils a crucial role in

securing the well-being of the people of the country through the provision of goods and services.

When the Republic of South Africa became a democracy in 1994, the government-of-the-day was confronted with an abundance of challenges inherited from the *apartheid* system of governance. The new *Constitution of the Republic of South Africa, 1993* (Act 200 of 1993) sought to bring about equality in order for all citizens of the country to exercise and enjoy their fundamental rights and freedoms. One of the fundamental rights in any society is the right to security and, in 1996, the government of South Africa adopted a constitutional *Bill of Rights* which recognised a right to security of the person combined with a "right to freedom". Section 12 of the *Constitution* defines security of the person and the right to freedom more thoroughly, including within it bodily control and reproductive control, freedom from torture and cruel and unusual punishment and a right to trial. In full, section 12 reads as follows:

12. (1) *Everyone has the right to freedom and security of the person, which includes the right*
(a) *not to be deprived of freedom arbitrarily or without just cause;*
(b) *not to be detained without trial;*
(c) *to be free from all forms of violence from either public or private sources;*
(d) *not to be tortured in any way; and*
(e) *not to be treated or punished in a cruel, inhuman or degrading way.*
(2) *Everyone has the right to bodily and psychological integrity, which includes the right*
(a) *to make decisions concerning reproduction;*
(b) *to security in and control over their body; and*
(c) *not to be subjected to medical or scientific experiments without their informed consent.*

The SAPS is the key instrument through which the government-of-the-day responds to the right to security.

1.2   The South African Police Service (SAPS)

In accordance with Chapter 11 of the *Constitution of the Republic of South Africa, 1996* (Act 108 of 1996), the principles of national security provides for the country's security services through the establishment of the SAPS as one of the new public service departments.

The SAPS was required to transform itself to optimally respond to the numerous challenges relating to promoting the safety and security of all citizens in a democratic society.

1.2.1   The historical evolution of the SAPS

According to Botha (1996:3), Chapter 3 of the *Constitution* emphasises fundamental human rights and necessitated a paradigm shift within the SAPS from a police force to a police service. This dramatic change brought about a reorientation of the police with a renewed focus on the development of the community with the purpose being to enhance the quality of life of all citizens. In this regard, Botha (1996:3) elaborates that to enable the SAPS to effectively contribute to the reconstruction and development of a new South Africa, the establishment of a service culture in the police was required through changes in the behaviour and attitudes of the members of the SAPS as well as the community. To achieve this, it was necessary to replace the stringent military culture that existed within the organisation with a spirit of unity. This resulted in the emergence of community policing.

Section 219 (1) (b) of the *Constitution* provides for the development of community policing, while Section 221 (1) continues to prescribe the implementation of community policing forums with respect to police stations. According to Reynecke (1996b:13) this did not change the legitimacy of the police but rather pressurised the SAPS into becoming more acceptable to all citizens of the country. In so doing, the *Constitution* provide for a modern association between the police, the community and the government-of-the-day.

With respect to this initiative, it was emphasised that the *"interaction between police and Government was not merely a morale booster but actually an active act in the recognition of a police as respectful members of a changing South Africa"* (SAPS, 2009a). This in turn, moved the impetus to policing in collaboration with departments like justice and correctional services and, it can be argued, the capacity of the SAPS to deal with criminal issues was thereby enhanced.

The shift in emphasis to a police service and the incorporation of community policing as a core element of the government's response to the citizen's right to security impacted quite significantly on the vision and fundamental role of the SAPS. Accordingly, the task, purpose and functions of the new SAPS as a public service department was defined in terms of creating a safe and secure environment for all the people of South Africa. In pursuit of this vision, the fundamental role of the new SAPS was clearly defined by Section 205 (3) of the *Constitution* in terms of the Objects of Policing which are to: prevent, combat and investigate crime; maintain public order; protect and secure the inhabitants of the Republic and their property; and uphold and enforce the law.

According to Botha (1996:3) the "old" police organisation was not built to cope with the new requirements vested in the SAPS. For one, the organisation had a propensity to be overloaded with a cluster of personnel at Head Office. In turn, this proved to be problematic for police members on "ground level" to exercise professional discretion in decision-making to resolve problems. A more decentralised organisational structure was therefore required to facilitate the delegation of authority to operational levels. This led to the rearrangement of the SAPS to enable the organisation to respond more effectively to its constitutional mandate.

1.2.2   The reorganisation of the SAPS post-1994

In terms of Service Regulation 19 of the *South African Police Service Act, 1995* (Act 68 of 1995), the SAPS was restructured into five broad occupational categories or divisions. The purpose of each of these divisions will be briefly outlined below.

- *The divisions of the SAPS*

The SAPS comprises five divisions. Firstly, the *administration* division provides for the development of SAPS policy, as well as management and administrative support. Secondly, the *visible policing* division promotes the preservation of safety and security at police station level and provides for specialised interventions and the policing of South African borders. Thirdly, the *detective services* division enables the investigative work of the SAPS, including support to investigators in terms of forensic evidence and the Criminal Record Centre. Fourthly, the *crime intelligence* division provides for the management of crime intelligence and the analysis of crime information, and provides for technical support for crime prevention operations and investigations. Fifthly, the *protection and security services* division renders a protection and security service to all identified dignitaries and government interests (SAPS, 2009b).

In line with Regulation 2 and Chapter 5 of the *South African Police Service Act, 1995* (Act 68 of 1995), the abovementioned divisions of the SAPS were departmentalised in accordance with the following functions, namely:

- Supply chain management, protection, security and evaluation services;
- Operational services;
- Crime intelligence and crime detection;
- Personnel, management and organisational development; and
- Human capital development and legal and financial administration.

Section 205 (1) of the *Constitution* furthermore stipulates that the national police service needed to be structured so as to ensure that police services are provided throughout the national territory. This requirement impacted on the hierarchical and geographical re-structuring of the organisation in various ways.

- *Hierarchical re-structuring of the SAPS*

For hierarchical purposes, the National Commissioner structured the SAPS with due consideration of Regulation 2 of the *SAPS Act* into four managerial levels namely,

national, provincial, area (changed to cluster) and station levels. According to Fivaz (1996:4), this stipulation required that the SAPS head office (national level) develops policies, sets standards and provides for a common focus. On the other hand, at provincial level, the SAPS is responsible for operational implementation, execution, institutionalised quality service delivery, and a community focus.

The SAPS has a national component with a National Commissioner, a Chief Executive Officer and four Deputy National Commissioners supported by the Divisional Commissioners. At provincial level, the national divisions each have head representatives who are overseen by a Provincial Commissioner. The National Commissioner, his Deputies, the Divisional Commissioners, and the nine Provincial Commissioners are generally referred to as the management forum of the SAPS (SAPS, 2009b).

In addition, another initiative built into the organisation to bring it closer to the community was that of civilian control. Van Beek (2003:108) elaborates that civilian control over the SAPS is provided for in Section 208 of the *Constitution* and manifests itself in the form of the Secretary for Safety and Security. The Secretary functions under the Minister of Safety and Security (at national level) and forms one of the three structural legs of the Ministry, with the National Commissioner and Chief Executive Officer constituting the other two. They scrutinise the actions of the SAPS and also control the Independent Complaints Commission, which investigates police action. These structures are replicated at provincial level under the auspices of the Member of the Executive Council (MEC) or provincial *'minister'* for Safety and Security.

- *Geographical structuring of the SAPS*

According to Reynecke (1997:3) the Republic of South Africa was previously divided into what may be referred to as "homelands". This comprised the Transkei, Bophuthatswana, Venda and Ciskei (TBVC) States, the Self-Governing Territories (Gazankulu, Kwandebele, Lebowa, Kwazulu and Qwa-Qwa), and the South African Police (SAP). Each homeland had its own policing agency, which brought the total number in the country to 11 of these agencies. Each agency had different uniforms,

rank structures and conditions of service and was established in terms of different pieces of legislation.

With the adoption of the interim Constitution in 1994, the "homelands" and old development regions were abolished and integrated into a united South Africa with nine provinces. The new Constitution promulgated a single National Police Service for South Africa under the executive command and control of a National Commissioner who is appointed by the President.

On 29 January 1995, the President appointed the first National Commissioner of the new SAPS, namely Commissioner George Fivaz. He had the responsibility to first and foremost amalgamate the 11 policing agencies into a single, united South African Police Service and secondly to align the new police service to new legislation and the process of transformation in South Africa.

For geographical purposes, the SAPS was arranged into nine provinces namely, Gauteng, Mpumalanga, North West, Limpopo, Kwazulu-Natal, Free State, Northern Cape, Eastern Cape Province and the Western Cape Provinces.

The focus of this study comprises SAPS in the province of the Eastern Cape Province.

1.2.3   SAPS in the Eastern Cape Province

The Republic of South Africa covers a land surface of 1 219 090 square kilometres. Of this, the Eastern Cape Province Province comprises an area of 169 580 square kilometres or 14 per cent of the total area of South Africa (SAPS, 2009c). The total population of the country comprises 47 849 800 citizens with seven million residing in the Eastern Cape Province. This figure constitutes 15 per cent of the population figure of the country (SAPS, 2009c).

To cater for the policing needs of the Eastern Cape Province, the province is divided into 191 SAPS station jurisdictions. The SAPS stations are in total resourced with 16

586 sworn officers and 4135 civilian officials. Accordingly, the ratio for the Eastern Cape Province is 1:420 (1 police official for every 420 citizens) (SAPS, 2009c).

The divisions and functions of the SAPS that have been developed at national level are replicated at provincial, area and station levels. However, it is at station level that the core business of the SAPS occurs. In this respect, a clear distinction can be made at this level between the operational and the support divisions. Table 1 depicts the components of the operational and support divisions of the SAPS at station level.

Table 1: Operational and support divisions in the SAPS

	COMPONENT	**PURPOSE OF THE POST**
OPERATIONAL DIVISION	**Crime Prevention (CP)**	To provide a crime prevention and crime combating service to the community.
	Community Service Centre (CSC)	To render an effective and efficient policing and administrative service to the community.
	Detective Service (DET)	To render a quality crime investigation service to the community.
SUPPORT DIVISION	**Finance (FIN)**	To administer and maintain all the financial functions of the station.
	Human Resource Management (HRM)	To maintain all the human resources and physical resource functions of the station.
	Supply Chain Management (SCM)	To maintain all the supply chain services of the station.

The operational division is responsible for the execution of the actual activities in pursuit of the Objects of Policing outlined above. The operational division includes components like Crime Prevention (CP), Community Service Centre (CSC), and Detective Service (DET).

The support division is responsible for providing those services and functions required by the operational components to perform their operational activities in the

most effective and efficient manner. The support division includes components like Finance (FIN); Human Resource Management (HRM) and Supply Chain Management (SCM).

To enable SAPS members to deliver the services rendered by these divisions requires the building of capacity. In turn, this facet cannot be detached from the aspects of education, development and training (EDT). The SAPS allocated this function to the HRM department. This applies to the organisation at national, provincial, cluster, and station level.

2.   STATEMENT OF THE PROBLEM AND RESEARCH QUESTIONS

EDT aimed to ensure that employees are continuously and adequately empowered with the necessary knowledge, skills and attitudes to effectively perform their designated functions and duties, whether these are of an operational or support nature. Subsequently, the practicality of the utilisation of information technology to assist in providing EDT more cost-effectively and to promote learning, are increasingly focused upon in the public sector and beyond.

This study examines the viability of using information technology to enhance the processes of EDT and learning in the Eastern Cape Province SAPS with the primary objective to develop a model in this respect. Subsequently, the study aimed to address the following research questions:

- Are the computer literacy levels of Eastern Cape Province (EC) SAPS management officials sufficiently advanced to use CAT for EDT purposes?
- Do EC SAPS management officials have access to adequate technological infrastructure to promote the sustainable use of CAT?
- What are the attitudes and perceptions of EC SAPS management officials with respect to the use of CAT for EDT purposes?
- Will these attitudes and perceptions impact positively or negatively on the implementation of CAT as an EDT strategy in the EC SAPS?
- Which EDT categories will benefit most from the application of CAT techniques in the EC SAPS?

The significance of addressing these research questions is highlighted in the next section.

3. SIGNIFICANCE OF THE STUDY

The significance of the study can to a large extent be related back to the promulgation and implementation of various legislative provisions to promote effective and efficient delivery of public services. The implications of these provisions with respect to the significance of the study firstly, refer to the emphasis of government on the enhancement of public service delivery, with due consideration given to cost effectiveness and efficiency. Secondly, it refers to government's realisation of the important impact of EDT on the competency of public service officials with an emphasis on the utilisation of information technology to enhance the effectiveness of EDT.

3.1 The emphasis on the enhancement of service delivery

The *Batho Pele White Paper on the Transformation of the Public Service* (Notice 1227 of 1995) was developed to improve the delivery of public services to the community. In addition, the *White Paper* directly relates high-quality service delivery to the aspect of "value for money". With the inception of legislation like the *Public Finance Management Act* (PFMA), 1999 (Act 1 of 1999), substantial emphasis has been placed on the effective and efficient utilisation and expenditure of government monies. In the interests of achieving the broad goals of improved public service delivery and better value for money, the role of EDT in equipping public servants with the required knowledge, skills and attitudes becomes crucial.

3.2 The impact of EDT on public service delivery

The *White Paper* recognises the prominence of EDT as a mechanism to enable public servants to understand and appropriately practice the principles associated with people-centred public service delivery. In addition, one of many challenges the public service is faced with is the dilemma of enhancing the effectiveness, efficiency

and sustainability of the EDT system to meet new requirements, at a time of reduction in public spending.

The *Constitution* guarantees the right of every person to be developed to the fullest of their individual capacity. The *Employment Equity Act,* 1998 (Act 55 of 1998) stipulates that access to suitable opportunities must be available to all employees to support their particular EDT needs and the process should be transparent, valid and fair. The *Skills Development Act,* 1998 (Act 97 of 1998) seeks to develop the skills of the South African workforce, thereby increasing the quality of working life for employees, improving productivity in the workplace, and promoting self-employment and the delivery of social services.

The establishment of the *South African Qualifications Authority (SAQA) Act*, 1995 (Act 58 of 1995) also underlines government's commitment to EDT. To further enhance the effectiveness and efficiency of the EDT system, SAQA developed mechanisms like the National Qualifications Framework (NQF) and the Safety and Security Sector Education and Training Authority (SASSETA). The NQF makes provision for national standards and qualifications, agreed to by training stakeholders throughout the country. A personal interview with Botha (2009) revealed that SAQA and the NQF signalled an era of outcomes-based EDT for the SAPS. Murray (1998:19) elaborates that outcomes-based EDT with respect to the SAPS has not been very different from the model also described as "Training for Activity". Both of these approaches focused on evaluating EDT on the basis of what is visible as opposed to what is invisible. Olivier (2001:1) is of the opinion that outcomes-based learning concentrates on the end results of learning and not the "input" of learning. It is achieved by obtaining, mastering and employing contextual knowledge, skills, values and procedural steps in order for the learner to do the work properly. According to Scheepers (2008:74) outcomes-based EDT was developed as a remedy for the failure of EDT in the SAPS to contribute to improving the functioning of police officers in the field. However, Williams (2001:82-85) asserts that it is unrealistic to expect from police officers to be able to do the work properly after attending a single training course.

According to Murray (1998:19), the outcomes-based approach implies that all EDT needs to occur against unit and/or organisational standards. Each trainee is subsequently assessed against these standards to determine competence. Unit standards that are nationally agreed to and comparable statements, supported by specific criteria, constitute a qualification. Qualifications are thus made up of unit standards which are clustered in a systematic and coherent way. Registered unit standards are structured in such a way that learners, upon successful completion of accredited prerequisites, are able to achieve a relevant qualification. The achievement of such a qualification would imply that the learners' abilities conform to these predetermined unit standards.

The NQF and predetermined unit standards not only support the notion of *Batho Pele,* but imply that the beneficiaries of training are competent to effectively and efficiently perform a specific function. In addition, a personal interview with Botha (2009) verified that SASSETA is committed to contributing meaningfully towards government's *National Skills Development Strategy* (NSDS) by developing a culture of high-quality lifelong learning and fostering, stimulating, supporting and promoting the development of relevant skills.

The *SAPS Strategic Plan (2005-2010)* resulted in the alignment of all strategic and operational planning with the Objects of Policing stipulated in the *Constitution*. This constitutes the Core Objectives of the SAPS and informs the development of the Workplace Skills Plan which, in turn, plays a vital role with regard to the identification of service delivery gaps or deficiencies that can be remedied through the application of appropriate EDT interventions (SAPS, 2009b).

3.3   Role of information technology in enhancing the effectiveness of EDT

The emphasis of government on the importance of EDT as a means of improving service delivery necessitates careful consideration of mechanisms that will enhance the effectiveness of the EDT system. One alternative is not to view the system in isolation but against the backdrop of the environmental trends that are in the process of transforming the world of work globally. In this regard, Rauschkolb (2005:36)

proposes the utilisation and integration of technology in this technological era to enhance EDT interventions.

Unprecedented technological advances are presenting themselves as an opportunity that can either be exploited or disregarded in the public service. The aim of this study is to contribute to a better understanding of how the SAPS in the Eastern Cape Province can maximise the opportunities relating to the implementation and utilisation of information technology for the purposes of EDT.

In pursuing the objectives of the study, various limitations were experienced by the researcher and these will be described with a particular emphasis on interventions that were put in place in an attempt to address these limitations.

4. LIMITATIONS OF THE STUDY

The limitations of this study include the following: time frame; the availability of appropriate role-players; restructuring in the SAPS; and current relevance of the results.

4.1   Time frame

The study commenced in 2005 and the data collection took place within that year which implies that the results have been in existence for five years. As a result, the validity and relevance of the information obtained through the questionnaire survey in 2005 needed to be reviewed. To address this issue,interviews were conducted in 2009 and 2010 with role-players that were regarded as prominent figures with respect to the fields of concern in the study. Subsequently, this information was compared to that collected during 2005 and any contradictions have been pointed out and dealt with accordingly.

A factor that contributed to the prolonged time frame of the study is the researcher's permanent employment as a commissioned officer in the SAPS. The job entails the frequent extension of normal hours of work and the unplanned working of irregular hours for special operations that arise on the basis of special events. Numerous

deployment duties in other policing areas and the attendance of workshops and intensive training courses also limited the researcher's time to devote to the study. These issues rendered the compilation of an accurate annual work plan for a particular academic year almost impossible.

4.2   The availability of appropriate role-players

The researcher anticipated a problem with respect to the availability of the appropriate representatives upon arrival at a particular provincial cluster or SAPS station venue to conduct the survey. As a preventative measure, the dates and times anticipated for the visits to the relevant SAPS structures were collated in a schedule. The schedule was used to arrange and confirm appointments with role-players well in advance of a particular visit.

In spite of these precautionary measures, the researcher experienced difficulties at station level with the availability of appropriate representatives during the execution of the pilot study in the Port Elizabeth area. This limitation was overcome by telephonically reminding Station Commissioners, of SAPS stations to be visited, and of the need to avail role-players in accordance with the schedule sent in advance. This was done a day or two before the actual visit to a selected station.

4.3   Restructuring of the SAPS

The SAPS has over the past ten years undergone six phases of transformation. The majority of the restructuring phases affected all the members of the SAPS while some of the phases only impacted on the management of the EC SAPS. However, in all instances these processes entailed the physical relocation of members from one place of work to another.

As a result of the restructuring in the organisation, the researcher was relocated three times and rotated between five different jobs during the timeframe of this study. During 1997, the researcher was moved from the Provincial Centre for the Interpretation and Analysis of Crime Information (CIAC) to Chief Work Study Officer at Area Port Elizabeth Management Services. From there, he was transferred in

2003 to Human Resource Management at the Kwazakhele SAPS station. In 2008, the researcher was reassigned to the Crime Prevention Unit at the said station. He is currently employed as a Relief Commander at the Community Service Centre of Kwazakhele SAPS. Although this has been disruptive in respect of the completion of the study, it has provided the researcher with excellent experience and insights into different aspects of training and development in the EC SAPS.

4.4 Current relevance of results

For the majority of police officials the restructuring of the SAPS, implied not only a change of work location but also a change to a new working post. In turn, this implied the need for training as well as time to be familiarised in the new field of work.

For the past ten years, the SAPS have been focused on restructuring to respond to the requirements of legislation and to improve service delivery. This has resulted in training and development not being regarded as a priority, although EDT has not been entirely neglected. This has also meant that no exceptional advances have been made with respect to enhancing the EDT system in the SAPS since 2005 when the survey was initially administered.

These aspects contribute towards the current value and relevance of the results in respect of the development of a model for CAT in the SAPS. The researcher is therefore of the view that the results of the study are still relevant with respect to the EC SAPS. This was confirmed through the follow-up interviews conducted during 2009 and 2010 with key EC SAPS management officials, as will be revealed in the chapter devoted to discussing the research findings.

5. STUDY PLAN

Chapter One serves to introduce the study to the reader. This chapter commences with an exposition of the background to the study to pave the way for the statement of the problem and the supporting research questions. In turn, this highlights the significance of the study. Both the problem statement and the significance of the study indicate the need for a focus on the investigation of the use of information

technology to enhance EDT and learning in the SAPS with specific reference to the Eastern Cape Province. Chapter One furthermore provides an overview of the obstacles experienced during the execution of the study as well as measures taken to mitigate these limitations. Lastly, the study plan provides a concise exposition of the study as a whole.

Chapters Two, Three and Four provide an exposition of the literature relevant to the study. **Chapter Two** focuses generally on an exposition of the current EDT system of the SAPS with specific reference to the Eastern Cape Province. **Chapter Three** provides an analysis of learning as it pertains to EDT interventions in the EC SAPS, while **Chapter Four** focuses on the potential contribution of CAT to improved learning. **Chapter Five** provides an overview of technological models used for EDT that, for the purposes of this study, will be integrated into a model for computer-assisted training in the EC SAPS.

Chapter Six serves to describe and explain the research methods and procedures applied in the study. This entails a detailed analysis of the methodological approach, sampling techniques, and data collection and analysis methods that were applied to address the various research questions.

Chapter Seven discusses the research findings of the study while **Chapter Eight** provides a framework that comprises analytical categories or thematic areas with the aim of integrating the research questions, study objectives, and literature review into a conceptual framework or model for applying CAT for the purposes of EDT in the EC SAPS.

Chapter Nine provides a synopsis of conclusions and recommendations that can be drawn from the discussion of the research findings. Recommendations will be made regarding how best to improve education, development, training, and learning with the aid of technology in the EC SAPS.

The next chapter will analyse the literature pertaining to education, development and training with a view to establishing the current status thereof in the SAPS.

CHAPTER TWO: A GENERAL PERSPECTIVE OF THE EDUCATION, DEVELOPMENT AND TRAINING (EDT) SYSTEM IN THE SOUTH AFRICAN POLICE SERVICE (SAPS)

1. INTRODUCTION

Definitions of education, development and training (EDT) are countless and as many as the theories and the scientists that have analysed its problems and proposed solutions. In addition, these definitions are influenced at any particular point in time by aspects such as the environment, new technologies and motives for training.

In pursuance of the objectives of this study, this chapter will provide an overview of the literature relevant to EDT in the SAPS. The aim of this chapter will be to outline the status of EDT in the SAPS in order to serve as a theoretical foundation for the discussion of the research findings emanating from this study. Such a theoretical framework is necessary since the research will focus on the attitudes of EC SAPS management officials with respect to the effectiveness and efficiency of the current EDT system and the mechanisms that are frequently used by the SAPS for this purpose. In addition, the research findings will also focus on the attitudes of these members with regard to the potential of CAT to enhance the EDT system of the SAPS.

This implies that agreement with respect to the conceptualisation of education, development and training is required. As a point of departure views from different authors will be compared to obtain a clear understanding of the aspects of EDT particularly as it applies to the SAPS.

2. CONCEPTUALISING EDUCATION, DEVELOPMENT AND TRAINING (EDT) IN THE SAPS

Engelbrecht and Engelbrecht (1996:3) are of the opinion that, although a definite distinction exists between the terms education, development and training, these concepts are all of cardinal importance and cannot be utilised in isolation. Nel, Gerber, Van Dyk, Haasbroek, Schultz, Sono and Werner (2001:467) view education

as those activities directed at providing the knowledge, skills, moral values, and understanding required in the normal course of life. Education focuses on a wide range of activities rather than on providing specific knowledge and skills for a limited field or activity. It may include the development of sound reasoning processes to enhance one's ability to understand and interpret knowledge. From a policing perspective, Engelbrecht *et al* (2006:13) elaborate that education may be viewed as a process with the prime purpose of imparting knowledge and developing the way mental faculties are used to provide a general foundation that prepares the individual for life.

Evans (2003:115) defines development as involving self-motivation and people thinking for themselves. It is aimed at addressing long-term needs and more likely involves the development of employees' generic human capital. This implies that development is aimed at expanding skills and knowledge to enhance the employee's productivity, irrespective of where he or she is employed. Engelbrecht *et al* (1996:13) write that development is concerned with preparing the employee so they can *"move with the organisation as it develops, changes and grows"*. Therefore, development is associated with all learning experiences where growth occurs and it includes an enhanced ability to think, behave and perform.

Training, in turn can be regarded as more focused and aimed more at enhancing specific skills and knowledge that apply to current, identified learning requirements within the job situation. Tracey (2004:677) broadly defines training as formal or informal, group or individual, instructor-facilitated or media-delivered, short-term learning experiences. These are designed to impart or improve the skills and knowledge of employees to ultimately positively impact on their job performance.

Buckley and Caple (1990:14-15) provide the following comprehensive description of education, development and training:

> *"Accordingly, education is an intermediate-term, person-orientated, more*
> *organic activity of a general and less predictable effect. Development is*
> *perceived as a long-term, general and unpredictable activity aimed at*
> *individual development. Training on the other hand, is a short-term, job*

orientated activity emphasising compliance with specific uniform standards."

2.1 The interrelationship between education, development and training

Engelbrecht *et al* (1996:13) write that education, development and training form a continuum with respect to the SAPS, where each area refers to a specific kind of individual change effort and different time-frames. They are however interlinked and interdependent and many "educational" courses include elements of training; some training courses have significant educational components, and all these processes contribute to the developing and nurturing the potential within employees. For any organisation to be fully effective in achieving its objectives there must be a commitment to establish good practice in the development of the entire workforce. If growth is to transpire on an individual as well as an organisational level, the full integration of education, development and training should take place in the organisation.

Education, development and training comprise certain attributes. Analysing these features is of importance to obtain clarity with respect to the nature and extent of these concepts.

2.2 Defining the attributes of EDT

Related aspects that may also be regarded as prerequisites of EDT include competence, ability, knowledge, skills, behaviour and attitude. Stone (2004:47) views *competence* as improving the know-how in respect of the performance of current skills, to create the capacity to do something new or to do it better. *Ability* is seen by Dessler (2005:271) as comprising trainee needs, the required reading, writing and mathematical skills as well as the required educational level, intelligence and knowledge base. Kreitner (2005:254) emphasises the acquisition of new *knowledge* as the crux of the training exercise. Knowledge is seen by Yates and Sander (2004:10) as facts, concepts, principles, meanings, understandings and ideas. These support the skills that enable one to handle a broad range of assignments that form part of a job.

A *skill* is learned as a result of obtaining new knowledge. A skill is defined by Stone (2004:47) as learned mental or motor behaviour that requires some degree of facility in the performance of all or part of a complex task. In addition, skills are divided into different categories. Robbins (2005:251) defines technical skills as referring to the know-how to do the job. Problem-solving skills refer to people's ability to solve problems. This includes activities like sharpening the logical, reasoning and problem-defining skills and the ability to develop and analyse alternatives and select solutions. *Behaviour* is defined by Kreitner (2005:254) as what a person says or does. It should be audible or observable and reportable. Behaviour excludes motive, value, personality or thoughts. Although behaviour is an integral part of performance, it is not the performance itself. The first element of a behavioural objective relates to exactly what learners must be able to do, things that can be seen and measured. Lastly, *attitude* is seen by Smit and Cronje (2002:308) as a permanent and general evaluation of people, objects or events by other persons.

Evidently, the aspects of education, development and training should be jointly utilised to achieve optimal EDT results in the SAPS. Furthermore, considering the associated attributes of EDT and including the requirements of pedagogics will contribute further to ensuring the effectiveness and efficiency of such a venture.

The transformation of the SAPS as a result of the new dispensation had a significant impact on the EDT system of the organisation. Subsequently, an exposition will be provided with respect to the reform of the EDT process in the organisation since the inception of the democratic government in 1992. This overview will serve to comprehensively identify appropriate EDT aspects of importance to the study.

3. AN INSIGHT INTO THE PROGRESS OF THE SAPS EDT SYSTEM IN THE NEW DISPENSATION

Fivaz (1996:18) writes that the SAPS made use of various strategic transformation themes to achieve a coalition between EDT and the requirements of the new dispensation. Of these, two were the following. Firstly there was a need to transform the SAPS into a *professional* and *effective* organisation as far as service delivery was concerned. The second was a transformation theme to develop a *person-*

centred human resource management system. In the pursuit of these objectives, amendments of various aspects of the EDT system of the SAPS were put into practice. As a result, two facets that were largely modified were the aspects of basic training and management development.

In 1992, Rauch (1992:1) conducted an independent study that focused mainly on the issue of basic training in the organisation. Reynecke (1996:1) performed a follow-up report to ascertain whether any attention was paid to the critical issues identified in the Rauch study (1992). With regards to management development, a report was compiled by the Dutch Institute of Management Development and Training. These reports will be scrutinised to obtain clarity with respect to the current status of EDT in the SAPS (Rauch.

3.1 The Rauch study on basic training in the South African Police force (SAP)

Rauch's study (1992) was inspired by a concern with regard to the levels of service delivery and the urgent need for the improvement of the relationship between the South African Police force (SAP) and the community. The study identified the following aspects namely, the format of basic training, the nature of the police colleges, the organisation and culture of the SAP, training provision in the organisation and the structure and content of provided courses as the most problematic issues.

3.1.1 The format of basic training

According to Rauch (1992:7) basic training in the SAP consisted of a twenty-two week (six months) course. During this time students were accommodated at the college, subjected to time tabling of all activities and were rarely permitted to leave the college or receive visitors. During his follow-up investigation, Reynecke (1996a:6) found that students were thereafter still accommodated in the colleges but granted leave every weekend, although they were still not permitted to leave the premises during the week.

Rauch (1992:8) writes that basic training was seen as a discrete experience, which was separate from experience of police duties. Subsequently, in collaboration with a University of East Anglia (UEA) Report (1987), Rauch (1992:8) writes that the nature of basic training provision in the SAP was comparable to that of providing students with a basic survival kit or the minimum tools necessary to do the job.

Furthermore, upon completion of the basic training phase, constables had the option to commence with one of two programmes of correspondence study (distance learning) as a route to promotion. These programmes were known as either the Technikon RSA Diploma in Police Administration or the UNISA degree in Police Science. In addition, these academic qualifications had to be complemented by years of service and the appropriate in-service training courses in order to qualify the member for promotion.

According to Rauch (1992:8), many of the in-service training interventions took the form of lectures by more experienced officers and written tests. Outside expertise was utilised in very few of the SAP's training courses.

3.1.2   Police colleges, organisation and culture

According to Rauch (1992:14) police colleges were supposed to be crucial socialising agents for newcomers to the force, and a central vehicle for the reproduction of the informal police culture. For this reason, the culture of the colleges is as important to the process of training as is the course content. Rauch's initial impression of the police colleges portrayed that of military institutions (1992:16) due to the extent to which military codes of behaviour pervaded all levels of interpersonal interaction.

Rauch (1992:14) was of the opinion that, because college instructors were all members of the SAP, this largely contributed to the culture of these training institutions. This was predominantly done through the "telling of stories" which also formed the basis for most educational processes. Instructors used tales of their actions to reinforce their authority within the training environment. These stories

often included references to "terrorists", to the use of firearms and tended to belittle women.

In his follow-up investigation, Reynecke (1996a:6) found that police college managers were appointed after a selection process based on merit instead of seniority and this principle also applied to the appointment of training staff. Furthermore, although Reynecke (1996a:6) found that the paramilitary style of training was making way for adult education, he felt that trainers still needed proper training regarding training methods that embrace the principles of student centred adult learning.

3.1.3 Training provision / instruction

Rauch (1992:16) found that training was entirely provided by members of the police force. Traditionally, potential instructors were selected from the passing-out class of police trainees, and then given a short course in teaching methods before their introduction to the training situation. The result of this practice was that instructors were extremely young and many had no police experience outside of the college. Consequently, colleges were not staffed with people with the most appropriate training skills. Furthermore, the lack of meaningful input from outside advisors resulted in police training forming a "closed system". Those managing the training process were, because of the "rank based" personnel structure in the SAP, largely amateurs with regard to educational methodology.

Rauch (1992:16) writes that the student-teacher ratio was ostensibly fixed in all the colleges due to the size of the platoons and was always approximately 1:36. In some colleges, one instructor would teach two or more courses and in others, each course would be taught by a different instructor. Such variations fragmented the relationship between students and instructors and discouraged uniformity and co-ordination between different subjects.

The nature of relationships between staff and students differed within and between colleges. Rauch (1992:16) felt that this was influenced by the culture of the college and determined by the character and style of the individual instructor. Some

instructors were concerned about the support and counselling of trainees. However, this "caring" philosophy co-existed uncomfortably with the dominant emphasis on military discipline.

The UEA Report (1987) expressed the opinion that the role of formal police authority within the training environment was problematic. What and how a probationer learnt, or at least, should learn, was prescribed. The instructor became both authority and in authority: the authority vested in rank became inextricably linked with the authority accorded to different kinds and sources of knowledge.

Rauch (1992:17) found that learning was perceived as something that was conducted by the individual student, in silence, after classes, due to the particular view of instruction and learning. This was reflected in the compulsory "study time" component of the college timetable, whereby students were required to devote themselves to this type of "learning".

Rauch (1992:17) found that some of the manuals were characteristic of the "systems approach" to learning which specified pre-determined learning objectives. The problem with this approach was that it was a part of the dominant theoretical style of teaching, with students rarely being afforded the opportunity to discuss the issues involved or to conjecture about possible problems. This tended to discourage creative and applied learning.

Rauch (1992:17) found that instruction nearly always took the form of a traditional lecture, with the emphasis on repetition and rote learning. Students' questioning and discussion was notably limited. The general lack of emphasis on acquisition of skills was reflected in the fact that there was no "study skills" component to the course materials. Students were not told what type of learning was appropriate, nor were they given the opportunity to develop useful learning skills.

Rauch (1992:18) further revealed that assessments generally took the form of written tests where students were required to supply brief answers, which would have been correct if they reflected what was contained in the manuals and lecture notes. Tests in most subjects were conducted regularly and culminated in an examination at the

end of the training course. The skill which was assessed was the ability to retain, and regurgitate on demand, large quantities of detail. This style of assessment did not lend itself to assessment of crucial decision-making and interpersonal skills since the training environment emphasised rote-learning and the following of orders.

According to Rauch (1992:18), training was not based on a systematic assessment of the skills and characteristics which the police organisation required. It was therefore questionable whether training really prepared recruits for what they would have to deal with at the stations. Many recruits have spent time at stations and have acquired knowledge and skills which were not developed or assessed in colleges. Their experiences at the station also predisposed them to believing that the training they had received was neither useful nor realistic since it was too far removed from the reality within which they were functioning. Rauch (1992:18) proposed that a new training syllabus should involve a more "reflective" approach to learning and that the emphasis should shift to service rendering based on the needs of the community.

In his later study, Reynecke (1996a:7) found that the ratio of 1:36 had declined to a more favourable ratio of 1:25 to be more suited for adult learning. The "chalk and talk" lecture method had made way for all methods of teaching as the situation required. Furthermore, class participation was more prevalent and students had the opportunity to develop and practice learning. Students were now also allowed to question lecturers and did not need to simply accept what they were taught. In addition, assessment was not just test related any more, but also made use of role-plays and means of testing practical skills, understanding and attitude. This promoted the improvement of decision-making and interpersonal skills. Assessment was now also based on development. Debriefing (feedback and reflection) was used as a method to assist the students to learn through experience.

Reynecke (1996a:8) writes with regard to training/instruction that field training has now paved the way for the transformation from a "force" to a "service" through community policing. The move away from militarism to adult learning should be continued.

3.1.4 Course structure and content

Rauch (1992:19) found that the most significant focus of initial training was aimed at instruction in law and the syllabus was problematic in that it was not conceived of or developed in a holistic fashion. The result was that important issues in police work were taught in a way that was far from standardised. The form in which the syllabus and course materials were presented was archaic and unattractive to both instructor and learner. Curriculum development was done primarily by members of staff of the college who were not experts in the production of educational materials.

According to Rauch (1992:20) a major problem with the curriculum was that it was highly theoretical, with very little practical application. Even in social skills, the content was largely directed at the acquisition of information rather than demonstrating desirable behaviours. The training process was concerned with shaping the recruits to fit in with the prevailing police culture, rather than equipping them with the necessary skills to do the job. The academic component of the training was too broad and general to be immediately useful to the student constable. Reynecke (1996a:7) found that, although the curriculum had drastically changed by the time he conducted the follow-up study, it was still not holistic enough.

In summary, Rauch (1992:22) made the following additional recommendations with respect to the improvement of EDT in the SAPS that provided a useful basis for improvement:

- An appropriate training policy should move away from the racial and military style of training towards a new emphasis on skills.
- A culture of learning and training needed to be developed to ensure that training is regarded as a continuous process. The environment at station level should facilitate the learning process further to ensure proper on-the-job training.
- The training methodology should be more practical with greater use of case studies and syndicate work to learn the principles of policing within the context of real policing problems.
- The training capacity should be expanded and decentralised to allow for regional flexibility and creativity within the training centres.

- The new system should not only be college-based, but should be interspersed with periods of formal training at stations. A system of mentor or tutor-officers would facilitate in-service training and evaluation.

- Trainers should also be motivated to enrich themselves as trainers through continuous study, courses and research.

- It is proposed that students are exposed to guest speakers from the community to share their perspectives on policing in collaboration with the community. Furthermore, regular input from and contact with the outside world is vital if training is to contribute to the development of a politically appropriate and community-sensitive policing style.

- Assessments should be referenced to standards of successful performance rather than normative criteria such as grades and percentiles.

- Curriculum development should be done through an established research unit for all colleges. Designers should be experts in the production of educational materials.

- Themes need to be developed to ensure a holistic approach to policing and coordination of all current subjects.

Following Rauch's independent research on basic training, the Police Board appointed the International Training Committee in 1993 to evaluate all aspects of EDT in the SAPS.

3.1.5 The appointment of the International Training Committee (ITC)

The International Training Committee was given the task of evaluating all aspects of EDT in the SAPS in order to improve the standard of EDT to a level that would build trust, respect and accountability. The committee's function was to look at organisational as well as structural issues related to EDT. Included in this function, was the concept that EDT also had to comply with civilian oversight and political direction that was initiated at ministerial level. The report of the ITC was published under the title *Training in the South African Police Service.*

According to Reynecke (1997:3) the Rauch study and the ITC's report was followed by changes that came about in the philosophy and methodology that led to the compilation of new curricula for basic police training. Reynecke (1997:3) writes that the Multinational Implementation Team was appointed by the government to oversee the implementation of the pilot programme for basic training.

3.1.6   The appointment of the Multinational Implementation Team (MIT)

Van Beek (2003:110) elaborates that EDT in the SAPS eventually became a priority as a result of the appointment of the Multinational Implementation Team (MIT) in 1994. The MIT was a multidisciplinary team consisting of practitioners from various nationalities including Kenya, the Netherlands, USA, Zimbabwe and Ireland as well as some local academics and practitioners. These role-players only had an advisory function. In turn, this implied that even though they gave useful advice on EDT priorities, they had no control function and were thus deemed powerless to effect these implementations.

The pilot programme for basic training developed by the MIT comprised three phases, of which the most prominent was the process of field training.

3.2   Field training (FT) in the SAPS

Reynecke (1997:3) asserts that SAPS members have never before been trained on-the-job in a structured way. Consequently, the MIT proposed that a work group that is representative of all police agencies in the country be formed to plan a field training (FT) programme. Information in this regard was also obtained from the international community. Even though circumstances differ between South Africa and other countries, a great deal could be learnt from countries that had been applying FT in the past and this information could be adapted to meet the needs of the SAPS.

According to Reynecke (1997:7) the Canadian FT programme provides for local policing needs and is consistent with the principles of community policing. Furthermore, it appears that SAPS members are not conversant with coaching and

self-directed learning. Some field training officers (FTOs) currently do not have the necessary functional experience. An important aspect to note from the Australian programme is that training takes place at a demonstration patrol before the trainee is moved to the training patrol. During the programme, trainees are at one station only. However, the principal method of training during the programme is also to demonstrate the work firstly, before allowing trainees to do the work themselves. According to Reynecke (1997:7) the community internship in Sweden is appealing as it gives the trainee insight into the work and problems of societal bodies which contributes to a better understanding among police officials of society.

UK advisors in South Africa identified the lack of knowledge and experience regarding assessment and interpersonal skills among FTOs as problematic. SAPS members need more training and experience regarding assessment and given constructive feedback. Furthermore, in the UK, Reynecke (1997:7) writes, trainers are used as both trainers and functional police officials and as such stay up-to-date with police practice.

What is notable from the Indianapolis practice is the way the field training is structured (Reynecke, 1997:7). The programme starts with the trainee observing the FTO, followed by the trainee operating on his or her own under guidance from the FTO. Thereafter, the trainee works individually where after he is evaluated by an immediate supervisor. This gives line management the opportunity to evaluate the trainer as well as the training.

According to Reynecke (1997:3), FT constitutes an on-the-job training method whereby the job is done by the learner under the direct control of the supervisor. In doing so, the supervisor will to a great extent influence the actions and thoughts of the learner (Dessler, 2005:275). The supervisor should assume direct responsibility for the training of the members to ensure the correct performance of jobs. Therefore, FT Officers (FTOs) should have the technical skills to perform the job the trainees are performing. Trainers must understand the importance of repetition, active participation and must give immediate constructive feedback to trainees.

This method of training provision involves the assignment of the learner to a competent senior. The senior tailors the training and coaching to the needs of the individual learner by providing experiences and feedback that will enhance skills development. Dessler (2005:275) compares this method to that of special assignments where the learner obtains first-hand experience in working on actual problems. Bingham and Galagan (2005:6) elaborate that practical experience on the part of the trainer will contribute to proficiency with respect to the training of new learners.

Reynecke (1997:4) writes that the probationary period is not normally considered a screening procedure. The new officer is assessed during this time to determine whether the individual has the potential to make a good police official. Sufficient time is needed to evaluate the new official while exposed to the realities and stresses of policing. The organisation should allow enough time for a sufficient number of incidents to determine the individual's capabilities and to determine the official's rate of growth in the job. As trainees progress, members can be exposed to more difficult situations.

Burke, Sarpy, Smith-Crowe, Chan-Serafin, Salvador and Islam (2006:4) classify FT as a most engaging method of training. It focuses on the development of knowledge in stages and emphasises the use of the principles of behavioural modelling. Behavioural modelling involves observation of a role model, modelling or practice, and feedback designed to modify behaviour. These methods also include hands-on demonstrations associated with behavioural simulations, which require active participation from the learner.

Reynecke (1997:3) is of the opinion that FT provides the missing link between college training and functional police work. Furthermore, employees are producing while undergoing training. FT will assist in the development of the organisation and speed up the transformation process from a "force" to a "service" by not only extending the trainee's knowledge and skills, but also developing the correct attitude.

Rauschkolb (2005:9) describes the understudy assignment as an economical alternative. Institutions are increasingly adopting this method due to its quick return

on investment. Dessler (2005:275) agrees that this method is relatively inexpensive since learners learn while producing without the necessity of expensive off-site facilities like classrooms.

Reynecke (1997:7) elaborates further that the perusal of case write-ups should be considered as an alternative mechanism by the organisation. Trainers have no other way of testing field knowledge and experience apart from the assessment. Examinations during the programme should also be considered to compare training standards and the interpretation of work demonstrated by FTOs.

Aside from the focus of the SAPS on the aspect of basic training, the organisation evidently also focused on the issue of management development in its attempt to uplift the standard of the EDT process. According to a report (1995) by Dutch advisors, EDT had the dual focus of expanding *demilitarisation* and facilitating *integration.* These, in turn, comprise core concepts in democratic policing.

3.3　Report by the Dutch Institute for Management Development and Training

Van Beek (2003:111) is of the opinion that most of the challenges pertaining to the transformation of the SAPS also apply in general to management development (MD) as a subcomponent of training. With MD, self-discipline is definitely amiss in the sense that learners still want to be trained and do not take responsibility for their own development. In the second instance, the report points to the fact that training does not pose a challenge to learners to think. On a third level, training is too theoretical and, on a fourth level, police role clarification does not receive enough attention. Fourthly, too little attention is paid to leadership and MD.

Murray (1998:25) writes that MD in the SAPS was influenced by the models of management by objectives (MBO), participatory management and strategic management. These developments are reflected in attempts to implement "flatter" or more "horizontal" organisational structures and shorter lines of authority associated with strategic management. These trends are compatible with the democratic and collaborative principles of adult education.

Brand (1997:29) in turn writes, *"…as the business and political environment changes, so does the knowledge, skills and attitude required of those employees who are best positioned to interpret and influence future change, namely senior managers".* Top and senior management thus have a specific role to play in the management of change. This includes enhancing participation, supporting change efforts, sharing information, and rewarding success.

Murray (1998:27-28) aptly describes MD in the pre-1994 period when he states, *"The traditional approach to police management assumed that there should be a clear distinction between officers ('gentlemen') and non-commissioned officers ('the men'). This approach created the distinction by ensuring that all officers command a certain body of knowledge which is not readily accessible to the rest of the personnel in the organisation".*

Van Beek (2003:112) writes that a learning organisation supports the value of shared knowledge, teamwork and participation in problem-solving and management. Yet, as late as 1998, some members of top management spearheaded by Commissioner Chetty, insisted on the reinstatement of an *officers' course* consistent with this traditional approach. Contrary to *'Chettyism'* (the name given to this regressive line of thought by facilitators involved in MD), most people linked to MD support the report *Training in the South African Police Service*: *A Report of an Investigation Submitted by the International Training Committee*, December 1994. The report concluded that, *"Management courses should be delivered in an environment conducive to critical reflection and debate, which is distinct from the normal police environment. It is further recommended that such courses be conducted together with other public managers (from different sectors of the public service) and specifically with managers from the criminal justice system"* (1994:12). In this report it was also stated that training should be a lifelong experience; thus bridging the gap between training in the narrow sense and development (1994:4). In line with this, Botha (1998:26) asserts that, in his brief when appointed as Acting Head: Management Development of the SAPS on 1 June 1995, it was made clear that he had to rethink MD on three levels: content; context; and methodology.

According to Van Beek (2003:113) this implies both a new direction for MD as well as new principles concerning the delivery of MD programmes. The result is that MD in the SAPS is based on the contingency and situational management models influenced by the open systems approach. Roberg and Kuykendall (1990:48) define this approach as one in which managers develop *"… solutions contingent upon problem variables…with an emphasis on systematic and objective analysis of problems confronting the organisation".* This indicates that managers must be able to think for themselves. This idea is in line with the broad concept of personal development and, as such, should enhance the management of change. Tabor, Klipin and Carstens (1998:3-4), however, point to the fact that MD in the police is still short-term, demand-driven, and lacks day-to-day management.

Against this background, Van Beek (2003:114) indicates that the Ministry of the Republic of South Africa stopped all MD in 1995 in order to provide some time for a rethink of MD along the lines of content, context and methodology. An attempt was made by directors Prinsloo and Schenk in 1997 to continue with the old officers' course, thereby contradicting this ministerial directive. This regressive action was stopped by an *'internal revolution'* at the hands of a small group of pro-change facilitators in the SAPS together with Dutch advisors supported by individuals at the Ministry. During this period it also became clear that there were limited initiatives amongst management trainers, apathy, frustration and resistance to change (*Verslag van de Adviesactiviteiten in Zuid-Afrika met betrekking tot de Nieuwe Opzet van Management-development en Training, 1995*).

This situation came about partly because MD was at the beginning of this process and of little or no priority to top management. Murray (1998:18) declares that even though mention was made of MD as a police priority, inadequate provision was made for investment in MD, which would yield operational success in the long term. The drastic reduction of staff for MD from 1994 to 1997 limited the pace and quality required to redefine content, context and methodology. All of the afore-mentioned was compounded by the fact that the vision for MD was determined externally by consultants and the SAPS MD personnel were not included in this process. Commissioner Fivaz, who had been the chairperson of the Technical Team on Training, then became the National Commissioner and, even though he had

firsthand knowledge, training under him fragmented and became uncoordinated (Botha 1998:28).

Stümke (1996:15) also highlights the importance of management training and development for the success of the SAPS. He points to the fact that MD in the SAPS has failed to produce suitable and effective managers because of its emphasis on training rather than development. MD was also over-reliant on donor assistance (Danish, Dutch, Swedish, Business Against Crime) in order to fund *ad hoc* development programmes. According to Tabor *et al* (1998:6), there was little or no coordination within MD and attempts to outsource development were hampered by unclear tender procedures and lack of an administrative component within MD.

According to the report by the Dutch advisors, MD in the SAPS had to address five challenges:

- *Pushing* the proposed *plan* on top management level (thus ensuring commitment and money).
- *Persuading* the *trainers and institutions* involved (therefore managing change in the micro-environment of management development).
- *Obtaining advice* with reference to *new curricula* (hence establishing credibility and creating momentum as far as redefining content, context and methodology is concerned).
- *Establishing* a new management *vision* as well as structure on lower levels.
- *Overcoming* the management *void* created by the fact that the whole process was managed by three academics with little or no management experience.

The first MD initiative of note as far as the SAPS was concerned and where these challenges were partly overcome, was the Leadership Development Programme (LDP) (Personal interview with Botha, 2009). The programme addressed content (the philosophy of the learning organisation), context (the management of change), and methodology (interactive learning) and was supposed to start a process of change throughout MD via a system of cascading.

3.4   Leadership Development Programme (LDP)

Van Beek (2003:114) writes that the *Batho Pele White Paper* has influenced thinking with regard to MD and training in the public service and hence the SAPS. The *White Paper* (1995:22) states that, *"The public service has a need for managers who not only should have organisational and technical skills, but also the leadership and vision to innovate policies. Thus, loyalty to the government of the day should not preclude creativity and visionary thinking on the part of public service managers".*

The attempt by the SAPS to develop such managers was spearheaded by the Leadership Development Programme (LDP). This programme was a leadership development intervention aimed at developing change management skills amongst the members of the management forum (top management). The whole management forum (the national commissioner, four deputy national commissioners, five divisional heads and nine provincial commissioners) was involved in the LDP.

The Dutch government with its Donor Assistance Programme covered the cost of the LDP and was the direct result of a proposal made in the report to the Dutch Minister of Home Affairs (*Zakelijke Verslag van de Adviesactiviteiten in Zuid-Afrika met betrekking tot de Nieuwe Opzet van Management-development en Training: Periode 6 Februari tot 1 April 1995 gericht tot Ministerie van Buitelandse Zaken*). This programme was the first of its kind in the SAPS because of the manner in which the skills of various academics (outside the police) were utilised, as well as the manner in which the programme was presented outside a police environment. In his annual report, Fivaz (1996:27-28) mentioned that the programme was completed, but made no mention of whether it was successful or not. He also made mention of plans for basic management training (not development) and station commander training, but said nothing about further development for top, senior and middle management. Notwithstanding this, Van Beek (2003:115) writes that the LDP provided the MD section of the SAPS with valuable experience as far as redefining content, context and methodology was concerned. The value of the programme rested in the fact that change management was given priority along with adult learning techniques as far as methodology was concerned.

According to Van Beek (1995:116) in the Dutch report of 1995 it is pointed out that the Minister of Safety and Security requested Dutch assistance. The assistance was requested for the development of the top thirty commissioners to help change their attitude towards change (consequently it was only nineteen commissioners). It was clear from the initial request that the LDP was intended as a change management programme. The manner in which the LDP was presented by academics and practitioners from various universities - including international universities - and police organisations also slotted in with the traditional police culture where it is expected of top managers to have higher education (Du Preez and Prinsloo 1993:68). In so doing, the old (managers or commanders must have superior knowledge) and the new (moving from training towards personal development) philosophies were uniquely combined to facilitate the management of change in an optimal manner.

The academic base for the LDP also lent itself to the philosophy that top managers are supposed to lead the way when it comes to managing change. The academic content of the LDP was based on the work of Peter Senge's seminal book on the learning organization since, according to Botha (1998), it helps top managers to integrate environmental factors (internal as well as external) into organisational strategy. It provides skills for top managers that will help them to adapt organisational structure to cope with a strategy of openness, transparency and organisational learning.

Tobin (1993:16) submits that learning enables change in two ways. In the first instance it creates an openness to learn and helps people to recognise the need to change. Secondly, both change and learning are closely related and learning, training and/or development should be included in any change programme. According to a report submitted by the International Training Committee in December 1994, the content of any training programme must take notice of the:
- Social transition in South Africa;
- Importance of human rights; and
- Critical change from a police force to a police service.

These approaches resulted in the learning organisation being the central theme of the LDP. In doing this, the programme developers chose the axiom of lifelong learning for management development in the SAPS. This concept was utilised to bridge the gap between lifelong learning (development) and single training interventions (training), the integration of education, training and development compared to the separation of education, training and development (Engelbrecht *et al* 1996:13). An obvious attempt was made to consider learning from the learner's point of view and to facilitate active learning as suggested by the Human Science Research Council (1995:12) in its opinion paper on the National Qualification Framework.

Van Beek (2003:118) writes that the LDP presented some problems in that it was extremely expensive as far as cost and time were concerned. The time pressure on the participants, in addition to the pressure created by them being away from their offices, was counterproductive as far as the learning process was concerned. According to Botha (1998:29) the participants often lacked focus because of these externalities. The LDP, as the flagship of MD in the new South Africa, created some enigmas for MD. First, it created the illusion that interactive training, group sessions and critical discussions could be equated to adult learning. Secondly, it fabricated the illusion (in the minds of many police members) that the learning organisation is an eternal truth, the only truth. Finally, it inferred that MD must be expensive and delivered by non-police facilitators in order to be of any value.

The saddest legacy of the LDP is, however, that it appears not to have impacted on the participants. According to Van Beek (2003:121) this presented one with the question of whether or not change and development were viewed as once-off occurrences. The implication here is that the LDP was viewed as *'nice to have at the time that it was presented'* or even worse, something that had to be *'endured in order to please the politicians'*. This indicates the need to reinforce the central philosophy underpinning the LDP, namely that it is a programme aimed at initiating personal development on a continual basis.

From the above analysis it is apparent that challenges were experienced with both basic training and management development in the post-1994 SAPS although

various efforts were made to address these. In the next section, the training methods or techniques used by the SAPS will be assessed in more detail.

3.5 EDT methods used by the SAPS

Scheepers (2008:72) writes that the choice of EDT mechanism is determined by a number of factors. The manner in which EDT will be provided is dependent on the number of learners present, the facility where the EDT will occur, the cost of EDT, and the urgency of the EDT of the incumbents. In turn, Haberfeld (2002:36) divides EDT techniques into five categories namely, orientation, indoctrination, dissemination, skill acquisition and problem solving. According to Robbins (2005:252), the provision of training formerly was believed to be a formal course of actions. Consequently, training in the SAPS was to a large extent planned in advance and had a structured format.

Training methods are clearly distinguishable and may be divided into two broad categories. Witzel (2004:83) distinguishes between in-house training methods and training provided by external providers. Nel *et al* (2001:482) categorise training as on- and off-the-job training methods. Off-the-job methods are commonly associated with formal instruction, while on-the-job methods are generally informal and rarely distinguishable from regular work activities. It was mentioned that the FT programme itself is classified as an on-the-job training application. Consequently, the application of on- and off-the-job training methods will be discussed separately.

3.5.1 On-the-job training methods

Job design may be perceived as a training method that occurs on the job. However, the portrayal of job design contains that of job rotation, -specialisation, -enlargement and -enrichment. Robbins and Coulter (2005:60) refer to job design as the way tasks are combined to form complete jobs. In the SAPS it frequently occurs that the nature of a job changes significantly. This might be attributed to an aspect like a restructuring process. Subsequently, the organisation would, not wanting to go through the costly and time-consuming process of designing a new job, rather

amend the job. In this regard, Sutherland and Cranwell (2004:146) propose the use of job rotation, -specialisation, -enlargement or -enrichment.

Tracey (2004:369) refers to *job rotation* as an informal method of training, often used in conjunction with coaching. Job rotation is a technique whereby potential learners receive diversified training and experience under close supervision through rotation of jobs for specified periods of time. The SAPS utilises this method to improve the performance of learners in their present jobs and to prepare them for future positions. Job rotation should not be seen in isolation, but rather in conjunction with the concepts of job specialisation and job enlargement.

According to Smit and Cronje (2002:208), *job specialisation* refers to the narrowing-down of activities to simple, repetitive routines. This approach is used by the organisation where learners are illiterate or very inexperienced in the workings of the organisation. Job specialisation should not be confused with "person specialisation", which refers to learners with specialised training, such as medical specialists and lawyers.

Job enlargement stems from the thinking of industrial engineers that wanted to increase a job's scope in order to break the monotony of a limited routine. A job is enlarged when an employee carries out a wider range of activities of approximately the same level of skill. An example is where the job of a typist in the SAPS is enlarged to include general administrative tasks. The diversity of the expanded job will enhance the job satisfaction of the worker.

Job enrichment also ties in with job design and implies adding depth to the job. In this regard, the SAPS enlarge the number of tasks a worker performs and increases the control the worker has over the job. Smit and Cronje (2002:208) write that job design will impact on the job satisfaction and productivity of workers and should therefore be given the appropriate attention to ensure the correct application.

3.5.2   Off-the-job training methods

Off-the-job training occurs at any place, except the workplace. The main purpose of this form of training intervention is to provide learners with the knowledge and skills needed to perform their jobs effectively and efficiently. Fiffick (2005:4) proposes private training centres that combine hands-on and practical applications of the subject matter to provide off-the-job training. The organisation uses these centres due to the limitations of the SAPS' training facilities to provide for training in aspects that are in high demand. Learners will have all the materials, samples, slides, videos and experts to provide training of the subject matter. Although this method can be very costly, especially when factoring in the travel, housing and lost productivity to send learners out of town, this form of training may yield the best results. Robbins (2005:252) refers to interventions such as live classroom lectures, questions and answers, large group discussions, small group discussions, case studies, report out, simulation exercises and role play as typical off-the-job training methods.

- *Live classroom lectures*

The organisation uses live classroom lectures where the trainer provides the learners with a lecture on the theory of the study material in question. This includes public seminars. Burke *et al* (2006:23) refer to lectures as one of the least engaging methods of training used to present information. According to a personal interview with Botha (2009), this method has been adapted in the SAPS by initiating an approach whereby the lecturer is sent to the students and not the students to the lecturer.

Dessler (2005:278) highlights the quick and simple manner of providing knowledge to large groups of learners as an advantage of this method. In turn, this encourages the give-and-take questioning of both parties involved. It may include feedback interventions in which performance information is provided in small groups. This will allow learners to correct their mistakes. Stephenson (2001:6) points to another advantage of the classroom set-up as the stimulation of the learner by the physical presence and personal enthusiasm of the lecturer of the presented subject. Scheepers (2008:74) adds that the lecturer is also provided with the opportunity to

entertain the audience and to adapt the programme in accordance with members of the audience's responses.

As a disadvantage of this method, Scheepers (2008:74) writes that the partial participation of learners in this type of training venture may limit their attention span.

- *Questions and answers*

Scheepers (2008:74) identifies questions and answers as a separate training mechanism that may be added to the lecture method. In this regard, the instructor asks specific questions to individuals to liven up the presentation. However, on the downside, learners may not be able to provide the appropriate answers and the participation of learners cannot be predicted.

- *Large group discussions*

Scheepers (2008:74) proposes this method as an alternative to the lecture method. This method provides for increased interaction between the instructor and learners that may also be used to energise the group. On the downside, the discussion might be dominated by one or two members.

- *Small group discussions*

Scheepers (2008:74) identifies this method as allowing for frequent participant involvement, creativity and a free flow of information. However, the discussion may also be dominated by one or two members.

- *Report out*

Participants provide feedback from smaller groups to the larger groups. According to Scheepers (2008:74) this method allows for optimised participation and credible peer interaction. However, reporters may get carried away which makes it hard for the instructor to control the time.

- *Case studies*

Scheepers (2008:74) writes that this method allows for participants to focus on a specific case with an increased participant involvement. This encourages learners to apply the theory they have learnt to a particular case, thereby enhancing their problem-solving and reasoning abilities.

- *Simulation exercises*

Burke *et al* (2006:24) refer to simulation exercises as an effective off-the-job training method. It involves the imitation of a real set of conditions to enable the comparison of the likely outcomes of various courses of action. It involves constructing and testing a model of a real-world phenomenon. According to Kempen (2006:45), the SAPS use laser-shot simulations to familiarise learners with firearms. Not all new learners are used to firearms and some are initially afraid of using weapons. Aspects like sight alignment, stance, and trigger pressure can also be taught using simulation. A variety of training exercises are available to test skills. This includes the manner in which shots are grouped and shooting from various distances. Video simulations are also used to expose learners to different law enforcement scenes to assist with decision-making.

Although simulation exercises may be regarded as a useful tool, this form of training will not substitute real-life training. Kempen (2006:45) writes that it is compulsory for SAPS members to obtain training with live ammunition. This is similar to shooting practice with a laser shot simulation, but with live ammunition. In addition, work-based obstacles will provide learners with a variety of obstacles. This includes climbing over walls and jumping over ditches and other situations that law enforcement officers are faced with in the performance of their everyday tasks.

- *Role play*

The SAPS utilises real-life scenarios and a role-play approach to enhance learners' decision-making skills. During role-play, learners learn by observing their colleagues'

actions and mistakes. Learners can be exposed to various crime situations, like the demonstration of a shoplifting incident or a house where a housebreaking or a sexual crime is simulated. Detectives and investigators are trained in the correct processing of crime scenes to enhance the protection of the integrity of a scene. As a disadvantage of this method, Scheepers (2008:74) writes that shy participants may not want to participate or may be dominated by other individuals.

Evidently, both on- and off-the-job training categories are still widely used by the SAPS. The main distinction between these categories is that on-the-job EDT is applied in the true work situation, while off-the-job EDT is applied away from the work place in the form of practices that represent real life situations. EDT in general is moving away from the rigid, classroom venture towards approaches where the learning environment is of a more informal and practical nature. The advantage of informal training lies in that it is unstructured, unplanned and easily adapted to situations and individuals to train skills and keeping learners current. Information is shared and work-related problems are solved collectively. Dessler (2005:277) elaborates that organisations should not underestimate the importance and value of informal training.

Furthermore, as was mentioned in Chapter One of this thesis, the EDT system of the SAPS adopted an outcomes-based approach (OBA) to EDT as opposed to the input-based approach (IBA) that was followed by the SAP. The implementation of the FT programme was prevalent in this regard and is being utilised with much enthusiasm and success. Scheepers (2008:59) adds that a middle management training programme referred to as the Emerging Leadership Programme (ELP) is currently presented in all the provinces to assist with the development of future middle management. Officers' courses are also presented and courses for sergeants and inspectors are continuously revised and updated.

The overview of the evolution of the EDT system of the SAPS identified critical aspects that will serve as essential components with respect to the establishment of the EDT model in Chapter 8. It also served as a foundation for justifying the need for Organisational Learning as an essential prerequisite for individual learning and this will be analysed in the following chapter.

4. CONCLUSION

This chapter served to analyse the status of the SAPS EDT system. This analysis assessed the evolution of EDT since the advent of democracy in 1994 and resulted in the identification of problematic issues that would need to be rectified if the EDT system is to be improved within SAPS. A review of various independent studies of EDT in SAP and the post-1994 SAPS revealed that both basic training and management development have undergone an array of fundamental shifts to ensure that the identified challenges were addressed and that EDT better equipped SAPs members for the transformation of the SAPS from a "force" to a "service".

In particular, in line with international trends, it was pointed out that the SAPS has embraced field training as a basic training intervention that develops new recruits more effectively in respect of community policing. In addition, this chapter found that various other on- and off-the-job EDT interventions are frequently utilised by the SAPS and the advantages thereof were highlighted.

The findings of this chapter point to the issues pertaining to EDT in the SAPS that may have an impact on the attitudes of EC SAPS management officials in respect of whether CAT would be a viable option to intervene in this regard. To establish whether a CAT intervention will provide for the EDT requirements of the SAPS, firstly requires an exposition of learning since this should be the outcome of any EDT application. This will therefore receive attention in the next chapter.

CHAPTER THREE: THE IMPACT OF LEARNING ON THE IMPLEMENTATION OF COMPUTER-ASSISTED TRAINING (CAT) IN THE EASTERN CAPE PROVINCE (EC) SAPS

1. INTRODUCTION

People hold different views on the causes, processes and consequences of learning. One is continuously confronted with new experiences or learning situations in life. Therefore, learning can be depicted as a continuous process that transforms on a constant basis.

In pursuance of the theme of the study and the related research questions, this chapter will provide an overview of the literature with respect to learning as the desired outcome of any EDT intervention. The aim of this chapter is to provide a theoretical overview of the impact learning may have on the implementation of CAT in the EC SAPS. To assess the effectiveness and efficiency of the current and possible future EDT systems in the SAPS, it is firstly necessary to analyse the requirements of learning and to determine whether the EDT interventions contribute to optimising learning.

To this effect, this chapter will firstly conceptualise learning and analyse the extent to which pedagogics and andragogics optimise learning in different contexts. Secondly, the various theories of learning will be elaborated upon with a view to identifying the crucial elements that need attention during any EDT intervention to ensure that learning takes place. Thirdly, emphasis will be placed on the need for organisational learning as a prerequisite for individual learning and organisational development will be explored as a means of promoting such learning. Thereafter, the stages in the learning cycle as well as various types of learning and learning styles will be analysed to provide an indication of the issues that need to be incorporated into any conceptual framework or model for the implementation of CAT as an EDT method in the EC SAPS.

Before such a detailed analysis is possible, learning will be conceptualised.

2. LEARNING CONCEPTUALISED

Robbins (2005:30) and Robbins and Coulter (2005:360) share the view that learning is the relatively permanent change in behaviour that occurs as a result of experience. Schunk (2004:2) adds that learning has occurred when behavioural change endures over time. It may not last forever, but changes of brief duration are not perceived as learning. Smit and Cronje (2002:314) writes that any perceptible behavioural change is an indication that learning has occurred. Elliot and Turnbull (2005:12) emphasise reflecting on experience as central to the concept of learning. De Haan (2005:111) agrees but perceives a change in behaviour as the basis for the creation of new knowledge by transforming the experience. Tracey (2004:382) elaborates that learning requires the establishment of knowledge to result in a steady change in individual behaviour or subsequently to create the capacity for such change. Stewart and Beaver (2004:57) write that some may refer to learning as: doing things differently; change within a person; or a new or improved way of thinking, feeling, perceiving or doing something.

Knights and Willmott (2007: 165) highlight the following important aspects of learning: the specific situation including what learners are learning; knowledge on the part of the learners that something is possible; and personal and cultural inclinations or preferences of learners for particular types of learning.

According to Van Beek (2003:74) learning can be closely linked to the concepts of pedagogy and andragogy.

2.1 Pedagogy

According to Newstrom and Lengnick-Hall (1991:43-44) the pedagogic paradigm is transferred from schools onto trainers and managers alike and leads to a situation where adult learners are viewed as immature and unmotivated homogeneous persons with little initiative. According to Haberfeld (2002:52), pedagogy is the one-way transfer of knowledge usually done by means of lectures on facts during which a complete memorisation of solutions is expected. Scheepers (2008:53) writes that this is the method used to teach children.

Mink, Owen and Mink (1993:134) write that firstly, in pedagogics the learner is dependent on others to learn. Secondly, pedagogics views the role of an experienced instructor as pivotal. In the third instance, pedagogics sees the instructor as the creator of a learning environment (Tobin, 1993:166). In the fourth instance, pedagogics deals with specific subject matter. Finally, in pedagogics motivation is mostly external.

2.2   Andragogy

Scheepers (2008:53) writes that andragogy is the method used to involve instructors and adult learners in the learning process. Newstrom and Lengnick-Hall (1991:44) define andragogy as *"… the art and science of teaching adults".* They base this definition on the following six assumptions concerning adults and learning, namely, that adults:

- Are *self-directing* and in charge of their learning experience.
- Are a *reservoir of experience*.
- Learn as a *function* of their *developmental stage*.
- Are *problem-and task-oriented*.
- View learning as *life-centred* and learning as such must fit into their careers.
- Are *intrinsically motivated* to learn.

Mink, Owen and Mink (1993:134) write that, with respect to andragogics, the learner is independent. Secondly, adults bring their own useful experience to the learning process. In the third instance, the learner generates the learner context, given his or her personal needs (Tobin, 1993:166). In the fourth instance, andragogics deals with the learning needs of the adult. Finally, the motivation with respect to adragogics is predominantly internal.

Van Beek (2003:74) writes that when dealing with adults in the learning process, managers must keep the following in mind. First, they need to create a climate of equality and mutual respect; adults will then learn from each other. Secondly, managers must determine the expectations of the learner in the learning process and must challenge the learner accordingly. This will empower the learner to take control of his or her own learning destiny. In the third instance, managers must

involve the learners in the planning process; this will help the learner as far as self-motivation is concerned. Finally, managers must acknowledge the value of the learner's own experience. This will facilitate experiential learning and will also enhance internalisation.

Heron (1989:12) writes that the viewpoint has changed from doing things for learners to self-directed learning. The educational model has changed from teaching things to people to how people learn and how to make them realise that learning is their own responsibility.

Evidently, the concept of learning comprises a number of underlying aspects that emerged over a period of time as elements of theories. In the next section an overview of these learning theories will illustrate the evolution of learning.

3. THE EVOLUTION OF LEARNING

Schunk (2004:15), in agreement with the Think Quest Team (2000:1), writes that although there are many different approaches to learning, three basic categories of learning theories establish the foundation of learning. Behaviourism, social cognitive theory and constructivism are highlighted as prominent theoretical views with respect to the study of learning. Subsequently, these learning theories will be analysed, commencing with a discussion of behavioural theories.

3.1 Behavioural theories

At the beginning of the 20th century behaviourism began its rise to eventually dominate the psychology of learning during this era. The Think Quest Team (2000:1) writes that behaviourism focuses on the use of experimental methods and observable phenomena. However, these theories do not suggest an accentuation of the aspect of behaviour, rather an attempt to explain behaviour as it relates to environmental events or stimuli.

3.1.1 Characteristics of behavioural theories

While not denying the existence of mental processes, behavioural theories contend that such phenomena are not readily observable. Vialle, Lysaght and Verenikina (2005:4) contend that if psychology were to become an objective, experimental science, behaviourists argue it should deal with observable, scientific subject matter. Subsequently, the aspect of behaviour was classified as an observable occurrence. Therefore, analysing behaviour was seen as the key to understanding how learning occurs, and not trying to ascertain what is in learners' heads, hearts or minds.

According to Robbins (2005:30), behavioural theory suggests that learning is an outcome of the passive absorption of a predefined body of knowledge by learners. Another trait of behavioural learning proposes that behaviour followed by a favourable consequence tends to be repeated, an occurrence commonly referred to as positive reinforcement.

According to Vialle *et al* (2005:17) the initial appearance of behavioural theory was subsequently suspended. However, many behaviourist principles and characteristics are still evident and of importance in current theoretical perspectives. Subsequently, these principles were applied to many aspects of training and learning and have generally shown positive effects on student achievement.

These theories and the research it generated contributed to establishing the psychology of learning as a legitimate area of study. Furthermore, these theories introduced a powerful focus for the study of learning namely, the individual.

3.1.2 Criticism relating to the use of behavioural theory

According to Vialle *et al* (2005:18) few trainers and theorists doubt the effectiveness of behaviourist techniques in changing behaviour. However, many believe that to deliberately try to change, or manipulate behaviour may be perceived as unethical. Consequently, an individual is denied the right to personal decision-making and self-determination. In this regard, critics of behaviourism perceive this set of techniques

as wanting to control learners rather than assisting and enabling them to learn for themselves.

Another criticism draws from the fact that many of the principles have been derived from experiments with animals. Human learning is viewed as far more complex. The learner is viewed by behaviourists as a passive recipient who can be directed in whatever way the 'trainer' wants.

A further criticism is the poor generalisation of skills taught through behaviourist principles to other settings, and to other learners. The generalisation of new skills might be hampered by the carefully sequenced and tightly controlled nature of behavioural instruction. Behavioural principles were seen as more likely to be appropriate for the learning of relatively low-level skills.

According to the Think Quest Team (2000:13) behavioural explanations were challenged by cognitive theorists. These theorists questioned the robustness of these theories to explain higher cognitive processes. Consequently, by ignoring mental processes, behavioural theories offered an incomplete account of human learning. Stimuli and reinforcement may be utilised to clarify some degree of human learning, but learners' thoughts, beliefs and feelings should be taken into account if learning was to be explained more accurately.

3.2   Social cognitive theories

Morgan (2003:12) writes that, following a long period of the influence of behaviourism, the fields of psychology and education shifted their emphasis to examining the mental processes of humans for the purpose of learning.

3.2.1 Characteristics of social cognitive theories

Schunk (2004:16) writes that the central finding of social cognitive theory is that one could learn new actions merely by observing others perform these actions. Through observing these performers that act as models, people acquire knowledge, rules, skills, strategies, beliefs and attitudes. In association with cognitive theorists,

Robbins (2005:30) elaborates that observational learning, also referred to as modelling, greatly expanded the learning rate as well as the amount of knowledge acquired. This theory stresses the idea that learners learn from their social environments, the usefulness and appropriateness of behaviours as well as the consequences of modelled behaviour. Like behaviourism, this re-emphasises the consequences of behaviour. Behaviour that leads to successful consequences is retained and those that lead to failure are discarded.

Learners act in accordance with their own beliefs about their capabilities and the expected outcomes of their actions. Much of their behaviour is motivated and regulated by internal standards and self-evaluative reactions to their own actions. After personal standards have been adopted, discrepancies between a performance and the standard against which it is measured activate evaluative self-reactions. This serves to influence subsequent behaviour. An act therefore includes among its determinants, self-produced influences. According to Robbins (2005:30) this learning may occur explicitly through actual performances and submissively by observing models, by listening to instruction, and by engaging with print or electronic materials.

3.2.2 Criticism of behavioural theories by social cognitive theories

Social cognitive theories disputed central assumptions of behavioural theories. In contrast to behavioural theories, cognitive theories stress the acquisition of knowledge and skills, the formation of mental structures and the processing of information and beliefs. Learning from a cognitive point of view, is an internal mental phenomenon inferred from what trainers say and do.

According to the Think Quest Team (2000:1), cognitive theorists disagreed that behaviour was an automatic response to an event. The theory is partially based upon the belief that one expects specific outcomes to result from specific behaviour. One acts as if a particular type of behaviour will lead to a certain goal. These theorists believed that behaviour is goal-oriented, and had both direction and purpose. What one does is motivated by a desire to achieve a goal or to avoid unpleasant circumstances.

3.3   Constructivism

Today a number of researchers have shifted even more towards an explicit focus on learners. Rather than talk about how learning is acquired, these theorists speak of how it is constructed. Although these researchers differ in their emphasis on factors that affect learning and learners' cognitive processes, the theoretical perspectives they espouse may be loosely referred to as constructivism. The Think Quest Team (2000:2) writes that learning of a constructivist nature results from an individual's need to express creativity.

According to Schunk (2004:285) constructivism contends that learners form or construct much of what they learn and understand in concurrence with their own understandings of knowledge. It is not acquired automatically. Vialle *et al* (2005:25) describe these individuals as active constructors of meaning. These theorists are compared to scientists who develop hypotheses about how the world works and consequently test these against their personal experience.

3.3.1   Characteristics of constructivist theories

Constructivist theorists postulate that learners utilise self-reflection to develop personal thoughts and to organise their behaviour. Implicit theories are formed during socialisation practices whilst employing self-reflection. Effective learning in this regard occurs when learners experience appropriate levels of challenge and support through trusting relationships with more knowledgeable others that act as trainers (Think Quest Team, 2000:3).

The emphasis on the role of social mediation of knowledge construction is central to many forms of constructivism. Constructivists theorise that the social environment is a facilitating factor for education, development and learning. Social environments lead to cognitive changes as a result of internalising and transforming social interactions.

3.3.2 Criticism of behavioural and social cognitive theories by constructivism

Social cognitive theory postulates that learners do not need external reinforcement. Learners are intrinsically motivated to make sense of the world. Therefore, knowledge more likely is formed inside the learner, than imposed on them from the outside. Constructivist theorists reject the idea that scientific truths exist and await discovery and verification. Constructivist approaches vary from those that postulate complete self-construction, through those that hypothesise socially mediated constructions, to those that argue that constructions match reality.

The history of learning theory reveals a shift away from environmental influence and toward human factors as explanations for learning. This shift began with the advent of cognitive psychology, which disputed the claim of reinforcement theories that stimuli, responses and consequences were adequate to explain learning. Cognitive theories place great emphasis on learners' processing of information as a central cause of learning. Yet, despite the elegance of cognitive learning theories, some researchers have felt that these theories fail to capture the complexity of human learning.

Evidently, the exposition of the different learning theories enabled the identification of factors that are considered essential components in order for learning to transpire. This will be elaborated upon in the next section.

3.4   The significance of the various learning theories for EDT in the SAPS

The above analysis of the various learning theories has revealed that a number of aspects were found to be important to ensure that learning is optimised during an EDT intervention. These aspects included: the trainer; training–learning environment; and the learner.

A focus on the *trainer* would entail a focus on the capabilities of the latter. This will include the ability of the trainer to present the training–learning exercise and to assess learners' abilities after exposure to the exercise. It will also entail the trainer opting for the appropriate choice of mechanisms to conduct the mentioned exercise.

In a behavioural context this may require a trainer transmitting the correct behavioural responses to the learners. Schunk (2004:18) emphasises the importance of the trainer making knowledge meaningful during the presentation of the exercise. This will enhance learners' perceptions of themselves and their learning environments. Trainers also need to consider how instruction affects learners' thinking during learning.

A focus on the *training-learning environment* would entail the selection of the appropriate environment in order to achieve the initial learning objective. This will include the suitability of the exercise to test the learner's ability. In a cognitive context this may require the trainer facilitating the learning by providing an environment that promotes discovery. In a constructivist context, this may require integrating the learner into a knowledge community also referred to as group work or syndicates.

Lastly, a focus on the *learner* would entail the selection of the correct candidates to be exposed to the training–learning exercise. In turn, this may require the learner to undergo a pre-selection test to ensure that learners are exposed to the appropriate exercises. Collins, Harkin and Nind (2003:6) propose that where the emphasis is on the learner, neither the learner nor the trainer can be controlling or passive, rather the trainer must facilitate the active involvement of the learner in such a way that the learner can take an inventive role in transforming what is internalised. Training and learning experiences should challenge students' thinking so that they will be able to construct new knowledge. In this regard Collins *et al* (2003:4) write that educators should encourage learners to question and analyse their knowledge and the learning processes.

The SAPS views the learner as the focal point and embraces a vision where the emphasis is less on pedagogy and more on the utilisation of andragogics, since the focus of learning is adult learners. In keeping with the above exposition of the important components of any EDT intervention, it is important to assess the role of the organization itself in establishing an environment that is conducive to learning. In this regard, Engelbrecht (1996:15) writes that it is necessary for EDT in the SAPS to produce and develop leaders that are able to model and facilitate the competencies and characteristics needed to build a learning organisation.

Keeping in mind that although not every term linked to the learning organisation can be precisely defined, some sort of a common definition is needed to provide a sound point of reference (Daft, 1998:562).

4. THE PHILOSOPHY OF THE LEARNING ORGANISATON

Vroom (1995:21-23) refers to the concept of the learning organisation as being on the knife-edge of a dual movement. These two movements refer, firstly, to object-orientated learning that relates to the gathering of information and institutionalisation. Secondly, it refers to subject-orientated learning where individuals stand central (subject) to learning. Learning then leads to flexibility and innovation, which in turn enhance management innovation. The learning organisation provides a framework against which information gathering and the links that it has with change can be accommodated in the same model as personal and organisational innovation and the links that it has with learning. Skyrme (2003:1) describes a learning organisation as an organisation with systems, processes and systems in place to continuously enhance the capabilities of those that work with it or for it to achieve sustainable objectives for themselves and the communities in which they participate.

4.1 Characteristics of a learning organisation

A learning organisation is characterised by the following:
- *Learning culture*: organisations with a climate that nurtures learning and has strong characteristics of innovation;
- *Processes*: in place that encourage interaction across boundaries eg. Infrastructure and development and management processes;
- *Tools and techniques*: it has methods that will aid individual and group learning such as creativity and problem-solving techniques;
- *Skills and motivation*: an organisation that will learn to adapt (Olivier, 2001:3).

Pearn, Roderick and Mulrooney (1995) differentiate between four types of learning organisations and each of these will be described in the next section.

4.2   The types of learning organisations

The first of these learning organisations is the *critical mass* learning organisation, which exists when only key individuals in top management are committed to learning. The following hazards to learning characterise the critical mass learning organisation. Employees are in general passive and do not think. They tolerate the status quo. Thinkers and doers are divided. Members of the organisation react negatively to change and there are no links between the responsibility members take upon themselves in their private lives and their work where they do not take any responsibility.

The second kind of learning organisation is where *a specially created learning environment* is dominant. This might be in the form of a learning centre or even take on the shape of formal training and short courses, all within a specially created learning environment. The focus in such organisations is on new technology, constant reorganisation of work practices, empowering team leaders, employee involvement, openness and trust. There is the creation of a learning environment, although little time is spent on the idea of a learning organisation as such. The underlying belief that a created learning environment equates to being a learning organisation is both the strong and weak point in this kind of learning organisation. The strong point is that it represents an active effort to promote learning, and the weak point that it negates the fact that organisational learning cannot be isolated and made the responsibility of one section or department within the organisation.

The third kind of learning organisation is the *micro-learning organisation* and this corresponds with a specially created learning environment. It also actively encourages learning through formal mechanisms and is fully committed towards training and development. The micro-learning organisation does not limit training and development to learning centres, but includes the use of all the organisational members' talents. It can nevertheless be too inwardly focused and can therefore forget about the environment as a variable that is important to the learning organisation because of the influence it has on change within the organisation.

A *macro-learning organisation* differs from the above-mentioned three kinds of learning organisations insofar as it constantly examines its external environment and, because of this, the main learning focus is directed outwardly. How, when and where learning takes place depends on the organisational environment. Swieringa and Wierdsma (1992:71) have this to say about this kind of learning organisation: *"Essentially, learning organizations are not only capable of learning but also of learning to learn. In other words, they are not only able to become competent but also to remain competent"*.

Against the framework of the four kinds of learning organisations, it can be concluded that the characteristic feature of a learning organisation is *"…variety in people, strategy, structure, culture and systems…consciously permitting contradictions and paradoxes*" (Swieringa and Wierdsma, 1992:77).

Van Beeck (2003:44) identified the following levels of organisational learning of relevance to the study.

4.3   The levels of organisational learning

The first level is *individual learning*, which is more or less the same as methodical learning. Secondly, *group or team learning* is where individuals learn together in small groups. Individuals are grouped together, given their functions and tasks within the organisation. This sets the stage for what Pearn *et al* (1995:26) refers to as *cross-functional learning*. This is the third level of organisational learning and takes place where small groups learn from and with each other, irrespective of their functions and tasks within the organisation. The fourth level of organisational learning is *internal learning*. The distinguishing characteristic of this level of organisational learning is that the whole organisation focuses on and learns from current reality – change that takes place during learning.

Tobin (1993:18), in his attempt to frame the concept of the learning organisation, worked with five learning principles that will be explained in the section to follow.

4.4   The principles of a learning organisation

According to Tobin (1993:18), the five learning principles of a learning organisation are the following:

- *Every person in the organisation is a learner,* from the top of the organisation to the bottom.

- *People learn from each other -* learning is not limited to structured education and formal training programmes. The organisation must create formal as well as informal learning opportunities.

- *Learning enables change.* First, it enhances individual and organisational productivity, opening the organisation up for learning influences and helping it to recognise the need for change. In the second instance, it forms a link between change and learning. Tobin (1993:136) states that learning including formal education should be part of any change effort.

- *Learning is continuous and forms the hallmark of any learning organisation.* Structured as well as unstructured learning opportunities are everyday phenomena in a learning organisation. Nonaka (1991:97) explains this principle by stating that inventing new knowledge is a way of being in a learning organisation and every person is a *knowledge worker*.

- *Learning is an investment, not an expense, in the future.* Tobin (1993:19) emphasises the contradiction that is obvious in non-learning organisations concerning this principle when he asks the question, *"When the budget reins need to be tightened, is training the first item to be cut?"*

To ensure that these principles become a reality within the SAPS it is necessary that organisational development (OD) initiatives be undertaken. OD is a discipline aimed at improving the effectiveness of the organisation and its members by means of a systematic process of change. Reynecke (1996b:3) writes that an organisation's strength lies in positive change and the ability to transform in response to changes in the economy. Harvey and Brown (1992:6) define OD as a long-range effort supported by top management to improve an organisation's problem-solving and renewal processes through effective management of organisational culture. OD involves moving towards a third-wave organisation that is information driven and an attempt to achieve corporate excellence by integrating the desires of individuals for

growth and development with organisational goals. OD efforts are planned, systematic approaches to change which involves changes in the total organisation.

According to Reynecke (1996b:14) OD utilises open-systems theory perspectives. An open system is a system that interacts with its environment. Every system is merely a subsystem within a larger system. Therefore the training function can be seen as a social system and systems theory can be applied thereto.

Luthans (1989:599) writes that OD programmes lead to improved organisational performance through an improved decision-making climate. OD practitioners can counsel decision makers on an individual basis and work to improve working relationships among the members of a group or team. These practitioners can also work to improve relationships between interacting and interdependent organisational groups or gather attitudinal data throughout the organisation. Subsequently, this data is conveyed back to groups and individuals, who plan and make improvements on this information.

The purpose of OD efforts is to increase effectiveness of the system and to develop the potential of all individual members. These efforts are a series of planned behavioural science intervention activities and are carried out in collaboration with all members of the organisation to help find improved ways of working together towards individual and organisational goals.

Learning occurs as a result of different types of learning processes and these will receive attention in the section that follows.

5. TYPES OF LEARNING

Heron (1989:12) identifies four types of learning namely: practical; conceptual; imaginal; and experiential learning. *Practical learning* occurs through the acquisition of a skill. It is expressed through the competent practice of the acquired skill. It refers to the physical level of learning. *Conceptual learning* occurs by realising that something is indeed as it appears to be. It is expressed through statements and propositions. It refers to the intellectual, verbal-conceptual level of learning. *Imaginal*

learning occurs through the configuration of form and process. It is the grasp of a whole, as shape of consequence. It refers to the intuitive, image level of learning. *Experiential learning* occurs through encounter, direct acquaintance, and by entering into some state of being. It refers to the feeling, resonance level of learning.

According to Scheepers (2008:63) one encounters the world (experiential learning); identifies patterns of form and process (imaginal learning); this is the development of language and knowledge (conceptual learning); which can be applied in a wide range of skills (practice learning). The learner is likely to experience learning by progressing through succeeding stages of the learning cycle.

6.   THE CYCLE OF LEARNING

De Haan (2005:191) agrees with Osland, Kolb, Rubin and Turner (2007: 58), in classifying the learning cycle into four stages, namely: concrete experience (CE); reflective observation (RO); abstract conceptualisation (AC); and active experimentation (AE). Effective learning occurs when one shifts from getting involved (CE), to listening (RO), to creating an idea (AC), to making decisions (AE).

6.1   Concrete experience (CE)

CE refers to the stage of the learning cycle that emphasises personal involvement with people in everyday situations. In this stage, one would tend to rely more on one's feelings than on a systematic approach to problems and situations. In a learning situation, one would rely on one's ability to be open-minded as well as adaptability to change. During the CE stage, learning occurs from feeling: learning from specific experiences; relating to people; and being sensitive to feelings and people.

6.2   Reflective observation (RO)

RO constitutes that part of the learning cycle where people understand ideas and situations from different points of view. In a learning situation one would rely on patience, objectivity and careful judgement, but would not necessarily take any

action. One would rely on one's own thoughts and feelings in forming opinions. Through the RO stage, learning occurs by watching and listening. In other words, through observing carefully before making judgements; viewing issues from different perspectives; and looking for the meaning of things.

6.3 Abstract conceptualisation (AC)

AC is that stage of the learning cycle where learning involves using logic and ideas, rather than feelings, to understand problems or situations. Typically, one would rely on systematic planning and development theories, as well as ideas, to solve problems. For the duration of the AC stage, learning occurs by thinking: logically analysing ideas; systematic planning; and acting on an intellectual understanding of a situation.

6.4 Active experimentation (AE)

AE refers to the stage of the learning cycle where learning takes an active form whereby the learner experiments with influencing or changing situations. One would take a practical approach and be concerned with what really works, as opposed to simply watching a situation. Lastly, in the AE stage, the learner values getting things done and seeing the results of his or her influence and ingenuity. Thus, learning occurs by doing; the ability to get things done; risk-taking; and influencing people and events through action.

Osland *et al* (2007: 58) write that the learning cycle is continuously recurring in that learners test concepts in experience and modifies these as a result of observations of the experience. Furthermore, the direction that learning takes is governed by the learners' felt needs and goals since they will seek experiences related to their goals, interpret these experiences in the light of their goals, and form concepts and test implications of these concepts that are relevant to these felt needs and goals. The implication of this is that the process of learning is erratic and inefficient when the personal objectives of the learner are not clear.

6.5   The importance of the learning cycle

It is emphasised that, during each stage of the learning cycle, the learner will experience some form of learning. The cycle stages entail that learners will learn respectively through their feelings; by listening and watching; by thinking; and by seeing the results of their influence. In addition, implementation of the training-learning intervention should be done with due consideration of what the learner ultimately expects to achieve from the exercise. Therefore learners' expectations should be assessed on a continuous basis throughout the intervention and built into the curriculum.

Interventions should also ensure that trainers are sensitive towards and provide the opportunity for learners to express their feelings. Likewise, learners that share similar feelings and interests may be seated together to create opportunities that would encourage them to share their feelings. Processes and facilities should be in place that would enable learners to watch and listen effortlessly. Examples may be the use of big screens and speaker systems. A quiz at the conclusion of a classroom presentation may be one example of an opportunity to permit learners to think. Lastly, providing learners with their test results may be one example to provide them with an opportunity to see the impact of their effort in a learning situation.

The significance of the cycle lies in the training-learning intervention noting and subsequently providing for the occurrence of the process of learning in the form of successive stages. In addition, collaborating and utilising the comments of learners with regard to the ultimate objectives of the training-learning exercise will contribute to the effectiveness and efficiency of the latter. Trainers should be fully conversant with what the requirements of every phase of the cycle are. This includes embracing the perspectives of the learners themselves into the cyclical programme. If any one of these stages are neglected it would imply that the learner failed to complete the full cycle of learning. In turn, this would imply that learning did not occur or that effective and efficient learning did not take place.

In addition to noting the occurrence of learning in a cyclical format, the notion may also be described as an individual process. Each individual will experience the

learning process in a different manner. In turn, this highlights the prevalence of a learning style for every individual.

7. LEARNING STYLES

A learning style is broadly defined by Lepota and Weideman (2003:206) as encompassing the ways that learners consciously or unconsciously gain command of a field of knowledge, their strategies for developing this command, and even their idiosyncratic techniques for becoming competent users of their selected target fields. Tracey (2004:384) views a learning style simply as the way a person processes information or various ways of learning. The information reaches the learner who utilises their senses to process this information.

7.1 Categorising learning styles

Advanogy.com (2004:3), in agreement with Gardner (2006:3) and Conner (2005:2), identify seven (7) broad categories of learning styles. These are also referred to as modalities or multiple intelligences. *Visual* learners learn through seeing; *auditory* learners learn through listening; *physical (kinaesthetic)* learners learn through doing; *verbal (linguistic)* learners learn through writing and speaking; *logical (mathematical)* style learners enjoy logical and mathematical reasoning; the *social (interpersonal)* learning style implies that these learners communicate well with people, both verbally and non-verbally; and the *solitary (intrapersonal)* learning style entails that learners are more private, introspective and independent.

The Beginner's Guide Staff (2006:1), in agreement with Bogod (2006:1) and The Think Quest Team (2000:2), are of the opinion that the above identified learning categories can be collapsed into three primary groupings. These are visual, auditory, and kinaesthetic learning styles. Most learners have a predominant learning style, but others encompass a balance between two or even all three of these styles. Bixler and Bergman (2007:2) write that people remember 20 per cent of what they hear, 40 per cent of what they see and hear and 75 per cent of what they see, hear and do. Accordingly, the more senses one uses to receive information, the easier it is to retain and remember it.

7.2   Applying the learning styles

For the purpose of enunciating the application of the learning styles, certain aspects were selected. The Think Quest Team (2000:1) in collaboration with The Student Development Centre (2005:1) and Advanogy.com (2004:1) identify unique characteristics of each learning style that will contribute to enhancing learning.

7.2.1 Visual learners

The Student Development Centre (2005:1) and Advanogy.com (2004:1) write that visual learning occurs from the learner seeing the subject of learning. Sims and Sims (2002:2) elaborate that pictures and images will assist these learners to understand ideas and information better than explanations. These learners are seen as mind wanderers during verbal activities and have trouble following or remembering verbal instructions. They are usually quiet, shy or reserved.

According to the Think Quest Team (2000:2) visual learners need to see the trainer's body language and facial expressions to fully understand the content of the lesson; therefore prefers to observe rather than actively participate in group activities and discussions; writes down problems and practices writing solutions and/or responses; likes to read silently; pays attention to detail; uses mental pictures; makes notes colourful, highlights notes so all information relating to one topic is in the same colour category; draws boxes or circles around terms/concepts and draws lines or arrows to show how they are related to one another; uses flash cards to rehearse; easily memorises by seeing visual displays including diagrams, sketches, illustrated text books, overhead transparencies, videos, flipcharts and hand-outs; and outlines key topics in chart or diagram format.

7.2.2 Auditory learners

The Student Development Centre (2005:1) and Advanogy.com (2004:1) write that auditory learning occurs from the learner hearing the subject of learning. According to Sims *et al* (2002:2) these learners prefer the spoken message. These learners are

easily distracted and quickly lose interest in visual demonstrations. They are fairly outgoing.

The Think Quest Team (2000:2) writes that auditory learners learn best through verbal lectures because they enjoy listening; is active in group activities and discussions because they like talking things through and listening to what others have to say; reads instructions and questions out loud to themselves; interprets the underlying meanings of speech through listening to tone of voice, pitch, speed and other nuances, in other words tries to remember important terminology by thinking about how parts of the words sound. These learners also benefit from using a tape recorder to tape themselves summarising key points, then play the tape as a memory rehearsal strategy; listens to music while studying or doing homework; memorises lists and sequences easily; and remembers faces.

7.2.3 Kinaesthetic learners

The Student Development Centre (2005:1) and Advanogy.com (2004:1) elaborate that kinaesthetic learners learn by doing the subject of learning. Sims *et al* (2002:2) write that these learners want to sense the position and movement of what they are working on. These learners tend to not enjoy reading and may have trouble memorising lists, numbers etc. These learners may find it hard to sit still for long periods and may become distracted by their need for activity and exploration. They are outgoing and easily express emotions.

The Think Quest Team (2000:2) views kinaesthetic learners as wanting to do something physical before sitting down to read or study; enjoy doing experiments; enjoy handling objects; make physical contact with people when talking to them; enjoy problem solving; highlight, underline, or take notes; use fingers or pieces of paper to help keep track of where they are; break reading tasks into small chunks; stop after each chunk, think about what they learned and writes a brief summary; personalise information; think about how they can use the information outside the classroom; take regular brief breaks to move around; use the discussion or practice questions in the textbook or study guide to help rehearse information; learn best

through a hands-on approach and actively exploring the physical world around them; move a body part or walk around to help with concentration.

7.3   Providing for the requirements of the various learning styles

The Student Development Centre (2005:1) writes that learners learn optimally when the strategies used are closely matched with their preferred learning style. Learning can be improved by knowing one's strengths and by subsequently doing more of what one is good at. Likewise, by knowing one's weaknesses, attempts can be made to enhance one's skills in these areas.   The Beginner's Guide Staff (2006:2) proposes that the learning environments should accommodate all identified styles of learning. In addition, flexibility and variety in instruction or training practices are essential to ensure that the needs of all learners are taken into consideration.

This once again moves the onus to the trainer. The trainer should be fully conversant with the nature and extent of the requirements, not only of the different learning styles but with that of learning as a whole.

A fitting approach in this regard is for trainers to use the job descriptions of SAPS members as a point of departure. Job descriptions comprise sets of what may be referred to as tasks. The effective and efficient execution of each of these tasks is required in order to give effect to the job as a whole. These tasks may be used as a basis for the identification of the appropriate EDT interventions to address the learning requirements of SAPS members.

8.   CATEGORISING THE LEARNING REQUIREMENTS OF SAPS TASKS

A careful scrutiny of the tasks of members of the SAPS revealed that a number of these tasks contain various similarities and can be categorised as either operational or support services. Although the nature and extent of the actual tasks comprising these two groupings differ vastly, it is still possible to identify three broad categories as a result of the similarities, namely executing the actual activity, working with people and understanding the theoretical background of policing (Personal interview with Botha, 2009).

8.1   Executing the actual activity

A number of the tasks involve the actual performance of activities. With respect to the operational division this will include actions like the driving of a police vehicle by the learner or the execution of foot patrols in a specific area. In a support capacity this will include activities like the maintenance of official registers, the completion of certified forms, and the registration of case dockets.

8.2   Working with people

A number of tasks involve close contact with other people. SAPS members frequently perform duties in groups that are referred to as relief duties. This entails constant contact with colleagues. Other activities entail contact with people like complainants, witnesses, informers and suspects. In addition, *Articles 19, 20* and *21* of the *SAPS Act* require the SAPS to interact with the community in the pursuance of *Article 215* of the *Constitution.* This constitutes community policing and refers to a partnership between the SAPS and the community with a focus on crime.   It is therefore crucial that SAPS members develop interpersonal skills.

8.3   Understanding the theoretical background of policing

Most of the tasks that are performed by SAPS members involve activities that are guided by various theoretical requirements. These include the positioning of roadblocks, when to use a fire-arm, the conducting of a lawful arrest and the like. Knowledge of human rights is also essential. Human rights can be referred to as those rights that are inherent to the individual as a result of his or her humanity and human dignity. Consequently, every individual is entitled to be treated with respect by the authorities. Human rights comprise privileges like entitlement to privacy, equality, freedom of religion, and the right to vote. These rights are universally applicable and are inviolable.

Evidently, these categories vary from each other with respect to aspects like learning purposes and the like and this requires that different EDT options have to be considered to address these respective differences. For example, the execution of

the actual activity would require equipping learners of the organisation with the means to execute their tasks and duties effectively. EDT in respect of working with people should focus on developing the social and interpersonal skills of learners. With regards to understanding the theoretical background of policing, the appropriate EDT intervention would entail furnishing the learner with sufficient knowledge of the appropriate theory and a respect for the general principles underpinning the correct performance of one's duties.

9. CONCLUSION

The overview of learning focused on in this chapter contributed to identifying issues that are considered instrumental to this study. The chapter served to highlight that learning is the result of the change of behaviour of the learner. This change occurs after reconciling what was learned with relevant experience learners were exposed to. Eventually, this leads to the creation of new knowledge.

Furthermore, the chapter pointed out the underpinnings and deficiencies of the different learning theories. This analysis served to emphasise the importance of the role of the trainer, the training-learning environment, as well as the learner in ensuring that learning is optimised. This chapter further served to describe different types of learning, the learning cycle and the importance of trainers understanding the implications of the requirements of learning. In particular, the characteristics of pedagogy versus andragogy were analysed and it was emphasised that EDT interventions in the SAPS should ideally embrace the latter since it is more suited to addressing the needs of adult learners.

The chapter also served to identify the key learning styles of learners, namely visual, auditory and kinaesthetic learning styles. In turn, the requirements of each of these learning styles were analysed to ensure that EDT interventions are designed in a manner that caters for the individual requirements of learners. Negligence in attending to this may have serious implications in respect of optimising learning.

It is therefore apparent that an EDT intervention such as computer-assisted training (CAT) should firstly take cognisance of the aspects identified as essential for

learning in this chapter. Subsequently, the intervention should establish mechanisms that will fully provide for the accommodation thereof.

In turn, the findings of this chapter may have an impact on the attitudes of EC SAPS in respect of the ability of the SAPS training system to enhance learning and whether CAT would be a viable option in this regard. To establish whether or not an intervention would be able to meet the requirements of learning identified in the previous two chapters, a comprehensive analysis of CAT is pertinent.

CHAPTER FOUR: THE POTENTIAL CONTRIBUTION OF COMPUTER-ASSISTED TECHNOLOGY WITH RESPECT TO EDT AND LEARNING IN THE EASTERN CAPE PROVINCE SOUTH AFRICAN POLICE SERVICE

1. INTRODUCTION

The 21st century announced a new era of development in the technological sphere. This expansion sparked an array of new challenges, demands and expectations and had a major impact on EDT and learning. The rate of technological advancement appears to have rendered initial facilities inadequate to attend to the EDT and learning requirements of contemporary society.

This chapter will provide an overview of the literature as it pertains to the issue of technology and the benefits it may hold for EDT and learning in the SAPS. The aim of this chapter will be to provide a theoretical overview of the impact of technology in respect of EDT and learning. This will also serve as a further theoretical background against which to analyse the research findings as they pertain to the attitudes of EC SAPS management officials with respect to the potential of technology to enhance the current EDT system to optimise learning in the SAPS.

In this respect, it is firstly necessary to provide clarity on how technology is currently utilised within the SAPS and whether it is viable to consider computer-assisted methods for the purposes of EDT to promote learning in the SAPS.

2. THE CURRENT USE OF TECHNOLOGY BY THE SAPS

A personal interview with Weitz (2009) pointed out that the SAPS commonly utilises certain technological mechanisms in the execution of its functions and duties. These technologies include the telephone (land line), mobile phone, facsimile machine, videocassette recorder (VCR), digital video disk (DVD) players, and computers.

2.1 Telephone (land line)

A telephone is described as a conventional telecommunication by cable laid across land. Tiene and Ingram (2001:317) describe telecommunication as the entire process and infrastructure for communicating, at a distance via voice, computer, video, etc. It includes telephone calls, radio broadcasts, television transmissions and computer networking.

2.2 Mobile phone

According to Van Dijk (2006:47) mobile telephony gradually replaced fixed telephony. Mobile phones enable the sending and receiving of speech. It further makes it possible to send and receive text through the Short Message System (SMS) and pictures through Multi Media Messaging (MMS) as well as Mobile Internet web pages.

The US News and World Report (2007:5) write that SMS or texting from mobile phone technologies is trendy and some learners are very proficient. The major motivation behind the use thereof is its affordability. The challenge is that the system is essentially secret and only the two communicators can read the message. Systems are now available to manage, send and receive secure SMS text messages from one's desktop to a mobile phone through web-based applications but can be integrated into one's existing learner-management software.

The latest version mobile phones enable screen projection of the telephone display. Visual sharing is more focused on reflections, comments and descriptions of the lesson topic.

2.3 Facsimile

A facsimile comprises a facility that enables the sending and receiving of an exact copy of a document made by electronic scanning that is transmitted by telecommunications links (Oxford Dictionary: 1984).

2.4   Videocassette recorder (VCR)

The VCR is a device that enables the reproducing of images on or from a magnetic video tape. When the VCR is linked to a television set, this enables the broadcasting of audio and visual images from this tape (Oxford Dictionary: 1984). Van Dijk (2006:318) writes that the VCR is used to record and play back video tapes.

2.5   Digital Video (or Versatile) Disk (DVD) player

A DVD player enables the reproduction of images from a compact disc (CD) or DVD. Tiene and Ingram (2001:307) describe a CD as an optical disc that contains digital data read by a laser beam. Subsequently, the DVD is the successor to the CD and can hold over ten times as much information. It can be used to store high-quality video as well as sound, data and computer programmes.

Weitz (2009) says further that the SAPS also utilises these mechanisms for EDT and learning purposes. Subsequently, videos afford all the branches of the rapidly growing organisation a consistent way to present information for this purpose. In addition, Weitz (2009) says that although audiovisuals are more expensive than conventional lectures, it tends to be more interesting. Consequently, this contributes to its effectiveness as a mechanism for EDT and learning. Nowlan (2005:21) also supports incorporating video techniques into EDT programmes. Dessler (2005:280) refers to this practice as audiovisual-based EDT. As a disadvantage of the use thereof, Scheepers (2008:74) writes that the method does not allow for audience interaction and the lecture cannot be adjusted spontaneously.

Another mechanism that is used by the organisation on an increasing basis is the computer. Weitz (2009) points out that the SAPS mainly use computers linked to the SAPS mainframe. In turn, the SAPS mainframe allows for access to a large array of information systems, namely:

- *Crime Administration System (CAS)*

The CAS system provides assistance and can be utilised by command and control in respect of the crime administration process. It ensures that crime management information is made available at different management levels in order to ensure efficient crime prevention.

- *Business Intelligence (BI)*

The aim of the BI system is to enable the extraction of data from the source systems, integrating this data into a single data store and presenting it in a user-friendly and technologically acceptable way from which strategic, operational and tactical decisions can be made. The following functions are included: Crime statistics, offence deviations, profiling, special projects questionnaires (a facility whereby additional data not carried in any source system may be added to any incident, offence or individual) and detailed reports (the presenting of a detailed report on a specific committed offence).

- *Individuals and Structures Information System (ISIS)*

The ISIS system is used to capture information regarding individual suspects, organised crime suspects and a variety of powerful crime intelligence products.

- *Incident Reporting Information System (IRIS)*

The IRIS system is used to record unrest-related incidents and other related incidents, information on forthcoming events and various online enquiries and reports.

- *Criminal Records System (CRIM)*

The CRIM system serves to capture the personal information of persons with criminal records, as well as related information, such as fingerprints, modus

operandi, aliases, previous charges, convictions, etc, in order to make on-line enquiries available.

- *Optically Stored Document Information Management System (OPDOC)*

The OPDOC system is utilised to capture all source documents that are required by law to prove a person's previous convictions in such a manner that it would be juridical acceptable. This system creates, in conjunction with an automatic fingerprint identification system, a paperless environment in the production and administration of criminal records.

- *Forensic Science Laboratory Administration System (FSL Admin)*

The FSL Admin system is applied to record inter alia forensic tests and conclusions requested by investigating officers, the recording of statistics relating to tests performed, the control and administration of dockets in the laboratory, the registration of detailed information of all exhibits which result from receipts, disposing of all exhibits and registration of all photographs taken by the laboratory.

- *Financial Administration System (POLFIN)*

The POLFIN system serves to host a number of subsystems. These systems relate to electronic funds transfers, PERSAL expenditure and budget processing, civil claims systems, payment advices, medical claims and stock transport.

- *Personnel and Salary Administration System (PERSAL) Personnel and Salary Administration Subsystem / Personnel Support System for SAPS (PERSAP)*

The PERSAL/PERSAP system is used to report on resource planning which entails organisational structure administration, establishment administration and personnel cost estimates. Besides extensive reporting on the PERSAL information and various ad hoc enquiry functions, PERSAP also hosts independent personnel and salary subsystems such as police qualifications, establishment management, state

guarantee payments, POLMED membership administration, tax administrative processes, shooting incidents by members, pensions administration, senior appointments systems, promotions systems, qualifications verification systems, and a career planning system.

- *Provision Administration System (PAS)*

The PAS system is used to capture applications received for advertised senior posts within the SAPS, to monitor the status of applications and to support the administration and management of the entire appointment process.

- *Registration system*

The registration system deals with the registration, transfer and withdrawal of all official files. This includes the registration of all correspondence files, dispatch and receipt of all files, circulation history, the capturing of all official files and the like. It also includes the recording of the flow of circulation of files to ensure that files can be traced.

- *Electronic Data Interchange System (EDI)*

The EDI system ensures integration between the data of the CRIM system and systems at the Department of Correctional Services.

- *Mobile Data System (MDS)*

The MDS system is used to register complaints (incidents) received from members of the public at the radio control room, the dispatching of complaints to patrol vehicles for attendance, the capturing of details concerning the result of the complaint, the tracking of the movement of patrol vehicles and the provision of electronic maps with GIS functionality for both the control room and patrol vehicles.

- *Circulations System (CIR)*

The CIR system supports the investigation of crime by circulating persons and goods that the SAPS are trying to trace.

- *Geographic Information System (GIS)*

The GIS system displays crime trends and crime threats visually on a map and assists with the planning of crime prevention activities and the allocation of resources.

- *Automated Fingerprint Identification System/AFIS Barcode (AFIS)*

The AFIS system is used to capture all fingerprints and registers a unique barcode to each fingerprint set. It expedites the business processes regarding fingerprints classification searches in order to identify persons with previous criminal records.

- *Firearm Register System (FRS)*

The FRS system is utilised to capture firearm details, firearm owner details and permit details in order to effectively control the possession and licensing of firearms.

- *Crime Threat Analysis System (CTA)*

The CTA system identifies crime and organised crime trends for use in operational planning.

- *Crime Management Information System (CMI)*

The CMI system is a tool used to process captured crime data and displays the reporting of crime and the outcome of the investigation.

The specific purpose of each of these systems may be used for the EDT and learning of SAPS members. In addition to the abovementioned information systems, a personal interview with Gouws (2010) revealed that the SAPS Mainframe enables access to the Intranet. In turn, this allows for access to the SAPS legal database, human resource- and crime prevention-related correspondence, forms and templates, and contact information. A personal interview with Snyman (2010) further indicated that a limited number of SAPS computers also have access to the internet. Subsequently, this grants learners access to an array of technological facilities that may be used for a variety of purposes, including EDT and learning.

3. THE USE OF COMPUTERS BY SAPS FOR EDT PURPOSES

A personal interview with Weitz (2009) revealed that the SAPS utilises computers to serve a number of different purposes. One method is to apply it as referred to by Stewart and Beaver (2004:191) as a "stand-alone" computer. Kenet (2006:6) elaborates in this regard, that a computer does not have to be connected to a network or to learning resources outside of the course to have an EDT and learning potential. An example would be where SAPS learners use computers to practice their computer literacy skills.

Where computers that are not linked are used for EDT and learning purposes, the US News and World Report (2007:1) refers to computer-based training (CBT) as an umbrella term in this respect. Related definitions include those of computer-managed instruction (CMI); computer-assisted instruction (CAI); online education; virtual education; cyber learning; multi-modal instruction and the like.

3.1 Computer-based training (CBT)

Kenet (2006:7), in agreement with Bixler and Bergman (2007:4), writes that CBT is provided to SAPS learners using computers and software to guide the learner through an instructional programme. Kenet (2006:9) elaborates that in all computer-assisted EDT, the computer takes over from the SAPS trainer in providing the learner with "course content". Therefore, software and data that are used for any

type of instructional or educational course delivered via software are referred to as "courseware".

Carliner (2004:5) writes that a more specific term for all types of learning that takes place via computer are referred to as online learning.

3.2 Online learning

According to Carliner (2004:5), in an online lesson, the computer displays material in response to a SAPS learner's request. The SAPS learner prompts the computer for more information, and consequently presents appropriate material based on the learner's response. This material is presented in the format of what may be referred to as multimedia. McGreal and Elliot (2004:115) write that multimedia incorporates text, graphics and audio media and combines it by using a computer.

The material can be as simple as lessons from a classroom course and accompanying tests that are transcribed into a computer programme, or as complex as a programme that tracks user input and suggests appropriate police learning material. It can be a work session that occurs on a computer, in which case the learning is a by-product of the experience. It can also be designed for purposes other than learning, in which SAPS learners go through it with a goal of extracting particular content. Thus, technologies do not have to be linked or connected to have an EDT or learning potential. The simple use of the technology, like the use of a computer to develop one's computer skills, may in itself serve this purpose.

Evidently, CBT cannot be distinguished from online learning. Although CBT focuses on EDT, and online learning rather on the aspect of learning, both of these aspects entail the utilisation of what is referred to as "stand alone" computers.

Rosenberg contends according to Carliner (2004:5) that the definition changes from online to electronic or e-learning where the computer is connected either to a mainframe, Internet, Intranet or Extranet.

3.3 Electronic (e)-learning

The US News and World Report (2007:1) refer to e-learning as a wide set of applications and processes that include the delivery of content via network applications. Kenet (2006:3) sees e-learning as a learning process created by combining e-digital content with local SAPS community and tutor support along with global police community engagement. It aims to provide the right learning content to its target audience at appropriate times and places, using a diversity of media.

Young and Young (2002:35) elaborate that the use of e-learning as a primary EDT development strategy is increasing in corporations. Attracted by promises of a more flexible, learner-centred product that can reach wider, more diverse police audiences at reduced costs, e-learning initiatives are being implemented on a widespread basis for EDT purposes.

Consequently, the EDT and learning potential of e-learning surpasses that of online learning. This can be attributed to the capability thereof to allow the SAPS trainer or learner access to a large display of information through the internet.

3.4 Computer-assisted training (CAT)

CAT is broadly described by Venezky and Osin (1991:3) as an instructional system that represents a blended, hybrid approach. Consequently, the SAPS learner is not limited to the use of a computer and e-learning or the exclusive use of the internet for EDT purposes. CAT may include face to face contact blended with the use of a computer, the use of CD-ROM, intranet and the like.

Evidently, given the circumstances in the SAPS and when compared to CBT or online learning and e-learning, CAT would most likely be the method of choice. CAT will enable the utilisation of the EDT methods available at a specific point in time to provide EDT and learning to SAPS members in the most effective and efficient manner.

4. COMPARING TRADITIONAL INSTRUCTION WITH E-LEARNING AND CAT

According to Calder and McCollum (1998:13), the common definition of open learning is where SAPS learners learn at their own time, pace and place. Ellington (1997:47) notes that open and flexible learning allows SAPS learners to have some say in how, where, and when learning should take place. Saltzberg and Polyson (1995:10) point to the close relationship between distributed learning and the idea of distributed resources. Distributed learning is an instructional model that allows SAPS instructors, students, and content to be located in different, non-centralised locations so that instruction and learning ensues independent of time and place. Therefore, the distributed learning model can be used in combination with traditional classroom-based courses, or it can be used to create whole virtual classrooms. Flexibility in learning is, therefore, dependent on the openness of the system and the availability of learning resources distributed in various locations. A clear understanding of the open and distributed nature of learning environments will contribute to the creation of meaningful SAPS learning environments with increased flexibility.

The design and format of open, flexible and distributed e-learning and CAT may differ from traditional classroom instruction. Traditional classrooms are space bound. Kearsley (2000:22) elaborates that traditional instruction treats learning as a closed system that takes place within the confines of a given classroom, school, textbook, field trip, and the like. Classroom-taught courses are not necessarily closed systems. Numerous SAPS trainers assign learners to do library based research papers, interview members of a professional community, engage in-service learning activities, and extend their learning initiatives far beyond the classroom itself. Unfortunately, many police classes are bound by their four walls involving only the thoughts of the SAPS trainer, the textbook writer and occasional learner comments. Classroom courses are also closed in the sense that it is limited to only those SAPS learners who can physically come to the location.

On the other hand, Relan and Gillani (1997:47) point out that e-learning and CAT extends the boundaries of learning, so that learning can occur in the classrooms, from home and in the police work place. Krauth (1998:23) elaborates that it is a flexible form of EDT due to its ability to create options for SAPS learners in terms of

where and when they can learn. A well designed e-learning or CAT course allow SAPS learners to become actively involved in their learning processes. However, a poorly designed e-learning or CAT course can be just as rigid, dogmatic and non-interactive as a poorly taught face-to-face course. The scope of openness and flexibility of e-learning or CAT is dependent on its design. According to Jones and Farquhar (1997:240) while an open system has its appeal, it can make designing extremely difficult. This may be attributed to the SAPS designer in an open system, agreeing to give up a certain amount of control to the user. Land and Hannafin (1996:7) elaborate that, the more open the learning environment, the more complex the planning, management, and evaluation thereof. For example, the SAPS trainer cannot monitor who helps the learner with tests unless proctored.

5. POTENTIAL FOR E-LEARNING OR CAT FOR EDT PURPOSES IN THE SAPS

Iverson (2005:29) rightly points out that one of the issues that will have an impact on the need for internet for the purposes of EDT with respect to the SAPS is whether content delivery will assume a synchronous or asynchronous format. Woollard (2007:154) elaborates that these asynchronous and synchronous technologies are likely to become widespread in its use towards the end of this decade. The US News and World Report (2007) distinguishes between the two as follows.

5.1   Asynchronous learning formats

An asynchronous format refers to learning where the interaction between SAPS trainer and learner occurs intermittently with a time delay. It will include mechanisms like e-mail, discussion forums, threaded discussions, online journals, wiki and blog.

5.1.1   E-mail

E-mail is the most commonly used collaborative tool, particularly for private one-to-one communications between trainer and learner. It can be a useful tool for collaborative and project-based learning activities. In this regard Kravitz (2004:61) writes that learners' work could now be automatically collected by the trainer via e-

mail, assessed electronically and returned with comments via e-mail. A personal interview with Snyman (2010) points out in this regard that where computers are linked to the SAPS mainframe this automatic provides for access to e-mail.

5.1.2 Discussion forums

Discussion forums are online tools that capture the exchange of messages over time, sometimes over a period of days, weeks, or months. These tools are similar to newsgroups or bulletin board systems, where text conversations taking place over time are displayed. The organisation of the messages can be a simple temporal sequence or the messages can be presented as a threaded discussion where only those on a specific topic or thread are displayed in sequence.

5.1.3 Threaded discussion

Threaded discussion is an online dialogue or conversation that takes the form of a series of linked messages. The series is created over time as users read and reply to existing messages. Typically, messages in a given thread share a common subject line and are linked to each other in the order of its creation. Without threaded discussion, the reader would confront a chaotic, unsorted list of messages on varied topics. By "hyperlinking" messages that share a common subject line, threaded discussion makes it convenient for the reader to focus on one conversation and avoid the distractions of unrelated postings.

5.1.4 Online journals

Online journals enable learners to make notes in a personal or private journal. Personal entries can be shared with other learners. However, this does not refer to private entries. This tool can be used to facilitate writing assignments, where parts are written over time and then later assembled into a document. It can also be used to make personal annotations to pages of a course that can later be used as a study aide. The Online Notes tool can also record reflections about personal learning accomplishments.

5.1.5   Wiki

A wiki is a collaborative website that users can easily modify via the internet, typically without restrictions. A wiki allows anyone, using a web browser, to edit, delete or modify content that has been placed on the site, including the work of other authors. Wikipedia (http://en.wikipedia.org/wiki) is an advanced example of wiki.

5.1.6   Blog

A weblog is an open-to-all web page that, where permitted, users can amend or add to the information on the blog. Blogs often focus on a particular subject, such as politics or local news. Some blogs function as online diaries that can be personal or owned by a small group of contributors. A typical blog combines text, images, and links to other blogs, web pages and other media. Many blogs do not allow others to contribute but are made by individuals telling their stories to the world.

5.2   Synchronous learning formats

Synchronous learning formats refer to real-time, trainer-led online learning events in which all SAPS participants are logged on at the same time and communicate directly with each other. In this virtual classroom setting, the SAPS trainer maintains control of the class, with the ability to "call on" participants. This includes internet relay chats, desktop videoconferencing, interactive whiteboards, instant messaging, chat rooms and Skype.

5.2.1   Internet relay chats

Internet relay chats allow for "live" public one-to-one and one-to-many interactions. Live text interaction occurs in real time. This is limiting for those with busy schedules, but motivating and fun for those eager to communicate with people online. It can allow learners to read and share more information than a regular classroom discussion. Weitz (2010) says that people speak at approximately 120 words per minute, and only one person can effectively speak at a time. Classroom discussions are limited to participants in the class and onsite visitors. Due to the fact that more

than one learner can type at a time and one can read 400 to 1000 words per minute, the class can be exposed to more information in the same amount of time. Finally, transcripts of the chat sessions can be saved or printed so that learners do not have to scramble to take notes.

5.2.2 Desktop video-conferencing

Desktop video-conferencing allows for "live" one-to-one or one-to-several video interactions. Using a colour video camera, free software, a computer and an internet connection one can have colour and two-way video with audio of a quality dependent on the bandwidth. Desktop video-conferencing depends on the speed of the organisation's internet access.

5.2.3 Interactive whiteboards

An interactive whiteboard functions as a graphical chat tool. It allows multiple users to draw, paint, and share existing graphical files in real time. Whiteboards, typically contain some combination of the following tools: pencil, eraser, text, colour, lines and various shapes. Each vendor offers different whiteboard features, such as the capability to import files and use it in the style of prepared flip charts. Some have the capability for multiple people to write on the whiteboard simultaneously. For visual learners, a whiteboard can be an effective tool in the synchronous classroom. It allows for instant visual communication over a long distance and invites everyone to participate. The ability to graphically represent ideas in real time, albeit in a smaller venue than the trusty classroom blackboards, offers the advantage of engaging learners visually.

5.2.4 Instant messaging

Instant messaging enables learners to easily see if other learners are connected to the internet and to exchange messages. Instant messaging differs from ordinary e-mail in the immediacy of the message exchange and also makes a continued exchange simpler than sending e-mails back and forth. Most exchanges are text only however, some services allow attachments. It requires that learners are online at the

same time and the intended recipients willing to accept instant messages. The majority of the exercises in the textbook can be delivered synchronously or asynchronously, depending on time allowances and the needs of your learners. Synchronous exercises can be completed in a short time. The challenge is to get everyone together online to participate. Asynchronous exercises can take extra time as progress depends on participants' frequent attention to the forum.

5.2.5 Chat rooms

A chat room is a real-time system based on a website where a text entry is immediately displayed on the screens of everyone else who is accessing at the same site. This enables conversations among multiple people at once. The power of the chat room is the immediacy of response and potential number of responses.

Chat systems come in a variety of styles ranging from text-only messaging systems to fully immersive 3D environments. Many trainers and learners chat online without using chat rooms. Chat is essentially a one-to-one communication although some systems allow others to be invited into a conversation. Recently, these systems have started to incorporate the ability to chat with multiple people simultaneously, but these are still conversations restricted to the student's list of contacts.

5.2.6 Skype

Skype (http://www.skype.com) is another one of the technological inventions that can potentially be applied for EDT and learning purposes in the SAPS. It enables the trainer or learner to correspond with anyone else using Skype via an online computer, internationally and free of charge. Video calling can be added to this, enabling one to see the person one is talking to. At a nominal fee calls can also be made to mobile phones and land lines. SMS text messages can also be sent using Skype

The characteristics of Skype imply that the facility can provide for both delayed and real-time interaction. In other words, it functions both synchronously and asynchronously. Consequently, although it does not impede on the EDT and learning

potential of computers for the SAPS if such a device is not linked, its potential in this regard does increase when the computer is connected.

McGreal *et al* (2004:115) elaborate that almost every personal computer built today is capable of delivering multimedia presentations for entertainment, advertising, or education. However, multimedia on the Internet is still not an everyday reality in the same sense as multimedia on CD-ROM or DVD, which may be commonplace in the home or classroom. Internet connection speeds may limit the quality and quantity of what can be transmitted. Even with wired/wireless and high-speed advances, the transmission of large sound, animation, and video files can be time consuming and frustrating. However, with the introduction of streaming multimedia in the past five or six years, large multimedia files can now be delivered even over modem connections. Streaming audio has been more successful than video, which has generally been limited to small picture sizes or low resolution (grainy) video projections, but as the bandwidth increases, higher quality, full-screen video becomes possible.

6. ADVANTAGES OF COMPUTER USE FOR EDT AND LEARNING IN THE SAPS

Kravits (2004:61) writes that a large number of SAPS learners like working with computers especially when they learn how to make something happen themselves and thereby develop their computer literacy skills. Bixler and Bergman (2007) see computers as an inherently active mode of learning. The SAPS learner must continually do something like answer a question, select a topic and ask for review, and so on. This contrasts with the inherently passive instructional approach involved in classroom lectures, video tapes, or text books.

SAPS learners are furthermore granted the opportunity to learn at their own pace. Kravitz (2004:59) elaborates in this regard that the keyboard controls of a computer largely assist individuals in respect of self-paced watching and re-watching of course content. In addition, it enables police trainers to convey course content to learners over a distance. It allows learners previously unknown flexibility and freedom to

study at virtually any location and at any pace that can accommodate their other commitments such as work and family.

Opp-Beckman, Kieffer and Hochstein (2006:255) add that computer use for EDT allows for the matching of SAPS tools for developing and delivering content to course goals, content, and participants' needs and interests. This mechanism is also able to provide for aspects like individual learning styles, for example, a colour monitor will provide for the visual police learner, while the speaker system caters for audio police learner styles.

According to the US News and World Report (2007), hand-held computers can assist in administration and supporting SAPS training management and enable personal and group learning. The joint emphasis of use of these new technologies is for managing SAPS trainers' work and for EDT and learning. Its smallness means one can always have it with one, unlike personal computers (PCs). Additional advantages of this method include instant-on and a much longer battery life than laptop computers. Course materials, contact with SAPS tutors and fellow learners can all be accessed through the use of personal computers and telecommunications.

An essential aspect to take cognisance of in this regard is the association between the user of the computer and the computer. This issue refers to the facet of interface.

7. THE SIGNIFICANCE OF THE USER INTERFACE FOR EDT AND LEARNING IN THE SAPS

According to Galitz (2007:4), the user interface entails that part of a computer and its software that police members can see, hear, touch, talk to, or otherwise understand or direct. It comprises two components namely, input and output. Input is how a person communicates their needs or desires to the computer. Some input mechanisms include the keyboard, mouse, track ball, one's finger (for touch-sensitive screens or pads), and one's voice (for spoken instructions). Output is how the computer conveys the results of its computations and requirements to the user. The most common output mechanisms are the display screen and printer, followed

by mechanisms that take advantage of a SAPS member's auditory capabilities, namely voice and sound.

Proper interface design will provide a mix of well-designed input and output mechanisms that satisfy the user's needs, capabilities and limitations in the most effective manner. Accordingly, the best interface is one that is not noticed, and one that permits the SAPS user to focus on the information and task at hand instead of the mechanisms used to present the information and perform the task. Inverson (2005:7) elaborates in this regard that good interface allows the SAPS learner to focus on learning and communication, rather than on how to access instructional content and communicate with others.

According to Van Dijk (2006:219) one of the problems is that police members usually understand only partially what the equipment proposes and why this is the case. On the other hand, equipment and software work according to general schemata that are relatively insensitive to special users and circumstances. Communication malfunctioning will often not be noticed by equipment, let alone be solved. This may be attributed to the background knowledge programmed into computers that is not broad and profound enough to fully support the broad range of potential situated actions.

Van Dijk (2006:220) proposes that SAPS developers should strive to make hardware and software more user-friendly and transparent for users. Enabling police users to involve their social environments, like their colleagues, is another option. The establishment of 'intelligent' tutor systems and user models that are designed and built through 'observation' of the police user's successive inputs. With these systems, the computer should be able to derive the SAPS user's knowledge and misconceptions to a certain extent. Another option would be to furnish computers with 'scripts'. Scripts may contain concrete situations of a standard appearance that enable users to interpret specific situations.

Accordingly, the array of technological facilities available possesses the ability to provide for the enhancement of current training in EC SAPS and to subsequently provide for the needs of the respective styles of learning of individual learners.

8.   LEARNER-FOCUSED E-LEARNING SYSTEM FOR THE SAPS

Banathy (1991:96), a leading theorist of educational systems, makes a strong case for SAPS learning-focused educational and training systems where *"the learner is the key entity and occupies the nucleus of the systems complex of education"*. For Banathy, *"when learning is in focus, arrangements are made in the environment of the learner that communicate the availability of learning tasks and learning resources to learners so that they can explore and master learning tasks"*. A distributed learning environment that can effectively support SAPS learning-on-demand must be designed by placing police learners at the centre.

In support of a learner-centred approach, Moore (1998:4) states: *"Our aim as faculty should be to focus our attention on making courses and other learning experiences that will best empower our students to learn, to learn fully, effectively, efficiently, and with rewarding satisfaction"*. Success in an e-learning system involves a systematic process of planning, designing, evaluating, and implementing e-learning environments where learning is actively fostered and supported by the SAPS.

An e-learning system should not only be meaningful to SAPS learners, but also to all stakeholder groups including instructors, support services staff, and the institution. For example, an e-learning system is more likely to be meaningful to *SAPS learners* when it is easily accessible, clearly organised, well written, authoritatively presented, learner centred, affordable, efficient, flexible, and has a facilitated learning environment. When police learners display a high level of participation and success in meeting a course's goals and objectives, this can make e-learning meaningful to *SAPS instructors*. In turn, when SAPS learners enjoy all available support services provided in the course without any interruptions, it makes *police support services staff* happy as they strive to provide easy-to-use, reliable services. Finally, Morrison and Khan (2003:23) write that an e-learning system is meaningful to *institutions* when it has a sound return-on-investment (ROI), a moderate to high level of SAPS learners' satisfaction with both the quality of instruction and all support services, and a low drop-out rate.

9. CONCLUSION

This chapter served to highlight technological mechanisms that are used by the SAPS that have the potential to be utilised for the purposes of EDT and thereby enhance learning. Of these, the computer would probably feature as the most prominent with respect to implementing CAT.

A distinction was furthermore made between computers that are linked and those that are not linked with particular reference to the EDT and learning characteristics thereof. The potential of "stand alone" computers comprising CBT or online-learning for the SAPS is limited with respect to EDT and learning purposes when compared to the potential of computers that are connected. A linked computer enables the SAPS trainer and learner access to a series of SAPS information systems that may be used for EDT purposes. It also enables access to the internet and, in turn, a new world of information.

Furthermore, when a mechanism of this nature, like CAT allows for a blend of these methods, the potential for EDT and learning increases even more. In addition, it would allow the use of the appropriate mechanism to be matched to the appropriate SAPS EDT and learning purpose at a specific point in time.

The user interface was identified as one of the major issues that impacts on the SAPS EDT and learning potential of technology. In this regard, it was emphasised that proper interface design will provide a mix of well-designed input and output mechanisms that satisfy the police user's needs, capabilities and limitations in the most effective manner. The best interface is one that permits the police user to focus on the information and task at hand instead of the mechanisms used to present the information and perform the task.

To enhance the potential that technology may have for EDT and learning in the SAPS, the following chapter will analyse instructional design models applicable to CAT.

CHAPTER FIVE: THE IMPACT OF INSTRUCTIONAL DESIGN MODELS ON EDT AND LEARNING

1.   INTRODUCTION

Efforts to establish more effective and manageable training programmes led to the development of what was referred to as early models of Instructional Systems Design (ISD). Kruze (2009:3) refers to ISD as the most widely used methodology for developing new EDT programmes. ISD is also known as Instructional Systems Design and Development (ISDD), the Systems Approach to Training (SAT), or just Instructional Design (ID). This approach serves to provide a step-by-step system for the evaluation of learners' needs, the design and development of training materials, and the evaluation of the effectiveness of the EDT intervention. A system is any set of components that work together to achieve a specified outcome or goal.

Kruze (2009:3) writes that during the last 60 or so years more than 100 ISD models have emerged, each based on one or more of the learning theories. In this context, ID is the process that keeps the focus on the learning rather than the technology. About e-learning.com (2009:1) writes that many models exist for use by different levels of instructional designers and for different instructional purposes. In this respect, the following models were identified as appropriate to the study and will be discussed in this chapter:

- The ADDIE model;
- The ASSURE model;
- The Concentric Support model; and
- Khan's e-learning framework.

2.   THE ADDIE MODEL

According to Culatta (2009:3), the ADDIE model is the generic process that was traditionally used by instructional designers and EDT developers. The model represents a dynamic, flexible guideline for building effective EDT and performance support tools.

2.1   Phases of the ADDIE model

As depicted in Figure 1 below, the ADDIE model comprises five phases namely, the analysis, design, development, implementation and evaluation phase. Each phase has an outcome that subsequently "feeds" into the next phase. About e-learning.com (2009:1) elaborates that these phases sometimes overlap and can be interrelated.

According to Prestera (2002:1), to deliver focused and relevant EDT required in rapidly changing business environments, internet technology has become ubiquitous as a delivery platform. This gave rise to a need to identify effective ISD approaches appropriate to technology. Nagy (2005:12) regards the ADDIE model as an effective mechanism when considering processes that will ensure that EDT, learning and technology are properly integrated to facilitate learning.
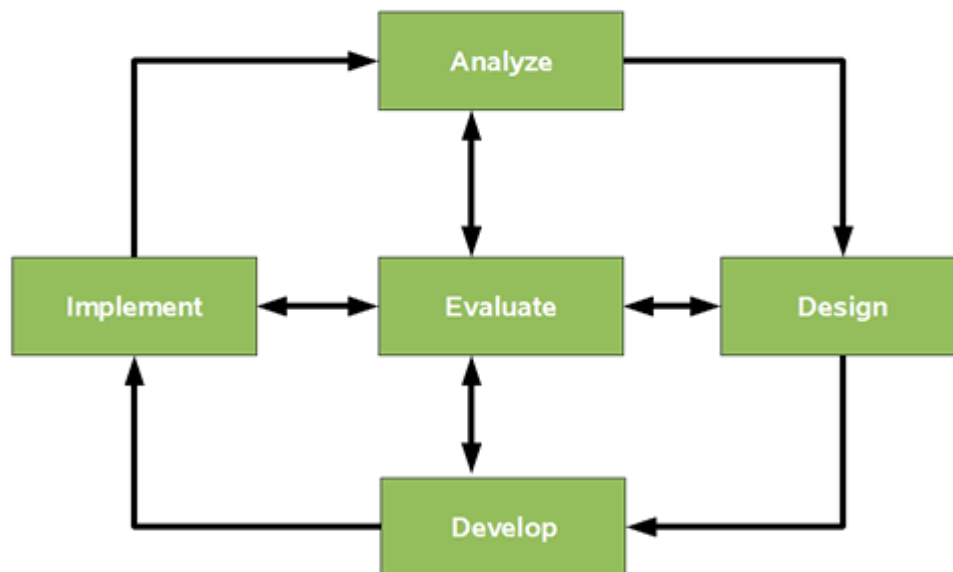
Figure 1: The ADDIE model

Kruze (2009:4) writes that during the analysis phase, the designer develops a clear understanding of the "gaps" between the desired outcomes or behaviours, and the audience's existing knowledge and skills. The design phase is utilised to document

specific learning objectives, assessment instruments, exercises, and content. The actual creation of learning materials is executed during the development phase. These materials are delivered or distributed to the learner group during the implementation phase. Following delivery, the effectiveness of the EDT materials is evaluated.

2.1.1 Analysis phase

About e-learning.com (2009:2) sees this segment as the foundational phase for all other phases. Taylor (2008:3) describes this as the phase where the problem is identified and defined. In turn, this enables the compilation of appropriate solutions to problems. Culcatta (2009:4) elaborates that during this stage, instructional problems are clarified, instructional goals and objectives are established and the learning environment and learner's existing knowledge and skills are identified.

2.1.2 Design phase

Taylor (2008:3) writes that during the design phase information is gleaned from the analysis stage. This allows for a plan or strategy to be compiled. It is also during this stage that the goals established during the analysis phase are expanded upon. Subsequently, the purpose of this phase is to define the information from which the instruction is developed. According to Nagy (2005:12), the design phase deals with the development of learning objectives, the selection of assessment instruments, exercises, content, subject matter analysis, lesson planning and media selection. Culcatta (2009:5) writes that the design phase should therefore systematically and specifically be put together. Systematic compilation refers to a logical and orderly method of identifying, developing and evaluating a set of planned strategies targeted for attaining the project's goals. Specific compilation refers to the importance of each element of the instructional design plan to be executed with attention to details.

Kruze (2009:7) proposes a rapid prototype phase as an extension of the design phase. A rapid prototype is simply a quickly assembled module that can be tested with the student audience early in the ISD process. The evaluation typically looks at things like how well the learners responded to the creative images, how effective the

learning activities are, and how well the programme performs on the chosen technology platform. Based on the feedback, Kruze (2009:7) writes that the design can be revised and another prototype developed. This iterative process continues until there is agreement and confidence in the prototype.

With the emphasis on efficiency, Roytek (2010:2) condones the implementation of rapid prototyping methodology before the evaluation phase. Subsequently, this involves conducting extensive formative testing of issues identified earlier on. In this process, only after the prototype is completed is additional development work done. This will ensure that instructional designers and writers are able to proceed more efficiently since they know exactly what the programme will look like and what it will be capable of achieving. Continual or formative feedback is received while instructional materials are created. This model attempts to save time and money by catching problems while they are still easy to fix. Instructional theories also play an important role in the design of instructional materials. Theories such as behaviourism, constructivism, social learning and cognitivism help shape and define the outcome of instructional materials.

2.1.3   Development Phase

According to Taylor (2008:3), the development segment expands upon the analysis and design stages. Consequently, this phase comprise the generation of the lesson plans and lesson materials and includes the selection of the methods of instruction and all media and supporting documentation to be utilised. According to Nagy (2005:12), the development phase constitutes the creation and assembly of the content assets created during the design phase. Therefore, this stage will include programmers developing and integrating technologies and testers performing debugging procedures.

2.1.4   Implementation Phase

According to Nagy (2005:12), this phase entails the delivery or distribution of instructional materials. Taylor (2008:3) highlights the importance of the material to support the learning outcomes and promote the transfer of knowledge and

associated skills to the learner or participant. In turn, this emphasises the significance that facilitators' EDT encompass the course curriculum, learning outcomes, method of delivery, and testing procedures. Therefore, preparation of learners should also include training with respect to new tools (software or hardware).

2.1.5 Evaluation Phase

Nagy (2005:13) writes that the evaluation phase entails determining whether the materials achieved the desired goals. Taylor (2008:4) adds that the evaluation phase consists of two parts: formative and summative. Formative evaluation is present during each stage of the ADDIE process. The systematic nature of this evaluation practice ensures that every aspect of each phase of the process is assessed.

Summative evaluation consists of tests designed for domain-specific, criterion-related referenced items and providing opportunities for feedback from the users. The nature of this form of evaluation allows for a speedy resolution should any problem arise during any stage of the process. Formative evaluation may best be described as to have a proactive purpose to prevent the occurrence of any problem. Summative evaluation, on the other hand, is applied reactively to cope with a related problem after it has occurred.

2.2   The potential use of the ADDIE model for EDT and learning in the SAPS

According to Kruze (2009:4) almost all ISD models are rooted in the generic ADDIE model. Therefore, the ADDIE model comprises a number of characteristics that enhance its potential to be used for the purposes of designing and implementing CAT as an EDT intervention. These include its systematic capacity.

A purpose of the ADDIE model may be seen as to assist instructors to learn the value of a systematic process for developing instruction materials and courseware. This feature in itself comprises numerous advantages. For one, it will compel the SAPS to make use of all the predefined phases of the model, thereby ensuring the comprehensiveness of the exercise when examining the utilisation of technology for

EDT and learning. However, Kruze and Culcatta (2009) point out that the ADDIE model has been criticised as being too systematic, inflexible, constraining, and time-consuming to implement. However, with respect to the SAPS, training programmes are largely required to be developed under a fixed and often limited budget and schedule. The utilisation of distinct steps or phases in the process will also assist the SAPS to simplify the planning of deliverables.

Utilising the phases of the model when examining the use of technology for EDT in the SAPS will ensure that all relevant aspects in this regard are included in the investigation. Furthermore, the phases of the model provide the opportunity for the effectiveness of these aspects to be tested. Subsequently, any of the included aspects that are found to be defective can be rectified immediately or alternatively be eliminated. In this instance, an opportunity is provided for these aspects to be substituted. With respect to e-learning, Siemens (2002:3) elaborates that the phases of the ADDIE model will ensure: increased consistency between the learning components; the effective structuring and presentation of content; the learner remains the centre of the experience; the sustenance of quality and accelerated product development; and the application of rigorous project management required in any technology related project.

As an alternative to the systematic approach, Culcatta (2009:5) proposes a more holistic, iterative approach whereby the entire development team works together from the start to rapidly build modules. These modules can be tested with the learner audience, and then revised based on their feedback.

Kruze (2009:4) asserts that a series of features is required to make effective use of the ADDIE model. Firstly, the analysis phase entails that the organisation obtain information with respect to the characteristics of the audience. The intended behavioural outcome of learners should also be well defined. Furthermore, the organisation should also consider aspects like delivery options, learning constraints and the timeframe for project completion during this phase. Secondly, the development phase proposes that the SAPS document the project's instructional, visual and technical design strategy and the application thereof to the intended behavioural outcomes. Thirdly, the design phase would require the organisation to

acknowledge aspects like domain, the creation of storyboards, the design of user interface and user experience, prototype creation and the application of visual design. Fourthly, the development phase comprise the generation of the lesson plans and lesson materials. It also includes the selection of the methods of instruction and all media and supporting documentation to be utilised. Fifthly, the implementation phase entails that the organisation ensures that books, hands-on equipment, tools, CD-ROMs and software are readily available and that the learning application or website is functional. Sixthly, the evaluation phase would require the organisation to determine if the materials achieved the intended goals.

3. THE ASSURE MODEL

Trainers have long been aware of the effects of new technology in that they are often hardly acquainted with the use of a particular type of instructional media or technology to facilitate EDT and learning, when new tools appear. This forces the trainer to re-evaluate materials and methods that had been developed only recently, and after the investment of much time and effort. In addition, there is the question whether or not to incorporate the new tools into the instructional model.

According to Gagné (1985:26) one strategy to deal with new instructional media and technologies is to develop a planning framework to establish a time-frame for the use of these tools. Therefore, the timing of introducing new tools into the educational environment is contemplated in a proactive manner. A useful mechanism in this respect is the ASSURE model as depicted in Figure 2.

The ASSURE model is designed to focus the trainer's efforts on the use of media and technology within the classroom environment. This can be applied to a virtual or real classroom situation.

Analyse learners

State objectives

Select instructional methods, media, and materials

Utilise media and materials

Require learner participation

Evaluate and revise

Figure 2: The ASSURE model

3.1 Phases of the ASSURE model

Gagné (1985:26) describes the ASSURE model as an acronym for a series of six steps or procedures. These steps take into consideration the different stages of instruction, also referred to as events of instruction.

3.1.1 Analyse learners

Heinich, Molenda and Smaldino (2002:4) write that in order to select the best media and technology for the delivery of instructional content, it is essential to identify and analyse the audience.

3.1.2 State objectives

Russel, Sorge and Brickner (1994:24) emphasise that stating clear and specific objectives is important, both for establishing learner expectations as well as setting the criteria for what media and technology will be suitable for the particular course. The trainer may develop the instructional objectives, or it may be taken from the supporting course materials. Furthermore, establishing objectives is necessary for accurate evaluation of learner achievement in the course.

3.1.3 Select methods, media, and materials

According to Russel *et al* (1994:24), only after the trainer has analysed the learners and has articulated the objectives for the course, is it possible to select the media and technology appropriate to the particular EDT and learning environment. The first step determines where the learner is, and the second step provides the destination desired by the trainer. Subsequently, the selection (and subsequent use) of the appropriate media and technology will facilitate the learner's progress.

3.1.4 Utilise media and materials

After the methods, media, and materials have been selected, they should be properly implemented within the EDT and learning environment. The HRD website (2010:3) proposes utilising each media type and/or material listed during the selection phase for this purpose. The implementation of these aspects to assist learners in meeting the lesson's objective should be described in detail.

3.1.5 Require learner participation

Russel *et al* (1994:24) write that active learner participation in the EDT process enhances learner outcomes. Furthermore, it increases the likelihood of a successful and satisfactory learner experience. As a result, trainers should be encouraged to provide ample opportunities for learners to manipulate and otherwise interact with instructional materials, practice skills relevant to the stated objectives and provide as well as obtain feedback regarding their learning experience.

3.1.6 Evaluate and revise

The evaluation of the actual effectiveness of the instruction is of vital importance to the trainer. The evaluative process may take place in a variety of formal or informal ways including group discussion, exit interviews, distribution and collection of assessment instruments, and the like. The gathering of data regarding instructional effectiveness will provide a basis for ensuing revisions to the course itself. It also

closes the loop from planning to execution and back to planning again (Russel *et al*, 1994:24).

3.2   The potential use of the ASSURE model for EDT in the SAPS

The feature of the ASSURE model that will most likely have the largest potential for EDT and learning in the SAPS is its capacity to assist the organisation to deal with constant advances in the technological domain. By following the six steps of the ASSURE model, SAPS trainers would be able to incorporate new technologies and technology-based media into courses appropriately and effectively.

In addition, the ASSURE model can be regarded as a tool to assist trainers in ensuring that SAPS courses remain up-to-date, without spending an inordinate amount of time integrating technology purely for technology's sake. In this respect, the model can be regarded as a systematic approach to assist trainers with the writing of lesson plans as well as with organising instructional procedures. In addition, the model can be used as a plan to conduct an authentic assessment of learning. The inspiration for design and development would most likely be derived from learners' needs, the instructional goals, and the availability or desirability of particular media.

However, in this regard Gunter and Baumbach (2003:3) write that the instructional goals should be the focus, not the goal. When integrating technology, it should always be viewed as a tool that assists the learning needs of the learner. The trainer thus becomes a mentor and co-learner, who is actively engaged in enabling learners to access, analyse, apply, and create information electronically. According to Heinich *et al* (2002:5), the ASSURE model is not specifically designed for e-learning. However, in practice the methodology aligns with the requirements of designing courseware for that modality.

According to the Human Resource Development (HRD) website (2010:1), the optimal use of this model for EDT and learning purposes imposes certain requirements. In accordance with the first phase namely, the *analysis of the learners*, the SAPS should view the prerequisite skills or knowledge, learning styles and

motivations of learners as essential aspects in this regard. Secondly, *stating objectives*, requires that the SAPS see the objectives as descriptions of the learning outcomes that can be achieved using the ABCD-format – in other words, audience, behaviour, condition and degree. It is important for trainers to know learners and what they are required to do. The condition under which learners must demonstrate abilities is also significant. Lastly, it is imperative to know how well learners should demonstrate their capabilities. Thirdly, with respect to the selecting of methods, media and materials, the SAPS should utilise the appropriate learning objectives to dictate decisions with regard to what method and media need to be used in this regard. Method refers to for example lectures, online collaboration, group work, a field trip and the like while media refers to photos, multimedia, video and the like. Fourthly, with respect to the *utilisation of media and materials,* the SAPS should refrain from using anything that was not verified beforehand, while ensuring that everything works, setting up the classroom so that the space is functional, providing students with an overview of the programme beforehand and lastly, ensuring the EDT and learning venture remains an experience. Fifthly, *requiring learner participation* would require the trainer portraying how each learner should actively and individually be involved in the lesson. Games, group work, presentations and the like are examples of what may be utilised in this respect. Subsequently, all these activities should provide opportunities to manipulate the information and allow time for practice during the demonstration of the skill. Lastly, in respect of *evaluation and revision*, it is proposed that the SAPS focus on learner performance, media components, and trainer performance. The evaluation should match the objective.

4.   THE CONCENTRIC SUPPORT MODEL

According to Osika and Camin (2005:1), the majority of articles on the assessment and evaluation of learning programmes focus on single elements. In this regard, even titles that are supposed to convey a holistic approach to evaluation only addresses specific issues. Therefore, these programmes fail to take into consideration the complex environment necessary for a high-quality learning programme to be implemented.

Osika (2007:1) writes that the Concentric Support model depicted in Figure 3 can be utilised as a tool to identify the various elements necessary to support the establishment of a quality learning programme. More specifically, it provides insight into the breadth of support required for a quality learning programme.
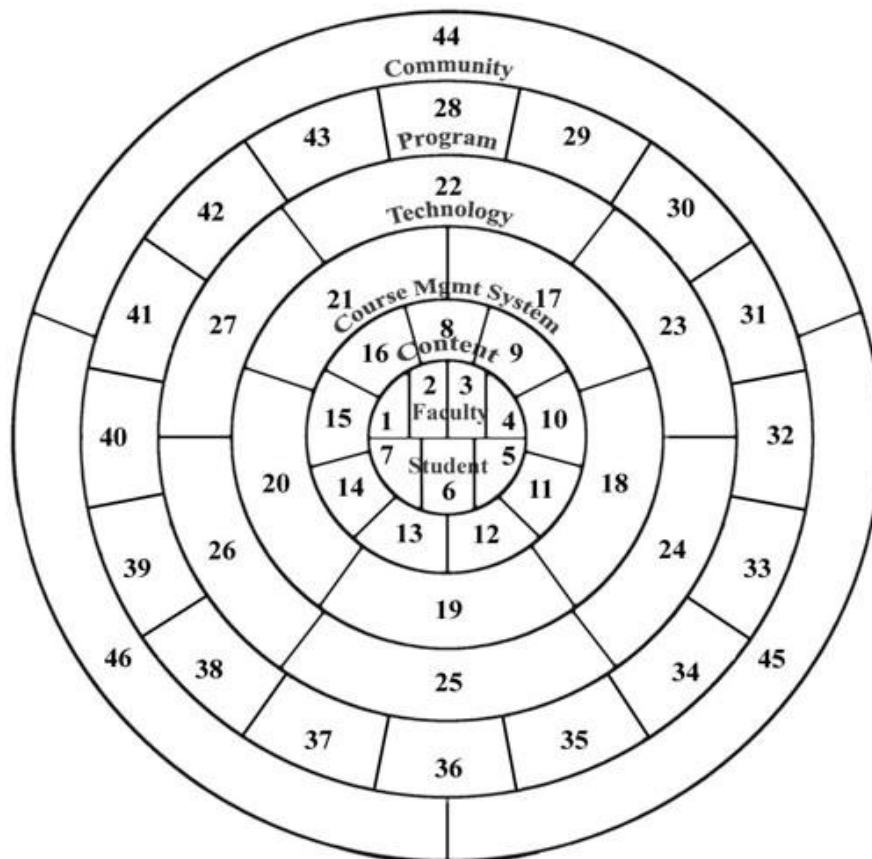
Figure 3: The Concentric Support model

According to Osika (2007:1) the Concentric Support model identifies 46 critical elements crucial to a quality learning programme and illustrates their interrelationship according to seven broad functional areas, namely:

- Faculty support;
- Student support;
- Content support;
- Course management system support;
- Technology support;

- Program support; and

- Community support.

Each of these will be briefly outlined below.

4.1 Faculty support

Osika (2007:1) writes that the core of all learning courses evolves around the faculty, or in this case the trainers, that teach it. In this regard, Levy (2003:3) identifies the need for trainers to have adequate technology skills in that they feel comfortable working with manipulating files, sending and receiving e-mails and other course management tools, as well as troubleshooting hardware and software problems. Levy (2003:4) emphasises the importance of the capability of online trainers as they are more often than not the first line of support to learners experiencing technical difficulties.

Morgan (2000:1) elaborates in this regard that the trainers need easy access to computers, adequate bandwidth, and a host of various peripherals and software, which may include scanners, digital cameras, colour printers, and image editing software. Furthermore, trainers need to be educated and knowledgeable about online pedagogy. Morgan (2000:2) writes that the training environment experienced a metamorphosis when moved online and, as a result, many trainers simply "gift wrap" their traditional EDT methods with technology. In this regard, Katz (2003:2) purports that EDT will only begin to fully utilise the potential that technology has to offer when trainers are fully competent in the use thereof. Finally, and perhaps most importantly, trainers must be motivated to teach online. Springer and Pevoto (2001:48) aptly point out that trainers do not have to be experts in the areas of learning but they should be willing to learn a new methodology and accept the challenges surrounding it. In this regard, Morgan (2000:3) proposes that organisations implement reward structures to motivate trainers to implement technology-assisted EDT ventures.

4.2   Student support

Carlson, Downs, Repman and Clark (1998:47), Palloff and Pratt (1999:24), and Osika and Sharp (2002:4) write that the requirements of student participating in learning programmes correspond with those of trainers. Therefore, both parties need to be technically competent, have easy access to technology, and be motivated to learn online. Furthermore, as independent students that are physically separated from their trainers, it is vital that the technology does not constitute a barrier in this respect. Osika *et al* (2002:4) elaborate that learners should be comfortable with and capable of performing common tasks, such as sending and receiving e-mails and attachments, using a word processor, and locating information online.

According to Spitzer (2000:2) and Palloff *et al* (1999:23), learners also need easy access to technology. Palloff *et al* (1999:23) and Roblyer and Ekhaml (2003:6) emphasise the importance of learners being motivated to learn online since, unlike the traditional classroom set-up, learners have to assume a higher level of responsibility with respect to learning. In addition, learners need to actively engage with the technology, content, trainers and other learners. Roblyer *et al* (2003:6) also add in this regard that learners are required to seek clarification and feedback on their own, in the absence of a predefined time where answers are immediately available, as is the case in a traditional face-to-face classroom. Without the motivation to engage in these activities, learner success is highly unlikely.

4.3   Content support

When moving beyond individual characteristics to the content of the actual courses, Carnevale and Olsen (2003:41), the Distance Education Report (2000:8), Palloff *et al* (1999:25), and WCET (1999:5) emphasise that the primary concern is that the content allows for and promotes interactivity. This interactivity needs to occur between learners, between trainers and learners, and between the learners and the content. In terms of interaction between learners, Belanger and Jordan (2000:22) regard the lack thereof as a major dilemma, as this is an essential component of the learning process. Furthermore, interaction between the trainer and learners is regarded as essential for feedback. Trainers need feedback from learners to ensure

the comprehension of material and to obtain information on their own performance in delivering the material. In addition, learners, on the other hand, need feedback from trainers on their respective achievements in this regard.

Spitzer (2000:4) writes from personal experience that the factor that made the most difference in terms of learner success, as measured through dropout rates, was the amount of online interaction between the trainer and the learner. Thereafter, of importance is that the content should engage the learner in interactive activities. Carlson *et al* (1998:142) agree and point out that, instead of designing instruction aimed at delivering information to the learner, instruction should be designed so as to engage the learner in interactive activities.

Aside from the interactive qualities of courses, Dick and Carey (1990:5) propose certain basic instructional guidelines that apply to the content. Firstly, content should be logically arranged and organised within the course. In this respect, Palloff *et al* (1999:103) correlate the level of active involvement of participants in the course with the extent to which participants struggle with the use of appropriate technologies. Secondly, ACE (2002:7) and Dasher-Alston and Patton (1998:5) point out that it is imperative to clearly state the learning objectives for the course. Thirdly, in agreement with ACE (2002:5), assessment practices should be consistent with stated learning. Fourthly, learning activities should utilise the capabilities of the online environment. Fifthly, courses need to be accessible by a wide variety of learners, including those with special needs (Levy, 2003:6; Ommerborn, 1998:2). Finally, WCET (1999:5) adds the importance of all courses required for the degree or certification to be available online.

4.4   Course management system support

Factors to consider when selecting a course management system for a learning programme include ease of use, breadth of the tool set, and the consistency and visual appearance of the user interface (Green 2002). Morgan (2003:2) regards the ease of use of the course management system as critical for success. According to Palloff *et al* (1999:22), the ideal situation would be to have a course management

system that is easy to navigate and use, allowing the trainer and learners to focus on the content and not the technology.

Morgan (2003:2) writes that the course management system should have a range of tools available that trainers require for the management of their courses. This pre-packaging of tools allows the trainer to focus on EDT as opposed to having to worry about programming or manipulating technology to achieve the desired results. Furthermore, the course management system should allow the organisation the opportunity to customise the interface in order for learners to be able to experience a similar look and feel in each of the courses. According to Carnevale *et al* (2003:42) this refers to allowing organisations to "brand" their courses and programmes through standard navigation formats or other methods. Palloff *et al* (1999:23) elaborate in this regard that a course management system should also be flexible enough to utilise visually appealing course sites to enhance interest on the part of the participants.

4.5   Technical support

Broskoske and Harvey (2000:23) write that two distinct aspects should always comprise a constituent of the technical support requirements of a quality learning programme. These are firstly, the required infrastructure, including the course management system, and secondly, the technical support required by the facility and the learners. According to Katz (2003:3) many learning programmes began with a small cadre of facility members, without consideration of the technical demands the growth of such an endeavour places on the infrastructure. Therefore, in agreement with ACE (2002:6) and Chiti and Karlen, (2001:37), when assessing an institution's current situation or planning for a new implementation, the sufficient robustness of the technical infrastructure to facilitate the handling of the initial and continuing demands that are placed on it, should be in place. ACE (2002:6) and Morgan (2000:3) identified the allocation of adequate resources, including staffing and funding as well as the administering of the course management system as additional essential aspects in this respect.

WCET (1999:6); Morgan (2000:3) and Osika *et al* (2002:3) write that the other side of technical support moves the focus away from servers and bandwidth to that of EDT and services. According to Carlson *et al* (1998:15) it is required to provide technical EDT to the facility that is using the system. This includes providing staff that are available to help resolve technical problems for facility members and learners. In this respect, proper planning can facilitate prompt resolution and enhance the success of such a programme.

4.6   Programme support

According to Broskoske *et al*, (2000:38); Chiti *et al*, (2001:38) and Levy (2003:7) the focus to this point has evolved around what is required to support an effective and efficient learning programme in the actual classroom. However, a large number of programmatic issues still need to be addressed if the programme, as a whole, is to succeed. Consequently, programmatic issues are those that build the foundation for success across the organisation and help provide the support learners and the trainers need outside of the actual classroom. The programmatic issues outlined by this model are separated into four distinct areas namely, instructional support, student support, policy and procedural issues, and executive support.

4.6.1 *Instructional support*

According to Broskoske *et al* (2000:39), more sophisticated hardware and software may provide greater capabilities for the learning programme. However, the potential advantages of the programme will not be realised if additional competent staff support are not provided simultaneously. For learning to flourish, the professional development of the trainers should be supported.

Carnevale *et al* (2003:43) and Chiti *et al* (2001:38) write that the foundation of instructional support lies firstly, in EDT programmes that introduce the trainers to the challenges of EDT online and secondly, in assisting the trainers to effectively adapt courses to an online environment. This implies that instructional support staff should be available to work individually with the trainers to address the specific requirements of courses and learners. Chiti *et al* (2001:38) and Morgan (2000:3)

elaborate that the ability to collaborate with instructional designers and media specialists will allow trainers to move materials online in the manner that is most conducive to learning.

Morgan (2003:4) and Schauer, Rockwell, Fritz, and Marx (1998:23) write that instructional support systems should recognise the time and effort to create online courses. This may include providing mechanisms for peer assistance and mentoring to occur between the trainers involved in the development of learning programmes.

4.6.2 Student support

Levy (2003:6) writes that once learning begins to expand and students are participating in larger numbers, the organisation must look at offering a full range of learner support services appropriate to the online learner. Levy (2003:6) elaborates that a problem with online learning planning is that more focus is allocated to EDT than to learner services. In this respect, Rumble (2000:1) elaborates that without a systematic plan to provide the support required to meet the needs of online learners, these learners are very likely to delay completion or drop out of the programme entirely. Therefore, organisations should be encouraged to offer online access to the critical services enjoyed by traditional learners such as, orientation, registration, fee payment, advising, and access to libraries and research resources.

An important service for learner success, according to Broskoske *et al* (2000:40); Levy (2003:6) and Palloff *et al* (1999:23), is the availability of an orientation facility for learning. Consequently, this orientation should provide insights into the rigors of learning online, the skills and behaviours successful learners require, strategies for functioning within the online environment, and identification of the support systems provided by the organisation. For that reason, only through careful planning and provisioning of learner support systems can an organisation expect to achieve a quality learning programme.

4.6.3   *Policy and procedural support*

Broskoske *et al* (2000:40), Levy (2003:6), and Palloff *et al* (1999:23) write that organisations that want to achieve and sustain a quality learning programme should implement policies and procedures that support and clarify how learning will be administered. This includes providing guidance on how to manoeuvre through governmental regulations, such as copyright laws.

According to ACE (2002:8); Carlson *et al* (1998:16); Chiti *et al* (2001:39) and Olcott (1996:3), the most effective policy an organisation can implement is one that regards EDT in an online environment as something meaningful for promotion. According to Broskoske *et al* (2000:40) and Chiti *et al* (2001:39) organisations are also required to establish clear policy with respect to intellectual property to promote a clear understanding of ownership before courses are created. Carr (2001:5) and Chiti *et al* (2001:39) write that administratively, policies and procedures need to be implemented to provide a recurring budget that will be sufficient to cover the costs of supporting all aspects of learning. According to Morgan (2000:4), more often than not, organisations begin offering courses without an understanding what the cost to maintain the programme involves. If adequate time is not spent upfront with the identification of the costs required to offer such a learning programme and the revenue streams needed to support such costs, an instructionally solid learning programme may fail as a result of a lack of financial stability.

4.6.4   *Executive support*

Levy (2003:6) writes that while the role of the trainer and learner is apparent, administrators often do not realise the importance of these parties in influencing the overall effectiveness and quality of the learning programme. Consequently, executive leadership at organisations should provide clear commitment to the learning programme. According to Belanger *et al* (2000:4) this commitment may be demonstrated by including learning initiatives in the mission, vision, and strategic plan of the organisation. Therefore, when a learning programme is initiated, the organisation's strategic plan should clearly outline the expected benefits and return on investment the programme is intended to generate. Carlson *et al* (1998:144)

elaborate in this regard that the leadership of an organisation should guarantee that the entire organisation shares the same vision of success. Subsequently, a quality learning programme depends on the entire institution providing support to the initiative. This support can only be garnered if each member of the institution fully understands their role in the venture.

4.7   Community support

According to Carlson *et al* (1998:145); Chiti *et al* (2001:40) and WCET (1999:7), in order to sustain a quality programme, an organisation needs the support and acceptance of the larger community. A vital aspect is to have the programme accredited by the organisation's accreditation body. Consequent to the accreditation process, the organisation is required to guarantee that the programme will provide learners with the skills and knowledge necessary to be recruited and placed into jobs. In this respect, Broskoske *et al* (2000:41) elaborate that the recruitment of learners into positions will impact on the marketing of the programme and the general public's impression of the online learning programme. Furthermore, the perception of the programme will influence the overall perception of the quality of the organisation. Therefore, adequate planning and implementation of online support systems will contribute to strengthening the organisation's learning programme thereby making it an asset and not a burden on the reputation of the hosting organisation.

4.8   The potential use of the Concentric Support model for EDT in the SAPS

The Concentric Support model can be used as the basis for a systematic assessment of the SAPS' readiness to support an effective learning programme through CAT. The information the model contains can help the SAPS understand and build the support systems necessary to host a successful and sustainable learning programme using CAT methods.

The SAPS in collaboration with Osika *et al* (2005:32) would require a number of aspects to ensure the optimal use of the model. Firstly, with respect to learner issues, learners are required to at least have basic technical skills and are motivated

to learn online. Technology should also be readily accessible. Secondly, with respect to content issues, courses should allow for aspect like interaction between learners and between trainer and learner. Content should be logically arranged and actively engage the learner in the learning process. Learning objectives should also be clearly stated. Thirdly, the course management system should be easy to use by the trainer and the learner and comprise a broad tool set. With regard to the technical aspects, the SAPS should make available the technical infrastructure and resources required for the administration of this venture. Technical training should be available for trainers and learners. Fourthly, in respect of *i*nstructional support issues, the SAPS should ensure that instructional support staff is available to both trainer and learners. Furthermore, assistance should be available to the trainers with respect to the developing of course content through avenues such as peer assistance and/or mentoring. Fifthly, learner support issues would require the organisation to provide for orientation and for learners to have access to online advising as well as library and research resources. Sixthly, policy and procedural issues would require the organisation to have a clear policy on intellectual property as well as a recurring budget to cover the costs of the venture. Seventh, *a* clear commitment is required from the executive leadership of the organisation to ensure that a common vision of the purpose of the programme is shared across the organisation and that this is also included in the organisation's strategic plan. Lastly, community issues would require the online learning programme is accredited by a recognised academic institution and that the general public has a positive impression of the programme.

The design, development, implementation and evaluation of open, flexible and distributed learning systems require thorough investigation and selection of attributes and resources of the internet and digital technologies. This is even more complex in concert with instructional design principles and issues important to various dimensions of online learning environments. After reflecting on these aspects, Kahn (2001) developed the framework for e-learning discussed below.

5. BADRUL KAHN'S E-LEARNING FRAMEWORK

According to Kahn (2001a:1) advances in information technology and new developments in learning provide an array of opportunities to create well-designed, learner-centred, engaging, interactive, affordable, efficient, easily accessible, flexible, and meaningful, distributed, and facilitated e-learning environments. The dimensions of Kahn's e-learning framework are depicted in Figure 4.
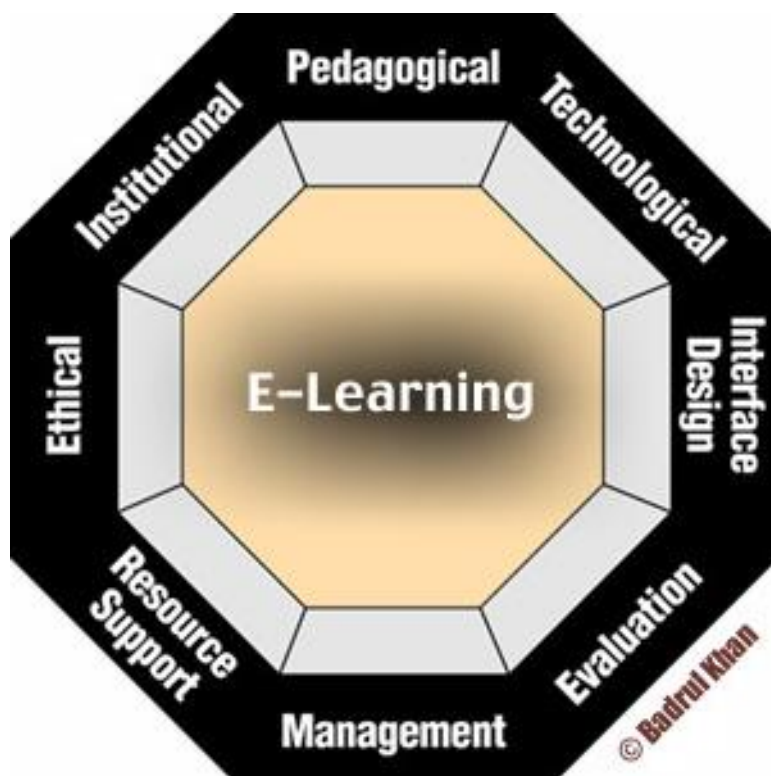
Source: Kahn (2009:2)

Figure 4: Kahn's e-learning framework

5.1 Dimensions of the Kahn model

According to Kahn (2009:2) the framework provides a list of considerable factors required for the creation and implementation of a successful technology-assisted EDT and learning experience for diverse learners. Various factors contained in the dimensions of the framework can provide guidance in the design, development, delivery and evaluation of flexible, open learning environments.

Kahn (2009:2) elaborates further that success in an e-learning system involves a systematic process of planning, designing, evaluating, and implementing online learning environments where learning is actively fostered and supported. Kahn (2001b:1; 2009:2) sets out to provide a systemic framework for the understanding of those factors that contribute to an effective e-learning system. These factors are clustered into eight dimensions that will consequently be discussed.

5.1.1 Pedagogical dimension

The pedagogical dimension of e-learning refers to issues concerning goals/objectives, content, audiences, goal and media analysis, design approach, organisation and methods, and strategies and mediums of e-learning environments. Various e-learning methods and strategies include presentations, demonstrations, drill and practice, tutorials, games, story-telling, simulations, role-playing, discussions, interactions, modelling, facilitation, collaboration, debates, field trips, apprenticeship, case studies, generative development, and motivation.

5.1.2 Technological dimension

The technological dimension of the framework examines issues surrounding the technological infrastructure with respect to e-learning environments. This includes aspects like infrastructure planning, hardware, and software.

5.1.3 Interface design dimension

Interface design refers to the overall look and feel of e-learning programmes. This dimension encompasses page and site design, content design, navigation, and usability testing.

5.1.4 Evaluation dimension

The evaluation of e-learning includes both the assessment of learners and the evaluation of the EDT and learning environment.

5.1.5 Management dimension

The management of e-learning refers to the maintenance of learning environments and the distribution of information.

5.1.6 Resource support dimension

The resource support dimension of the framework firstly, examines online support. This includes aspects like instructional and/or counselling support, technical support and career counselling services. Secondly, the scrutinising of resource support entails both the online and offline resources required to foster meaningful learning environments.

5.1.7 Ethical dimension

The ethical considerations of e-learning refer to social and cultural diversity, bias, geographical diversity, learner diversity, information accessibility, etiquette, and the legal issues. The legal aspects include privacy, plagiarism and copyright.

5.1.8 Institutional dimension

The institutional dimension is concerned with administrative aspects like organisation and change, accreditation, budgeting, return on investment, information technology services, instructional development and media services, marketing, admissions, and alumni affairs. Secondly, academic affairs include staff support, instructional affairs, workload, class size, compensation, and intellectual property rights. Lastly, student services refer to facets like pre-enrolment services, course and programme information and orientation, advising, counselling, registration and payment, library support, tutorial services, as well as other services that are related to e-learning.

5.2   The potential use of Kahn's e-learning framework for EDT in the SAPS

The SAPS can utilise Kahn's framework to identify those dimensions of e-learning that will contribute to the establishment of the most effective and efficient learning

system where technology is exploited for the purposes of EDT. The model may be used to decide on appropriate traits and resources required in this regard. These dimensions will offer direction to the SAPS with respect to the design, development, delivery and evaluation of effective and efficient CAT learning systems.

6.   CONCLUSION

The instructional design models discussed in this chapter comprise conceptual frameworks that provide the SAPS with an overview of the characteristics and features of effective CAT learning systems. It was found that the ADDIE model has been applied by instructional designers as a point of departure for many decades and its phases provide a useful foundation for the development of a CAT system in the SAPS. It was pointed out that trainers are often inundated with the challenges associated with the continuous advent of new technologies and that the ASSURE model may be used to provide guidance to the organisation on how to deal with this dilemma. The Concentric Support model was discussed as a tool to identify the various elements necessary to support the establishment of a quality learning programme. Similarly, the Kahn e-learning framework was analysed as a guideline to assist the SAPS on how best to make use of technologies for the purposes of EDT. Although these models differ in terms of their purposes and focal points, all of them advocate a systematic process to develop, implement and evaluate CAT learning systems.   Furthermore, it was found that successful CAT learning programmes rest on a foundation of certain prerequisites such as executive management support, adequate financial and technological resources, competent staff, well-supported learners, and course management systems that are user-friendly.   These requirements will be kept in mind when developing a customised CAT model for the SAPS in Chapter Eight of this study.

The following chapter will provide an exposition of the research design and methodology that were applied to achieve the objectives of this study.

CHAPTER SIX: RESEARCH DESIGN AND METHODOLOGY

1. INTRODUCTION

The purpose of this chapter will be to outline the research design and structured framework for the execution of the research process to address the research problem and objectives. The methods, techniques and procedures employed in the process of implementing the research plan, as well as the principles and assumptions underlying their use, will be examined.

The chapter will firstly focus on the research design and the reasons substantiating the use thereof. This is followed by an analysis of the target population, the sampling technique and sample size. Thereafter, the processes pertaining to data collection, processing and analysis will be described. The chapter will close with an analysis of data management and control issues pertinent to the study, followed by an exposition of the ethical principles adhered to during the course of the study.

2. RESEARCH DESIGN

This study can be regarded as descriptive in nature since it aims to describe the phenomenon of Computer-Assisted Training (CAT) as an EDT intervention for the South African Police Service (SAPS) in the Eastern Cape Province (EC). Babbie and Mouton (2002:81) are of the opinion that research is of a descriptive nature where the aim of the study is to accurately depict a variety of characteristics of an observable phenomenon, or explore a possible correlation among two or more phenomena.   Furthermore, Singleton and Straits (1988:93) note that a descriptive study is a structured, fact-finding enterprise focused on well-defined dimensions of a particular problem.

Leedy and Ormrod (2005:191) add that descriptive research involves either identifying the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena. In this instance, as was indicated in Chapter One, the primary focus of this study is to investigate whether CAT is a viable

method of providing EDT interventions in the EC SAPS with specific reference to whether:

- The computer literacy levels of EC SAPS management officials are sufficiently advanced to apply CAT.

- EC SAPS management officials have access to adequate technological infrastructure to ensure the viability of CAT.

- The attitudes and perceptions of EC SAPS management officials are conducive to the use of CAT as a training method.

- Various types of training will benefit from the application of CAT methods in the EC SAPS.

In other words, the study primarily aims to analyse the attitudes of the SAPS management officials with respect to the viability of CAT as an EDT intervention in the Eastern Cape Province SAPS. In support of the primary focus, the secondary objectives of the study are to assess the levels of computer literacy of the relevant role-players, as well as their access to the appropriate technological facilities and infrastructure required for the purpose of the effective and efficient use of CAT. The research objectives were addressed through the use of both quantitative and qualitative research techniques.

2.1   Quantitative techniques

Cramer and Howitt (2004:132) write that where there is some attempt to summarise the data using numbers, it constitutes a quantitative study. Leedy and Ormrod (2005:207) refer to data that can be summarised through statistical analyses as quantitative in nature. Consequently, descriptive quantitative research can make use of various methods. However, the approach that scrutinises the phenomena of the moment most effectively is survey research.

Leedy and Ormrod (2005:183) describe survey research as the acquisition of information about one or more groups of people with respect to aspects like characteristics, opinions, attitudes or previous experiences. The information is obtained by asking questions and tabulating the answers. Babbie and Mouton

(2002:232) rate survey research as the best method available to the social scientist interested in collecting original data for the purposes of describing a population that is too large to observe directly.

Reduced to its basic elements, survey research is quite simple in design and involves the researcher posing a series of questions to willing participants, summarising their responses with percentages, and drawing inferences about a particular population from the responses of the sample (Leedy & Ormrod, 2001: 196). The completion of questionnaires was selected as the appropriate mechanism to obtain data from the relevant role players.

Sapsford and Jupp (2006:102) regard questionnaires as highly structured methods of data collection. The chief advantage of questionnaires is its cost saving capacity. In addition, questionnaires are also time efficient. It is much faster to conduct an investigation using this technique than any other structured data collection method.

Questionnaire construction was performed in collaboration with the study promoter and a qualified statistician from the Nelson Mandela Metropolitan University (NMMU). This ensured that all requirements with respect to questionnaire construction were adhered to. The questionnaire construction process involved the careful selection and refinement of those questions deemed most important to ensure that accurate information was obtained to address the problem statement and research questions of the study.

The questionnaire contained both fixed response and open-ended questions. These questions were formulated in a manner that would eliminate the collection of data likely to be classified as irrelevant, inaccurate, ambiguous, or biased. In addition, the questionnaire was constructed in a manner that would ensure it to be as concise, appealing and user-friendly to respondents as possible.

The questionnaire comprised three sections. Section A was designed to obtain the biographical information of respondents. Section B focused on obtaining information, firstly, pertaining to the computer literacy of respondents, and secondly with regard to their access to and the availability of the required information technologies to

facilitate CAT. Section C was designed to assess the attitudes and perceptions of respondents with regards to the viability of using CAT for the purposes of EDT in the EC SAPS.

Various mechanisms were put in place to promote data management and quality control. The implementation of a pilot study was utilised as an instrument in this regard. This was conducted utilising the SAPS stations that comprise the sample for the area of Port Elizabeth. Sapsford and Jupp (2006:103) write that a pilot investigation is a small-scale trial undertaken before the main investigation with the intention of assessing the adequacy of the research design and of the instruments to be used for data collection. Piloting the data-collection instruments is essential, whether these comprise interview schedules or questionnaires. The pilot study conducted could not identify any flaws with respect to the research plan and the questionnaire to be used for data collection.

2.2   Qualitative techniques

This study also included a qualitative component in the form of individual semi-structured interviews with role players that were considered to be essential contributors to the study. According to Babbie and Mouton (2002:270) the primary goal of studies using a qualitative approach is to describe and understand, rather than to explain phenomena.

Babbie and Mouton (2002:289) elaborate further that a qualitative interview is an interaction between an interviewer and a respondent. Consequently, the interviewer has a general plan of inquiry, but not a specific set of questions that are asked using particular words and in a specific order. The interviewer establishes the general direction of the conversation and pursues specific topics raised by the respondents. Ideally, the respondent does most of the talking. This method constitutes an open interview. The advantage thereof is that it allows respondents to speak for themselves. Welman and Kruger (2001:183) elaborate that qualitative interviewing is characterised as *"flexible, iterative and continuous, rather than prepared in advance and locked in stone."*

With respect to the study, the conducting of qualitative interviews firstly served the purpose of testing the validity of the survey findings and, secondly, to assess whether the results of the questionnaire conducted in 2005 were still relevant in the present-day EC SAPS context.

2.3   Triangulation

During the study the research questions were tested using a combination of literature study, quantitative survey and qualitative interview techniques. Consequently, this constitutes the triangulation technique that was used to obtain appropriate study data. Babbie and Mouton (2002:275) write that triangulation, also known as the use of multiple methods, is a plan of action that will raise researchers above the personal biases that stem from single methodologies.

3.   DATA COLLECTION

Familiarising oneself with the nature of the study data is essential since this has important implications for the reliability and the type of analysis to which it can be subjected. In this regard, Walliman (2006:51) distinguishes between primary and secondary data.

3.1   Primary data

Primary data is classified as data that have been observed, experienced or recorded close to the event. It represents the nearest that one can get to the truth. In this study, primary data were obtained by means of questionnaires and personal interviews with appropriate role players in respect of the research objectives.

3.1.1 Questionnaires

In agreement with Fielding and Gilbert (2006:7), the survey questionnaire was pre-coded for the purposes of facilitating the analysis of the primary data. Sapsford and Jupp (2006:153) elaborate that data is expressed in numbers and counts because

this gives the strongest impression of factual accuracy and does not appear to bear the marks of interpretation.

In an attempt to ensure the attainment of a high response rate, the questionnaires were delivered to the respondents in person. Walliman (2006:89) writes that the advantages of personal delivery are firstly, that one can assist respondents to overcome difficulties with the questions and secondly, that one can immediately follow up on responses that seem to be odd or incomplete.

A total of 228 completed questionnaires which amounted to a response rate of 95 per cent were attained from respondents. According to Walliman (2006:89), a response rate of 85 per cent is regarded as excellent.

Upon arriving at a pre-selected SAPS station, attempts were firstly made to contact the relevant Station Commissioner (SC). In some cases, where the Station Commissioner was not available, the second- or even the third-in-charge served the purpose of assisting the researcher to identify the appropriate respondents. Consequently, the purpose of the exercise was explained to all relevant role-players. Thereafter, selected respondents were requested to participate in the study by completing the questionnaire. Before the questionnaires were distributed, it was emphasised that participation in the study was completely voluntary and all respondents were asked whether they had any objections to completing the questionnaire. The researcher was available to respondents for the duration of questionnaire completion. The purpose of this was to clarify any uncertainties with regard to any of the questions enclosed in the questionnaire.

After the completion of the questionnaires, the researcher briefly perused the questionnaires to ensure correctness and completeness. If found to be complete, questionnaires were assigned a number at the top of the front page that corresponded with the number allocated to the SAPS station on the name list attached to the area envelope. Thereafter, the questionnaire was placed back into the relevant envelope that catered for that specific area. Respondents were thanked for their contribution to the study upon completion and submission of their questionnaires.

Questionnaires could personally be obtained from all respondents at provincial, area, and station levels. However, due to limited funds, personal delivery of the questionnaire to the computer trainer at national level was not possible. Subsequently, this respondent was contacted telephonically in order to explain the purpose of the questionnaire and to determine whether the respondent would be willing to complete the questionnaire. After pronouncing his willingness to participate in the study, the questionnaire was faxed through to him and the completed questionnaire was returned by fax to the researcher on the following day.

The administering of the questionnaires was conducted in 2005. To assess whether these research findings were still valid, a follow-up survey was conducted in April 2010 through personal interviews with selected knowledgeable SAPS management officials.

3.1.2   Personal interviews

Before interviews could be conducted certain aspects needed to be considered. Firstly, an assessment was made of the various themes that emerged from the literature study. Thereafter, prominent role players within the EC SAPS that were regarded as specialists with respect to these themes were identified. Subsequently, these specialists were interviewed to establish the current status of the research findings that emerged from the 2005 questionnaire survey.

The 2005 survey questionnaire constituted the point of departure to identify the most prominent issues of relevance in 2010. To coincide with the requirements of a qualitative study, the questionnaire was merely used as a guideline to identify the general direction of the interaction between researcher and respondent.

Subsequently, each member of the target population at provincial as well as cluster level was telephonically interviewed. The questions contained in the 2005 questionnaire were posed to the appropriate respondent and the subsequent response recorded. For this purpose a notebook was used to record responses from each respondent in writing.

3.2 Secondary data

Secondary data were drawn from government publications, textbooks, online data, Internet websites, the SAPS mainframe and intranet, as well as the internet. This secondary data was analysed for the purposes of conducting a thorough literature study that would provide a theoretical and conceptual framework for the analysis of the primary data. This data was also utilised for the purposes of informing the development of the model for the utilisation of CAT as an EDT method in the EC SAPS.

In obtaining the primary data through questionnaires and interviews, it was necessary to determine the units of analysis and the study population as the first steps in sampling appropriate respondents.

4. TARGET POPULATION AND SAMPLING TECHNIQUE

Leedy and Ormrod (2001: 210-211) write that, where a study aims to describe one or more characteristics of a fairly large population, it is not usually possible to study the entire population of interest. This requires the selection of a subset, or sample, of that population. To ensure that a study fulfils the requirement of external validity, it is essential that the sample is truly representative of the target population. To this end, it is essential to provide an outline of the target population of this study and a description of the process that was followed to select the sample.

4.1 Target population

Singleton and Straits (1988:138) write that the target population, or the population to which the researcher would like to generalise the results, should firstly be clarified. For the purposes of this study, the target population comprises management officials of the EC SAPS. The Eastern Cape Province constitutes one of the nine provincial configurations and has a total population of seven million people (SAPS, December 2009). The Eastern Cape Province SAPS is divided into eight policing areas which are in turn sub-divided into 191 SAPS station jurisdictions (SAPS, December 2009).

These geographical clusters were used for the purposes of sampling the respondents.

The next step in defining the target population is to construct the sampling frame which denotes the set of all cases from which the sample is actually selected (Singleton and Straits, 1988:141). In this regard, it needs mention that the SAPS comprise different policing functions. Subsequently, not all role-players with their respective policing functions would be able to make a meaningful contribution to the study. After a thorough analysis of the SAPS organogram at the various levels (i.e. national, provincial, cluster and station levels), certain role-players within the management strata were identified as the target population of the study in the EC SAPS. These role-players were selected as a result of their daily involvement with the subject under scrutiny, namely EDT in the EC SAPS. These role-players are the following:

- Computer Trainers (CT);
- Human Resource Management (HRM) Training Managers;
- Information and Systems Managers (ISM); and
- Field Training Officers (FTOs).

These role-players function on national and provincial clusters as well as station level respectively. Subsequently, as a result of the amount of national, provincial, cluster and SAPS station contingents and the number of role-players selected on each of these levels, the total population of the study comprised 592 management officials (See Table 2 for a breakdown of the N=592 population.)

Of significance in this regard is a clear outline of the technique used to sample respondents within each of the above-mentioned strata.

4.2   Sampling technique

To ensure that the selected sample was representative of the target population, a 40 per cent sampling fraction was applied in the study. According to Leedy and Ormrod (2005:207) this constitutes a sufficient sample size where the target population

exceeds 500 elements, which is the case in this study (i.e. 592 EC SAPS management officials).

Proportional random stratified sampling was utilised to ensure that each segment of the target population was proportionately represented in the sample (Leedy and Ormrod, 2005:199). A computer was utilised to perform the random selection process within each stratum. In effect, the computer programme generated and allocated its own series of random numbers to each of the units of the target population, thereafter selecting the required number of sample elements per stratum. As a result, the characteristics of the sample closely approximate those of the total population. The target population of the study comprised 592 EC SAPS members spanning across all the managerial levels. Subsequently, in accordance with a 40 per cent sample, 237 management officials were randomly selected to participate in the study. Table 2 illustrates how the sample was selected from the role-players from within each of the managerial strata that constituted the target population.

Table 2: The sample of the study

LEVEL	MANAGERIAL ROLE-PLAYER	TARGET POPULATION	SAMPLE
NATIONAL	COMPUTER TRAINER	1	1 (100%)
PROVINCIAL	HUMAN RESOURCE MANAGER (TRAINING)	1	1 (100%)
	INFORMATION AND SYSTEMS MANAGER	1	1 (100%)
CLUSTER	HUMAN RESOURCE MANAGER (TRAINING)	8	3 (37.5%)
	INFORMATION AND SYSTEMS MANAGER	8	3 (37.5%)
STATION	HUMAN RESOURCE MANAGER (TRAINING)	191	76 (39.8%)
	SYSTEMS CONTROLLER	191	76 (39.8%)
	FIELD TRAININING OFFICER	191	76 (39.8%)
		592	237 (40.0%)

In terms of geographical coverage, a 40 per cent sampling fraction implied selecting three out of the eight EC SAPS areas and 76 out of the 191 EC SAPS stations. This was again done through a process of random selection to ensure that each member of the target population had an equal chance of being selected. As indicated in Figure 5, the calculation of the number of EC SAPS stations sampled per area was done proportionately to comprise 40 per cent of the total number of SAPS stations in each area of the Eastern Cape Province.
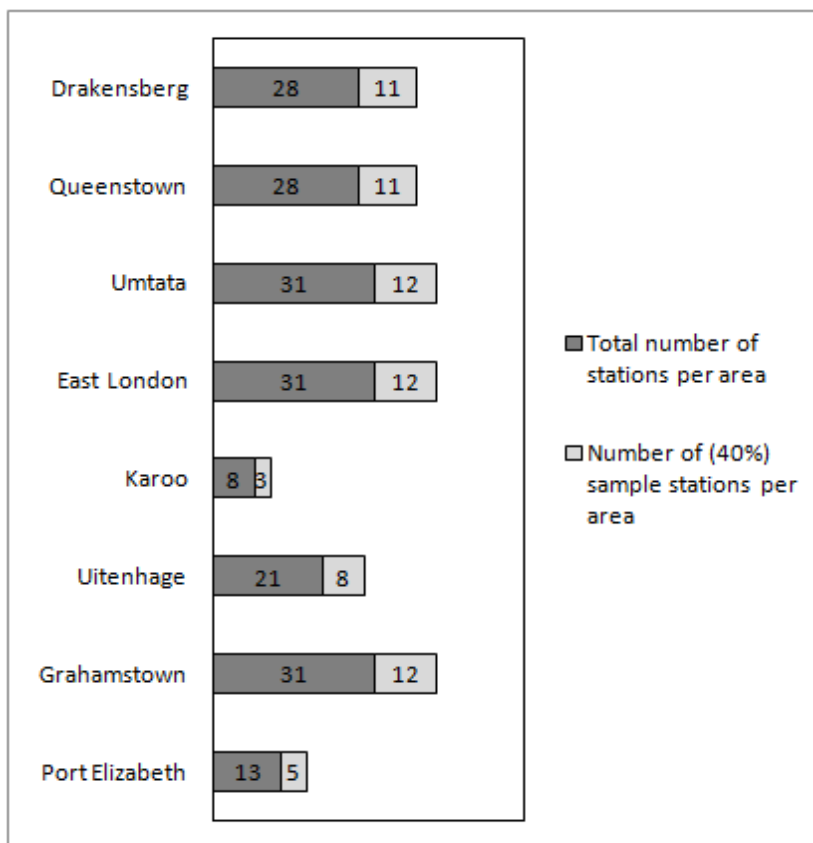
Figure 5: Number of SAPS stations per area involved in the study

As was mentioned, as a follow-up to the questionnaire administered in 2005, personal interviews were conducted in 2010. The sample utilised for this purpose was the two members of the target population at provincial level and 16 members at cluster level. The reason for selecting SAPS management officials at only provincial and cluster levels was that these members are employed in a supervisory or managerial position above those members of the target population at station level. Subsequently, these members were in a position to report not only on behalf of their

personal opinions but also the respondents at station level. The selection of this sample implied a 100 per cent representation of the target population on the two levels.

5. DATA CAPTURING AND ANALYSIS

Criteria that play a key role in determining the approach to capturing and analysing data from the quantitative component include the amount and type of units of analysis, the number of variables, the research design, the sample design, and most importantly the research questions that support the statement of the research problem. Willis (2004:107) proposes the application of statistical tests using a Microsoft Excel software application. The capturing and analysis of the data emanating from the study were executed using a Microsoft Excel software application in collaboration with a qualified statistician from NMMU.

Data were firstly coded. Codes are labels used to allocate units of meaning to the collected data. Coding is a preliminary analytical method used as a basis for the units of measurement to be counted in order to tabulate the initial results of content analysis in a content frame (Walliman, 2006:126). The software application also assists with the tabulation of data by arranging the data into orderly columns and rows for better data management.

The data obtained for each area, with its respective SAPS stations, were firstly separated from each other. Thereafter, completed questionnaires were once again perused and checked for obvious errors, like entries in wrong places and the like. The data with respect to a single SAPS station were keyed in one at a time to avoid confusion. To ensure accuracy, every questionnaire was double-checked and the data of the questionnaire compared to that which was keyed in before commencing with the capturing of data for the next questionnaire.

The classification process follows the editing, coding and tabulation processes discussed above. This involves arranging data into sequences and groups according to their common characteristics or separating data into different, but related parts. Walliman (2006:133) elaborates that even the simplest classification can help to

organise seemingly shapeless information and to identify differences with respect to aspects like behaviour or types of people. In this study, classification contributes to presenting the research findings in a simpler form, identifying clear points of similarity and difference, and facilitating comparisons to draw attention to relationships between variables.

Sapsford and Jupp (2006:209) write that the nature of data can have a considerable influence on the category of analysis. Accordingly, the data obtained for the study comprised descriptive statistics. The numbers collected from this survey say very little by themselves. The statistics that focus on the description of the data presented will have a descriptive purpose. In contrast, the statistics that focus on drawing conclusions about the wider population from the sample data to examine observable differences, similarities and relationships of variables will have an inferential purpose.

The information obtained for the qualitative component of the study was captured and analysed as follows. As was mentioned, a single respondent was telephonically interviewed at a time. After a pre-selected question was posed to the respondent, his or her response was captured in detail in a notebook. This exercise was repeated for the purpose of each of these questions. Thereafter, the above practice was replicated for each of the respondents selected to take part in this process. Subsequently, data was arranged in collaboration with common characteristics. Classification of this data assisted to recognise apparent points of resemblance and distinction. Lastly, this data was interpreted through the application of mathematical calculations to ascertain major and minor percentages for each aspect that was tested.

Certain mechanisms were applied to ensure that the highest ethical standards were upheld during the course of this study.

6. ETHICAL CONSIDERATIONS

All respondents were treated with utmost respect. A concerted effort was made to ensure that respondents did not feel compelled to participate in the study. To this effect, respondents were informed that participation in the study was completely voluntary. Furthermore, all data obtained for the purposes of the study were treated confidentially and the anonymity of the respondents was warranted by ensuring that no names of respondents were recorded on questionnaires.

7. CONCLUSION

This chapter served to outline the research design applied for the purposes of addressing the identified research problem of this study. To this end, this chapter firstly focused on providing an exposition of the quantitative design of the study whereby data was collected making use of a structured questionnaire. Thereafter, the chapter focused on presenting a display of the qualitative design of the study. This was obtained through the employment of personal interviews.

It was pointed out that the study adopted a descriptive approach primarily in respect of the attitudes of EC SAPS management officials with respect to the viability of CAT for EDT purposes. In support of this, the secondary focus of this study was to assess the levels of computer literacy and the access to appropriate CAT facilities of the respondents constituting the sample. It was further indicated that this study made use of random, proportionate stratified sampling to ensure representivity and scientific validity with respect to the inclusion of the diverse characteristics of EC SAPS Management in the sample (i.e. the target population).

In the following chapter, the findings that were generated from the questionnaire will be presented as these pertain to the attitudes and perceptions of EC SAPS Management with respect to the viability of implementing CAT in the Eastern Cape Province.

CHAPTER SEVEN: PRESENTATION AND DISCUSSION OF RESULTS

1. INTRODUCTION

This chapter presents the findings of the study by firstly explaining the results of the quantitative survey questionnaire that was conducted in 2005, and secondly of the follow-up qualitative interviews conducted in 2010. The focus will particularly be on analysing the viability of utilising computer-assisted training in the EC SAPS by assessing the attitudes of SAPS management officials in this respect, as well as the availability of the required computer infrastructure for this purpose.

The chapter commences with an overview of the biographical details of the respondents. Secondly, the chapter will assess the sample in terms of their computer literacy levels. This is followed by an evaluation of the computer facilities that respondents have access to. In turn, this will serve to determine if the latter is sufficient for CAT to be used for EDT purposes in the EC SAPS. The chapter will also indicate respondents' attitude towards the use of CAT for the purpose of EDT in the SAPS.

2. BIOGRAPHICAL DETAILS OF RESPONDENTS

A dissection will firstly be provided with respect to the gender of the respondents. This is followed by a categorising of respondents in terms of age, home language, highest educational qualifications, length of service in the SAPS and lastly, the post titles held by the respondents. It should be noted that not all respondents completed every question whether in the biographical or other sections of the questionnaire. Therefore the number of respondents who answered a specific question shows some fluctuation. N – values are included where appropriate to indicate the number of respondents who answered a specific question.

Figure 6 shows the gender distribution of respondents. It is clear that more than half (54%) of the respondents were male. The gender breakdown for the total target population of EC SAPS management officials comprised 57 per cent male as

opposed to 43 per cent female, which indicates that the sample was fairly representative in terms of gender distribution.
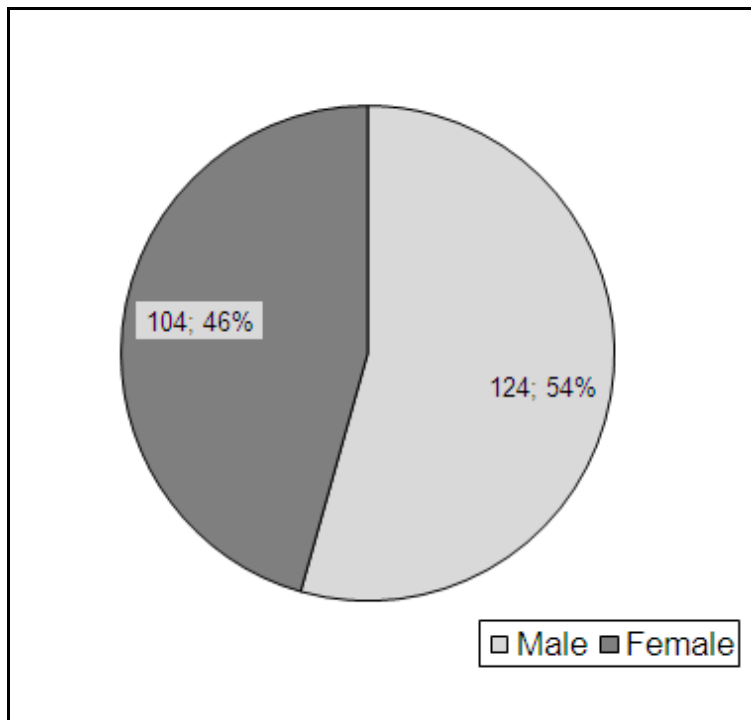
Figure 6: Gender of respondents

Figure 7 portrays the age profile of the respondents and from this figure it is clear that most of the respondents (70%) were between 30 and 49 years of age. Only eight per cent were more than 50 years of age while 22 per cent were between 20 and 29 years of age. The proportion of the sample 49 years or younger was 92 per cent which points to a fairly young profile of EC SAPS management officials who participated in this study. This is representative of the age profile for the total target population where 96 per cent are 49 years or younger.

Figure 8 depicts the language preferences of the respondents. From this it is clear that the largest proportion of respondents (36%) comprised Xhosa speakers while the minority (4%) were monolingual English. However, 41 per cent of the respondents were fluent in a combination of two of the three official languages of the Eastern Cape Province, namely Xhosa, Afrikaans and English. It is interesting to note that most of the respondents (61%) were either Xhosa or Xhosa and English

speaking. The language profile for the total target population comprised 24 per cent Xhosa, 36 per cent English and Xhosa, 17 per cent English and Afrikaans, 14 per cent English and nine per cent Afrikaans speakers. Figure 9 depicts the highest educational qualifications of the respondents.
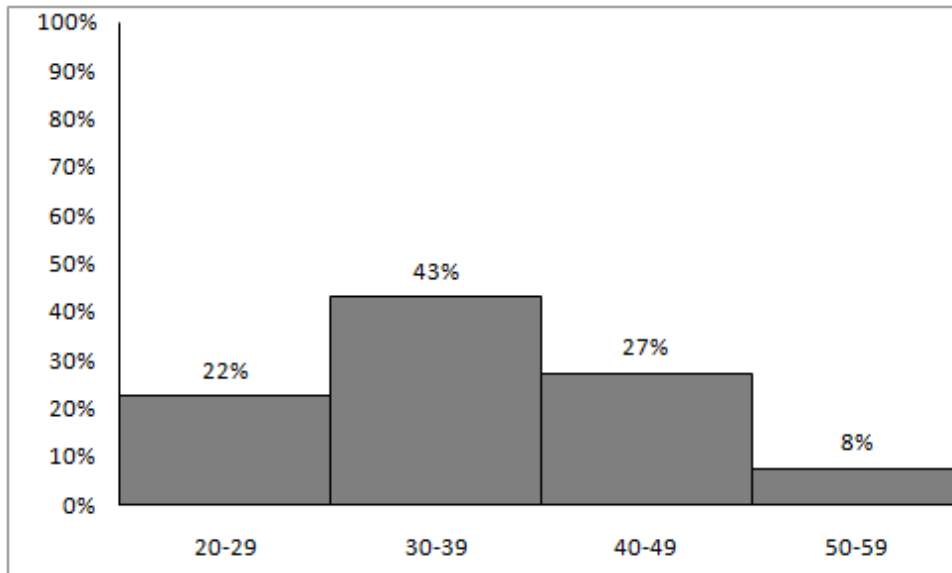
Figure 7: Age of respondents
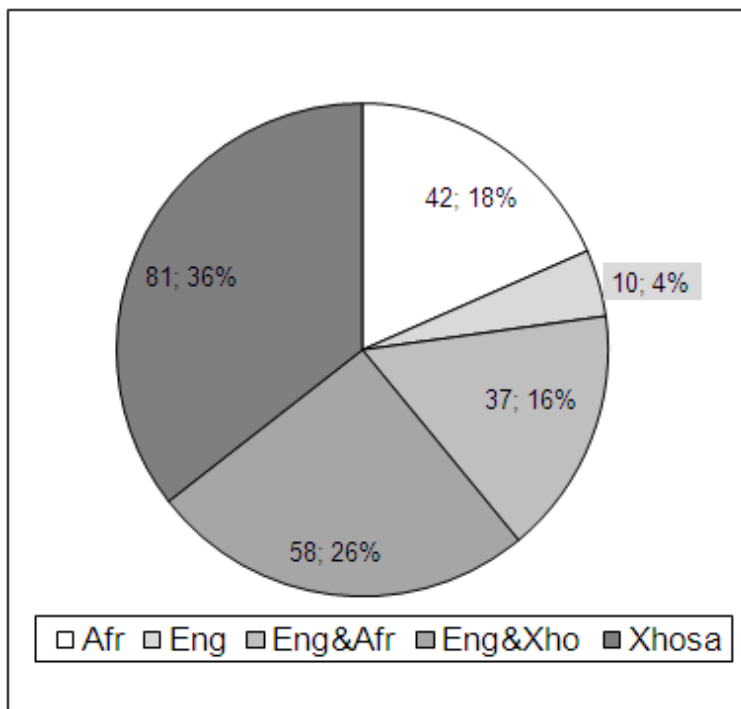
Figure 8: Home language of respondents
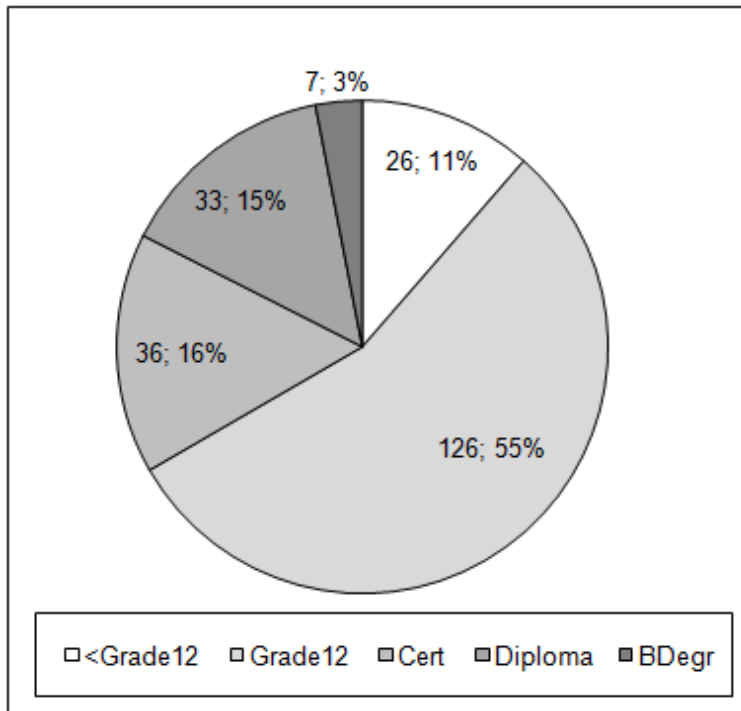
Figure 9: Highest qualifications of respondents

The above figure shows that 55 per cent of the respondents were in possession of a Grade 12, whereas 11 per cent had less than a Grade 12 school-leaving certificate. Only 18 per cent of the sample was in possession of either a diploma or degree, while the remaining 16 per cent of the respondents have qualified with a certificate. This reveals relatively low levels of educational attainment if one considers that the sample consisted of management officials in the EC SAPS. This is generally representative of the educational profile for the total target population whereby seven per cent of all EC SAPS management officials are not in possession of a Grade 12 certificate, 57 per cent have a Grade 12 certificate, while 16 per cent are in possession of a certificate, and 20 per cent are in possession of a diploma or degree.

Figure 10 portrays the respondents in terms of their number of years of service in the SAPS.
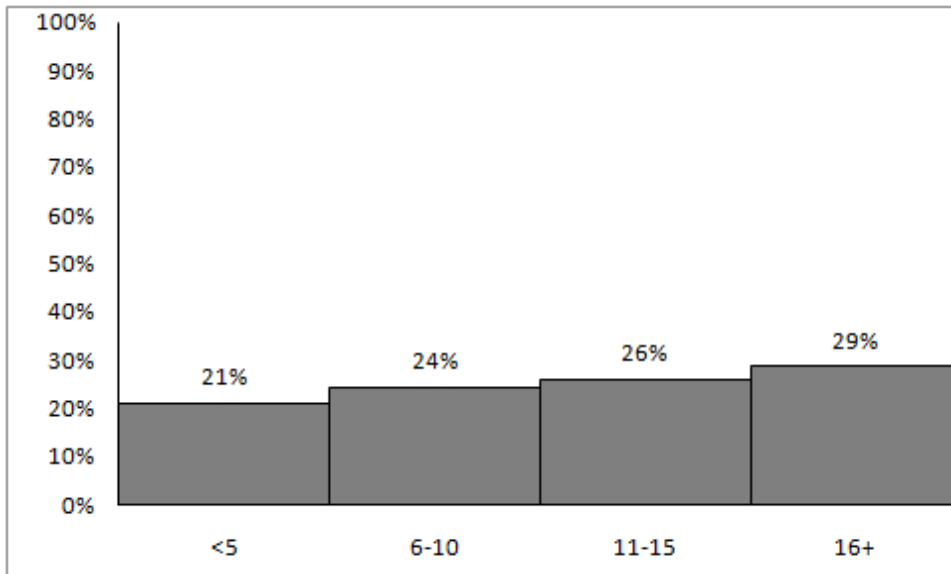
Figure 10: Years of service of respondents

More than half (55%) of the respondents had more than ten years of service in the SAPS, while the smallest proportion (21%) had less than five years experience. This is reflective of the target population where 55 per cent of all EC SAPS management officials have more than ten years of service.

Figure 11 provides an indication of the respective post categories of the respondents. The three appropriate post categories selected to form part of this study were approximately represented on an equal basis thereby contributing to a sample that was well-qualified to comment on the viability of CAT as an EDT method in the EC SAPS.

From the results in this sub-section it is clear that the sample can be regarded as representative of the total population in terms of the biographical profile.

73; 32%   77; 34%

77; 34%

□HRM   □ISM   ■FTO
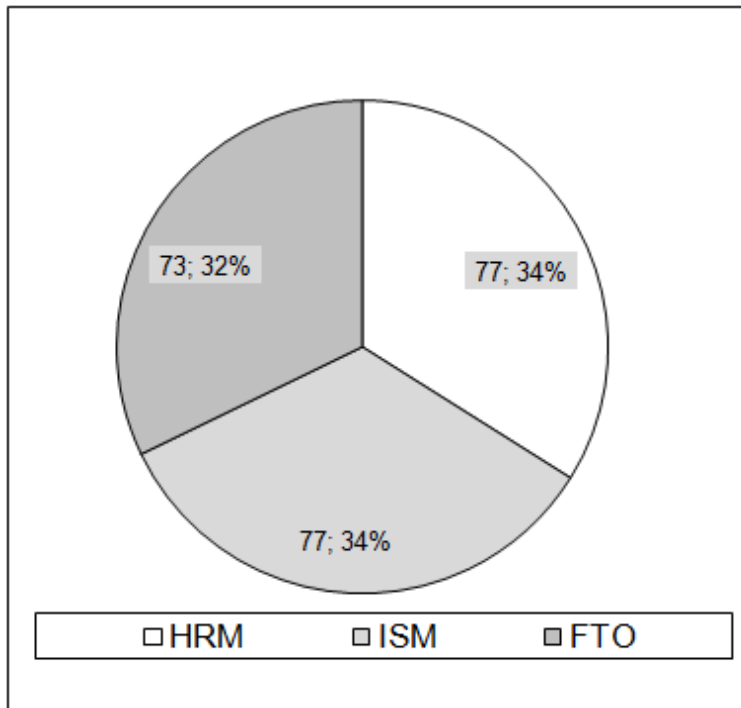
HRM – Human Resource Management;

ISM – Information and Systems Management; and

FTO – Field Training Officer.

Figure 11: Post title of respondents

2.1   Details of respondents involved in the qualitative survey

The sample selected for the purpose of the qualitative survey that was conducted in 2010 was the two members of the target population at provincial level and the 16 members at cluster level. These SAPS management officials are employed in the supervisory or managerial position of those members of the target population at station level. Subsequently, these officials were able to report on their personal observations as well as in representation of the opinions of the respondents at station level. The selection of this sample, not only implied increased validity of responses but also a 100 per cent representation of the target population on the two managerial levels in question.

Eighteen respondents were selected for the purposes of these interviews. Purposive sampling was applied to ensure representation of all eight areas of the EC SAPS

and equal representation of Information and Systems Management (9) and Human Resource Management (Training) (9) officials respectively. The sample comprised one respondent from each component on provincial level and eight respondents from each on cluster level.

3.   COMPUTER LITERACY LEVELS OF RESPONDENTS TO 2005 SURVEY

The level of computer literacy of respondents was assessed by evaluating the following aspects: the self-reported level of computer literacy of the respondents; the number of years of computer use at the workplace; the number of hours of computer use per week; the extent of computer/information technology training received; and the categories in which this training was received.

Figure 12 depicts the self-reported levels of computer literacy of the respondents.
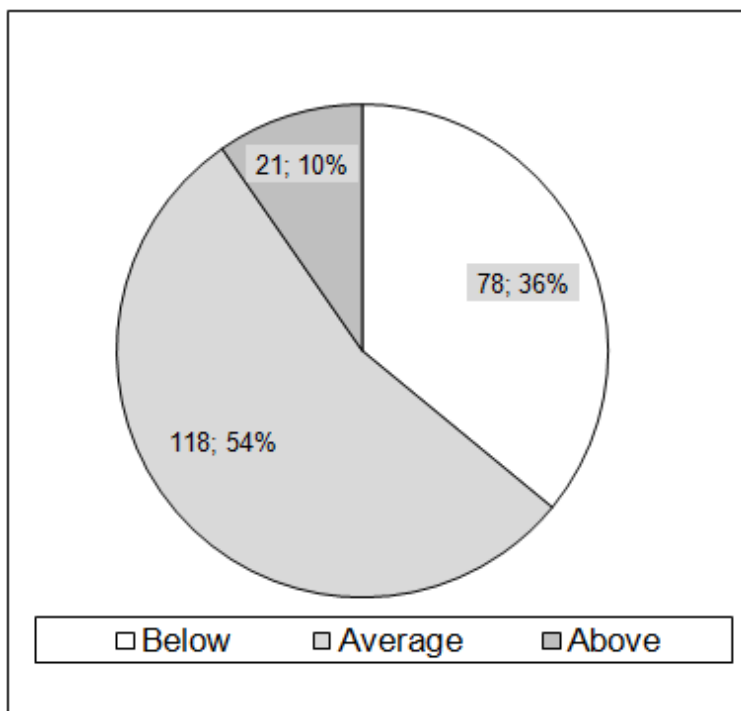
Figure 12: Computer literacy of respondents – self reported rating

More than half (54%) of the respondents were of the opinion that they demonstrate an average Level of computer literacy, while a further ten per cent rated their computer literacy as being above average.

Figure 13 depicts the number of years respondents have made use of computers at the workplace.
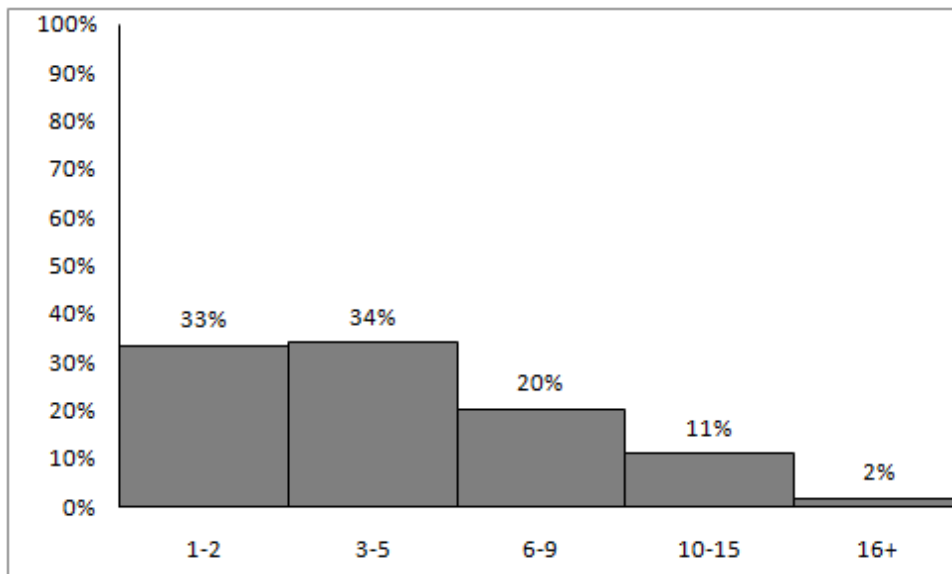
Figure 13: Number of years of computer use at the workplace

One third of respondents (33%) reported more than five years of experience in the use of computers at the workplace, as compared to 67 per cent who indicated that they have five years or less experience in the use of computers.

Figure 14 provides an exposition of the weekly number of hours of computer use both at home and the workplace on the part of the respondents.

More than half of the respondents (59%) indicated that they were not using computers at home, compared to only 18% who responded that they did not use computers at work. More than half of the respondents (54%) indicated that they were using computers between one and ten hours per week at the workplace.
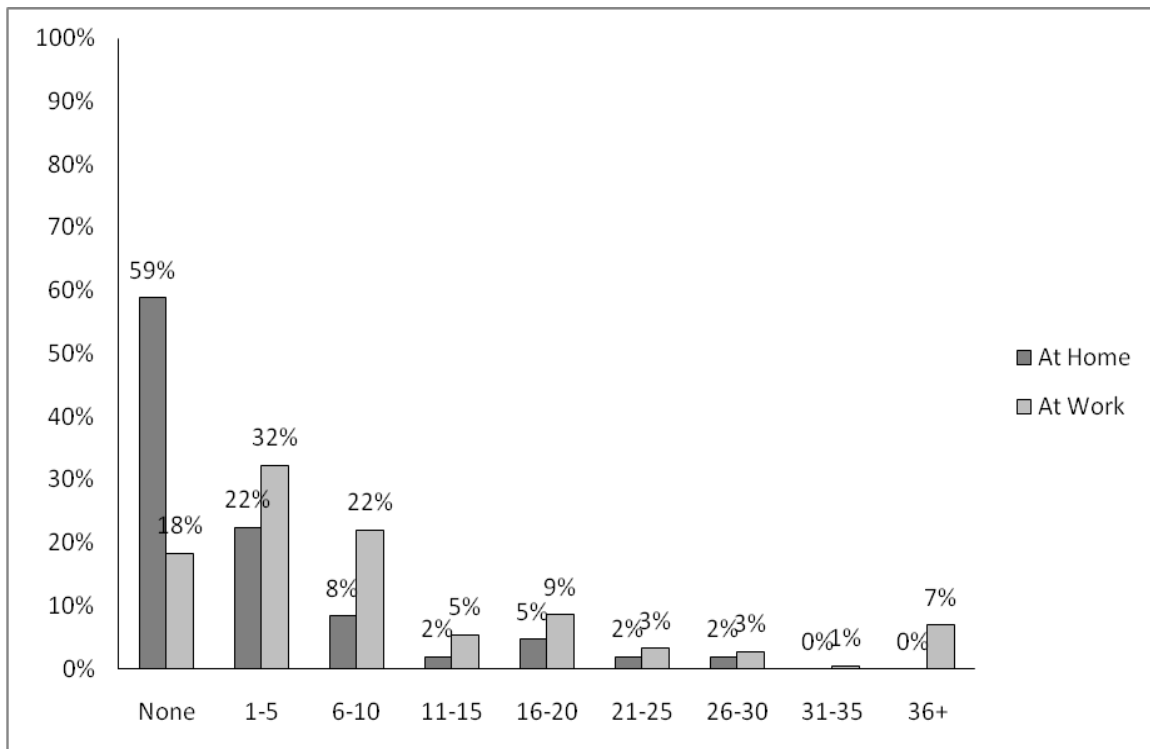
Figure 14: Number of hours of computer use per week

Figure 15 depicts the training received by respondents with respect to computers/information technology.

It is interesting to note that almost two-thirds (64%) of the respondents have not received some form of EDT with respect to computers and/or information technology.

Of those respondents who have received some form of computer/IT training, Table 3 depicts the proportion which had received training in the various categories relevant to the SAPS.
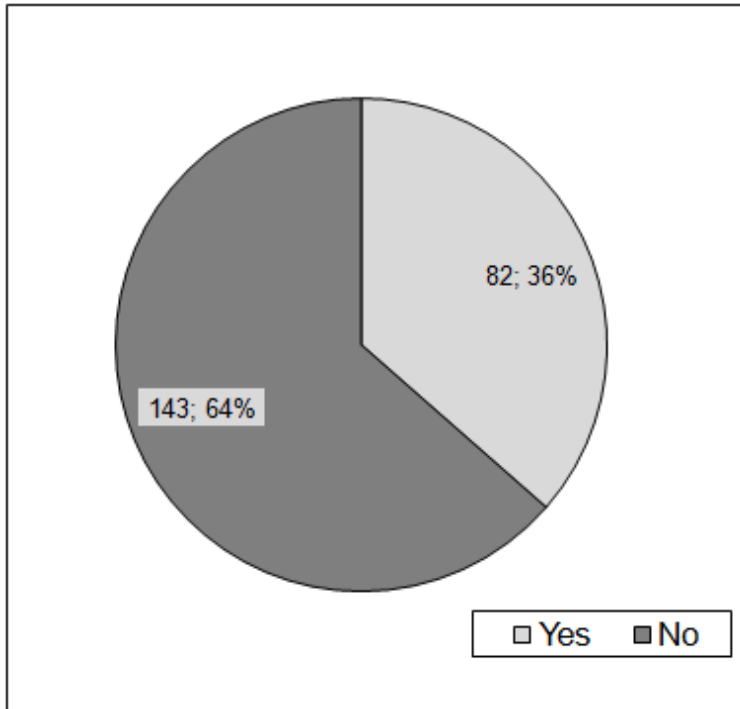
Figure 15: Computer/information technology training received

Table 3: Computer and/or Information Technology training received per category

Category	Number	Percentage
Microsoft Word	43	19%
Crime Administration System (CAS)	28	12%
Corel Word Perfect	26	12%
Circulation (CIR) System	20	9%
Individual and Structure System (ISIS)	16	7%
Criminal Record and ID (CRIM) System	15	7%
Personnel Administration (PERSAL/PERSAP)	15	7%
Police Financial (POLFIN) System	15	7%

From this table, it is clear that approximately one out of five (19%) respondents have received training with respect to Microsoft Word. Crime Administration System (12%)

and Corel Word Perfect (12%) were the only other categories for which more than one out of ten respondents received training.

The 2010 survey ISM and HRM respondents shared the view that the current level of computer literacy in the Eastern Cape Province SAPS amongst the concerned role-players is below average. This is despite the fact that concerned role-players have effectively been using computers in the workplace in the Eastern Cape Province for more than sixteen years. In addition, ISM officials make use of computers in the workplace for approximately 30 hours of the week, while HRM officials do so for approximately 15 hours per week.

The interviewees confirmed that 50 per cent of the concerned role-players in the Eastern Cape Province have received formal computer/information technology training. In this regard, the majority of representatives from the HRM and ISM divisions have received training in Microsoft Word, with the majority of HRM representatives also having received training in the Personnel Administration (PERSAL/PERSAP) system.

From the above, it can be deduced that no major progress took place during the last five years with respect to respondents' level of computer literacy. This is notwithstanding the increased use of computers in the workplace as well as in the receipt of computer/IT training.

4.   AVAILABILITY OF INFRASTRUCTURE FOR THE PURPOSES OF CAT IN THE EC SAPS

A further important aspect to assess for the purposes of evaluating the viability of CAT in the EC SAPS was the availability of appropriate computer/IT facilities and infrastructure. To this end, the 2005 survey questionnaire tested access to specific computer- and Internet-related facilities and infrastructure among the respondents.

Table 4 provides an indication of the respondents' access to computers and related facilities required for the use of CAT.

Table 4: Access to computers and related facilities required for the use of CAT

Facility	At work		At home	
Intranet	226	100%	187	83%
Computer without CD-Rom	220	97%	41	18%
Fax machine	218	97%	19	8%
Internet	202	89%	214	95%
Computer with CD-Rom	187	83%	189	84%
DVD player	182	81%	223	99%
Video cassette recorder	138	61%	210	93%
Cellular phone	105	47%	189	84%

At work, the majority of respondents have access to computers without CD-Rom (97%), computers with CD-Rom (83%), intranet (100%), fax machines (97%), internet (89%), and DVD players (81%).

It is interesting to note that, at home, a higher proportion of respondents have access to computers with CD-Rom (84%), intranet (83%), cellular phones (84%), internet (95%), video cassette recorders (93%) and DVD players (99%).

Table 5 shows the frequency of respondents' use of specific computer-related aspects that are associated with CAT.

It is clear that, at work, only 46 per cent of the respondents indicated that word processing is used on a daily basis. Interestingly, 80 per cent or more of the respondents never use the other applications at work. The situation is worse at home with 80 per cent or more of the respondents indicating that they never use any of the applications. This may make it difficult to implement CAT in the EC SAPS considering that the respondents were management officials who one would assume are using computer applications much more regularly than reflected through their responses.

Table 5: Applications used by respondents

Application	At work							
	Never		**Seldom**		**Monthly**		**Daily**	
Word processing	30	19%	23	14%	34	21%	73	46%
Spreadsheets	128	80%	12	8%	10	6%	10	6%
Presentation software	132	83%	12	8%	7	4%	9	6%
Calendar/ scheduler	134	84%	10	6%	8	5%	8	5%
Financial analysis	142	89%	8	5%	5	3%	5	3%
Application	At home							
	Never		**Seldom**		**Monthly**		**Daily**	
Word processing	128	80%	10	6%	10	6%	12	8%
Spreadsheets	145	91%	5	3%	8	5%	2	1%
Presentation software	147	92%	8	5%	3	2%	2	1%
Calendar/ scheduler	150	94%	4	3%	3	2%	3	2%
Financial analysis	152	95%	2	1%	5	3%	1	1%

Table 6 shows the frequency of respondents' use of the appropriate internet applications.

Table 6: Internet applications used by respondents (n = 225)

	Work		Home	
Electronic mail	23	10%	16	7%
Internet searches	2	1%	23	10%

A small proportion of the respondents utilised Internet applications with at most ten per cent using electronic mail at work or doing Internet searches at home. It is however interesting to note that all of the respondents indicated that they have access to the appropriate internet application, either at home or at work for CAT.

In accordance with the qualitative survey, EC ISM officials indicated that all SAPS stations in the province are presently in possession of computers. Only three of the 191 police stations are currently not linked to the SAPS mainframe. All these computers have a CD-ROM and, due to the fact that 98 per cent of the EC police stations are linked to the SAPS mainframe, access to the intranet is also enabled. Interviewees furthermore pointed out that all SAPS stations have fax machines and approximately 90 per cent of the EC SAPS management officials are in possession of cellular phones for work purposes. It was also confirmed that, on average, word processing is used on a daily basis by 80 per cent of the EC SAPS management officials. It was also indicated that all EC SAPS management officials have access to a DVD player, e-mail and internet either at home or at work.

From this it is clear that developments have taken place in the EC SAPS since the questionnaire survey was administered in 2005 in terms of accessibility to computer/IT facilities. This will enhance the viability of using CAT for EDT purposes since more SAPS officials have access to the necessary computer and related facilities required by CAT. Thus it is clear that it may be more viable to implement CAT among EC SAPS management officials either at work or at home, depending on the technologies applied. It is furthermore apparent that the respondents' access to the computer and related facilities required is more than viable for the implementation of CAT for EDT purposes.

5. ATTITUDES OF EC SAPS MANAGEMENT TOWARDS CAT

A further dimension that was tested related to the attitudes of respondents in respect of the utilisation of CAT with specific reference to issues such as: the appropriateness of using CAT for certain training categories in SAPS (i.e. functional, support and in-service training) and for the teaching of various skills; what is expected from training using CAT; preferences in respect of training received through CAT; obstacles to training received through CAT; and so forth.

Table 7 provides an overview of respondents' attitudes with respect to issues associated with CAT.

Table 7: Respondents' attitudes regarding CAT as it relates to EC SAPS

ATTRIBUTE	Disagree	Neutral	Agree	Total (n)
CAT will complement the use of the classroom set-up as a training mechanism for SAPS	1 (1%)	51 (24%)	172 (75%)	224
CAT could be used for training purposes in SAPS	1 (1%)	64 (29%)	156 (70%)	221
The potential of the classroom set-up as a training mechanism for SAPS will increase	2 (1%)	63 (29%)	155 (70%)	220
The training environment of SAPS is conducive for the implementation of CAT	2 (1%)	67 (30%)	153 (69%)	222
The popularity of computer use amongst SAPS members is increasing	8 (4%)	63 (28%)	153 (68%)	224
The training authorities of SAPS will accept CAT as a training mechanism	4 (2%)	68 (31%)	150 (67%)	222
The classroom set-up still has a place in training in SAPS	6 (3%)	66 (30%)	150 (67%)	222

CAT will eventually replace the classroom set-up as a training mechanism for SAPS	1 (1%)	72 (32%)	149 (67%)	222
The current SAPS training methods are effective	2 (1%)	72 (32%)	148 (67%)	222
CAT will ensure that the individual needs of the learner are met	10 (4%)	71 (32%)	142 (64%)	223
The popularity of computer use amongst SAPS members is increasing	8 (4%)	63 (28%)	153 (68%)	224
CAT can be used to develop learners' ability to perform their duties in line with the SAPS Strategic Plan	3 (2%)	84 (38%)	135 (60%)	222
SAPS will be able to use the Intranet for training purposes	9 (4%)	86 (39%)	127 (57%)	222
SAPS members' access to the Intranet will be sufficient for CAT	9 (4%)	107 (49%)	102 (47%)	218
CAT will contribute to the Batho Pele principles (Improvement of service delivery)	17 (8%)	102 (46%)	102 (46%)	221
CAT will establish a commitment to training	16 (7%)	103 (48%)	97 (45%)	216
CAT can be seen as a cost-effective training mechanism	9 (4%)	115 (51%)	96 (45%)	220
CAT will be used to identify a learner's training needs	25 (12%)	103 (47%)	91 (41%)	219
CAT can be used to develop learners' knowledge	27 (12%)	122 (55%)	72 (33%)	221
CAT can be seen as a time-effective training mechanism	62 (28%)	97 (44%)	64 (28%)	223
The potential of CAT as a training mechanism for SAPS will decrease	6 (3%)	76 (34%)	140 (63%)	222

Respondents who agreed professed that: CAT will complement the use of the classroom set-up as a training mechanism for SAPS (n = 224; 75%); CAT could be used for training purposes in SAPS (n = 221; 70%) and the potential of the classroom set-up as a training mechanism for SAPS will increase (n = 220; 70%). The respondents that were neutral professed that: CAT can be used to develop learners' knowledge (n = 221; 55%); CAT can be seen as a cost-effective training mechanism (n = 220; 51%) and SAPS members' access to the Intranet will be sufficient for CAT (n = 218; 49%). The respondents that disagreed conceded that: CAT can be seen as a time-effective training mechanism (n = 223; 28%); CAT will be used to identify a learner's training needs (n = 219; 12%) and (12%) CAT can be used to develop learners' knowledge (n = 221; 12%). In comparing the quantities of respondents that partook in the three categories examined in Table 7, the larger percentages indicated to agree with the statements, thereby portraying a positive attitude towards the use of CAT in respect of EDT. This likely reflects the potential that respondents see in this regard. In turn, this may point towards the willingness of respondents to be presented with submissions in respect of the improvement of current circumstances.

Almost all respondents (95%) were of the opinion that CAT could be used for the application of in-service training. However, it is interesting to note that there were differences of opinion in terms of the extent to which CAT can be applied for the purposes of different categories or types of in-service training.

Figure 16 provides an indication of the respondents' opinions towards the use of CAT for the purposes of various types of functional training in the EC SAPS.
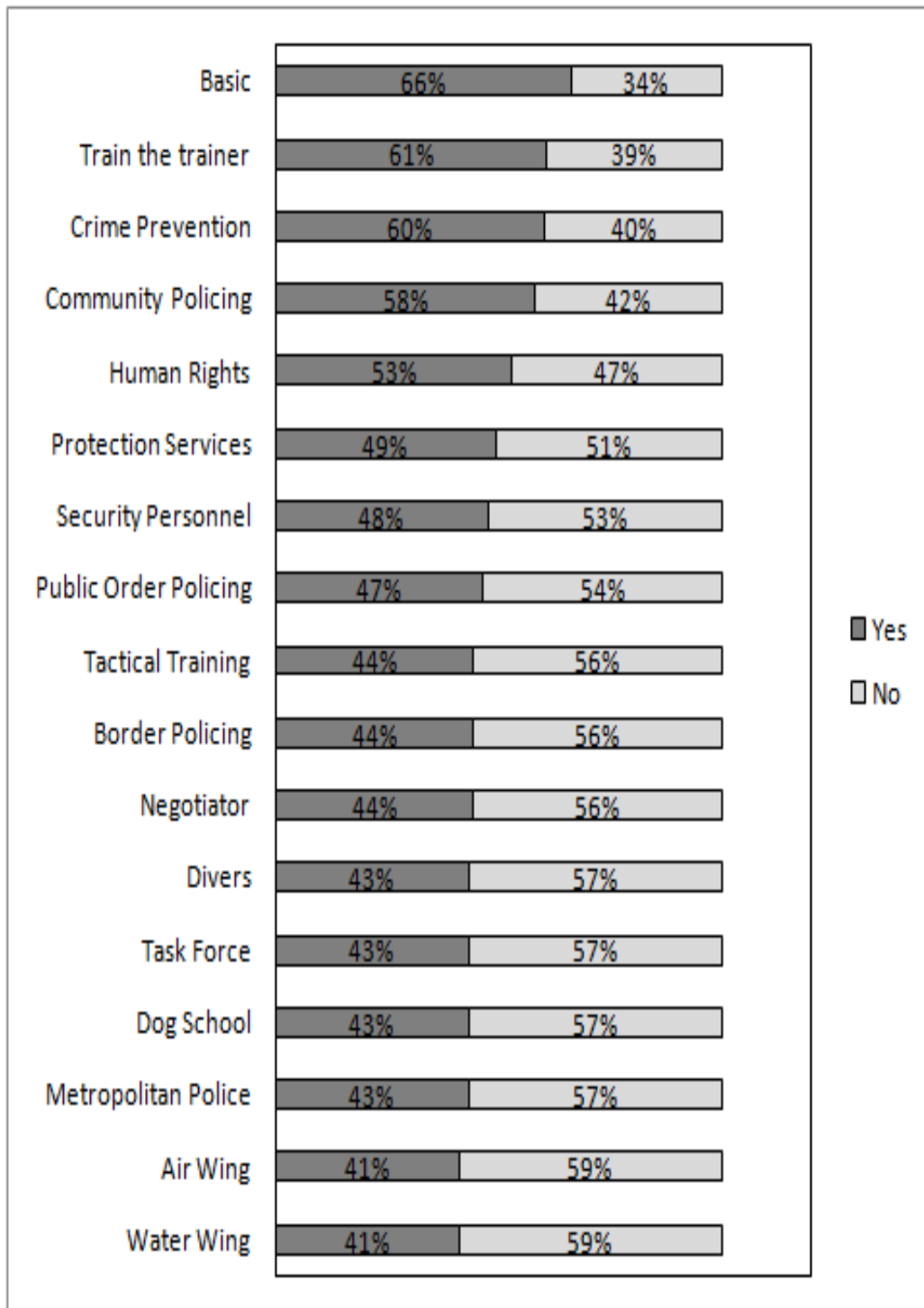
Figure 16: Type of functional training for which CAT can be used

It is interesting to note that 50 per cent or more of the respondents indicated that CAT can be used for the purposes of the following types of functional training: basic training (66%); crime prevention (60%); community policing (58%); and human rights training (53%). On the other hand, more than half of the respondents felt that CAT

cannot be used for any of the other types of functional training undertaken in the EC SAPS. The fact that respondents only highlighted some of the functional areas in this respect is likely a result of a lack of knowledge on their side. Subsequently, respondents may be regarded as unsure as to the characteristics associated with these types of functional training categories and whether CAT has the potential to contribute to training in this respect.

Figure 17 provides an exposition of respondents' opinions in respect of the use of CAT for the purpose of support training. More than two-thirds of the respondents felt that CAT could be appropriately applied for the purposes of the following types of support training: logistics management (68%); financial management (72%); personnel management (74%); and information systems (86%). Less than half (48%) of the respondents were of the opinion that CAT would be suitable for training in project coordination. The lack of enthusiasm towards the use of CAT for project coordination may be attributed to respondents' perception thereof as a more practical application, whereas the previous four subjects largely comprises a theoretical component. CAT is most likely perceived as to be more of an asset with respect to theoretical training as opposed to practical training.

Figure 18 provides an overview of respondents' opinions in terms of the use of CAT for teaching various skills and competencies. It is interesting to note that 60 per cent or more of the respondents were of the opinion that CAT could not be used for the teaching of problem-solving, interpersonal or life skills; whereas 74 per cent indicated that CAT could be applied to teach technical skills. This may be attributed to respondents perceiving technical skills to be closely associated with the use of information technology. On the other hand, the acquisition of the remaining three skills categories probably implies the need for some form of face-to-face contact and interaction between the trainer and learners hence the perception among respondents that CAT cannot be productively applied in these instances.
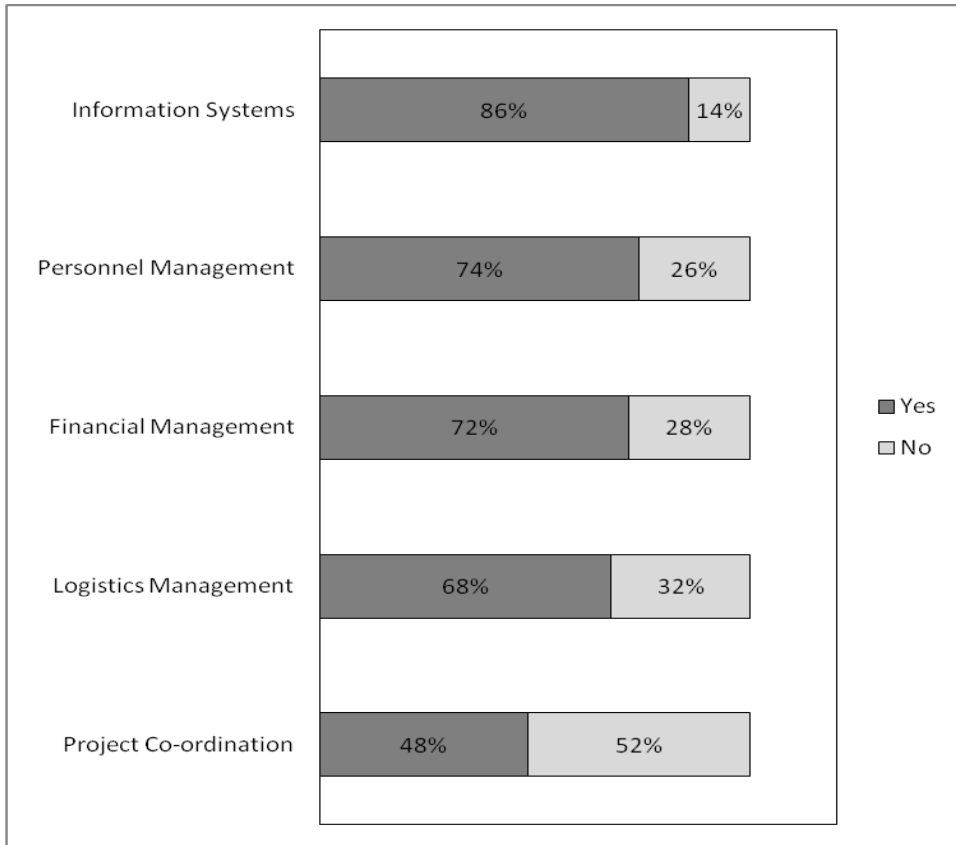
Figure 17: Type of support training CAT could be used for
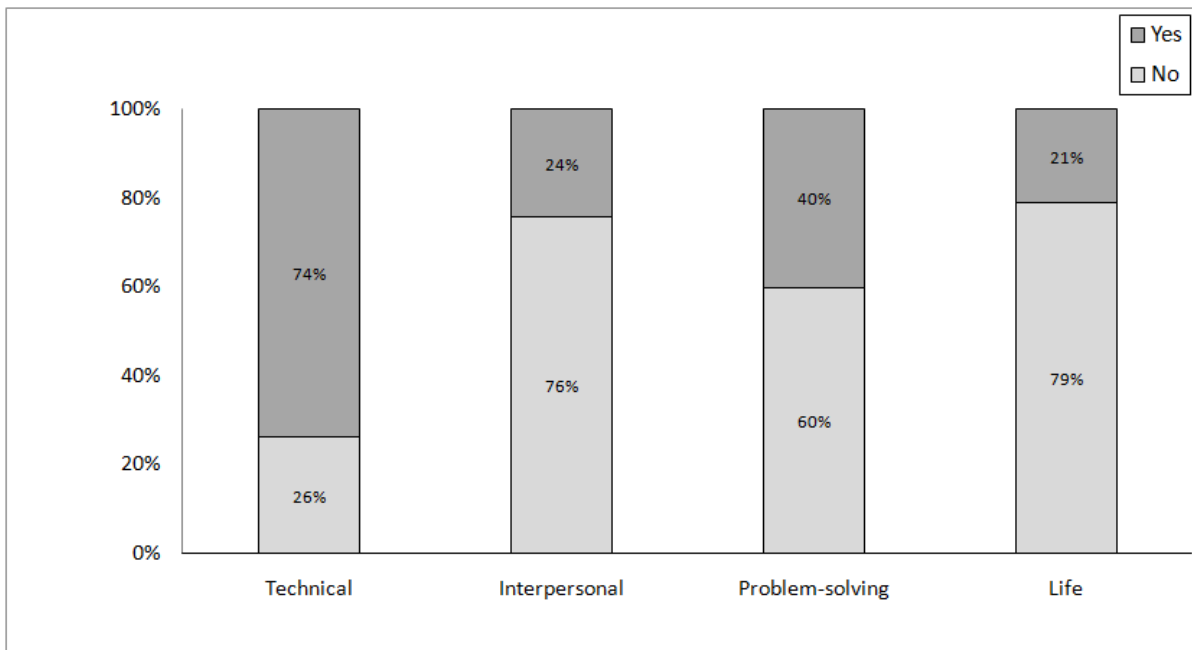
Figure 18: CAT and the teaching of various skills

The expectations of respondents with respect to receiving training through CAT are indicated in Figure 19 below.
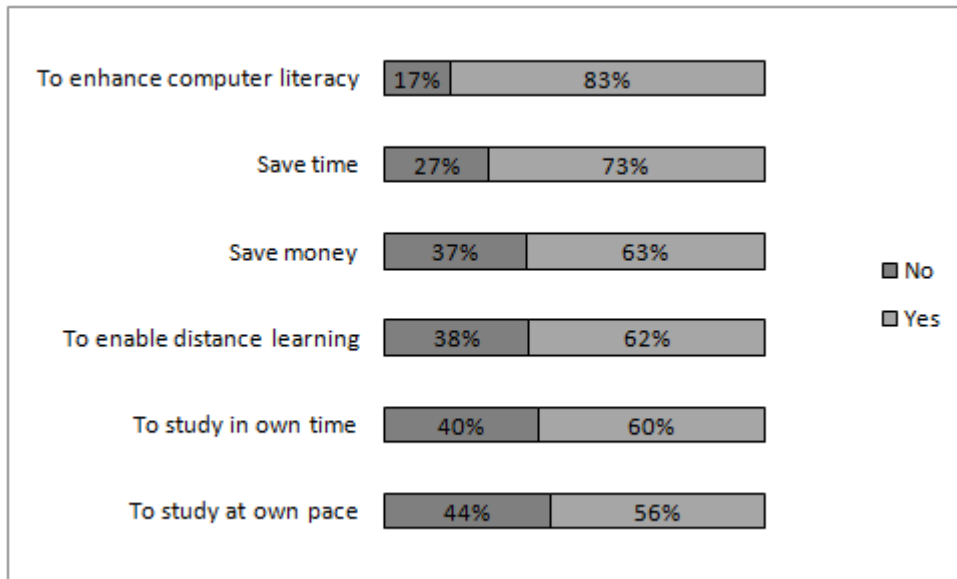
Figure 19: Training expectations from CAT

Most of the respondents (83%) felt that CAT would enhance computer literacy and save time (73%). Other benefits of CAT which were indicated are: CAT was expected to: save money (63%); enable EDT via distance learning (62%); and assist trainees to study in their own time (60%) and at their own pace (56%). From this it is encouraging to note a significant proportion of the respondents (50% and more) were of the opinion that CAT would bring about these benefits to the EC SAPS.

Figure 20 gives an overview of the preferences of respondents in respect of the EDT topics that could be covered through CAT.
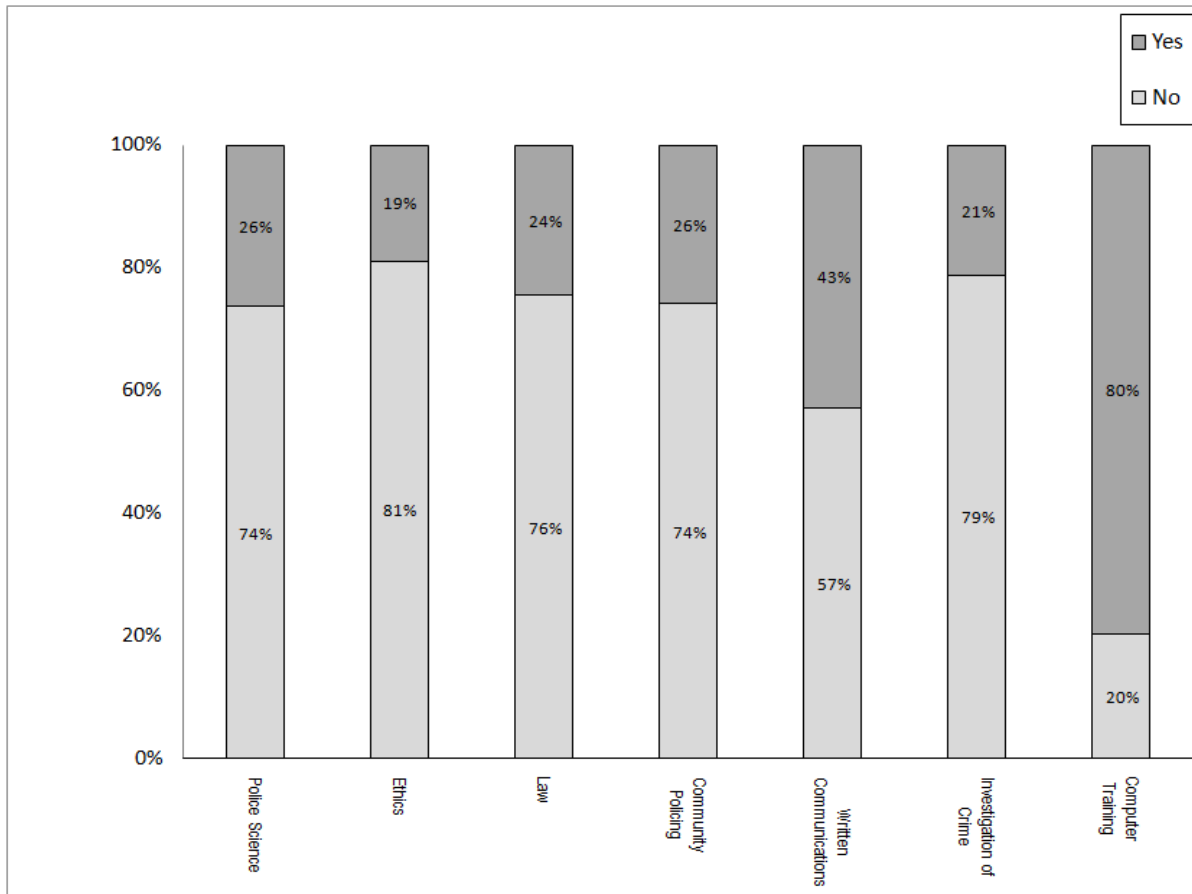
Figure 20: Preference for training through CAT

Respondents are of the opinion that CAT would be most preferred in terms of computer training (80%). It is clear that the respondents are less enthusiastic about receiving EDT through CAT applications in the following areas: written communication (43%); police science (26%); community policing (26%); law (24%); investigation of crime (21%); and ethics (19%).

Figure 21 provides an indication of the respondents' views with respect to the obstacles that may make it difficult to implement training through CAT in the EC SAPS.
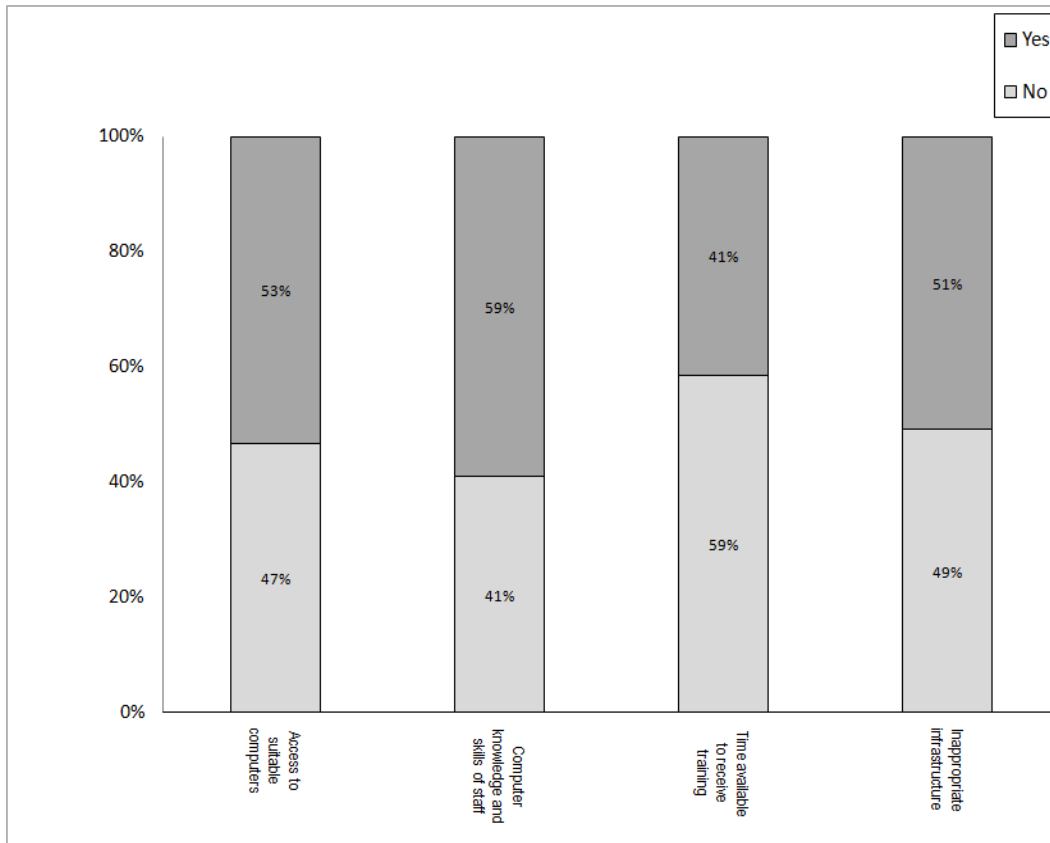
Figure 21: Obstacles to training EC SAPS personnel through CAT

It is interesting to note that more than half of the respondents agreed that the following would potentially be obstacles to the use of CAT for EDT purposes in the EC SAPS: computer knowledge and skills of staff (59%); access to suitable computers (53%); and inappropriate infrastructure (51%). Only 41 per cent were of the opinion that a lack of time to receive such EDT would present itself as an obstacle.

The majority of respondents (80%) prefer EDT via CAT as opposed to CBT. CBT refers to any use of a computer for the purpose of EDT and learning. CAT on the other hand is perceived as an EDT and learning system that represents a blended hybrid approach. This implies that where CBT is confined to the use of the computer for EDT and learning purposes, CAT also comprise the use of other techniques like face-to-face contact blended with the use of the computer. Therefore respondents' preference of CAT may be attributed to it not being as limited with respect to its potential to provide EDT and learning as would be the case with CBT.

Figure 22 provides an indication of the preferences of the respondents as it pertains to the frequency of contact with a tutor should they receive EDT through CAT. From this it is apparent that more than half of the respondents (52%) were in favour of contact with a tutor once a week.
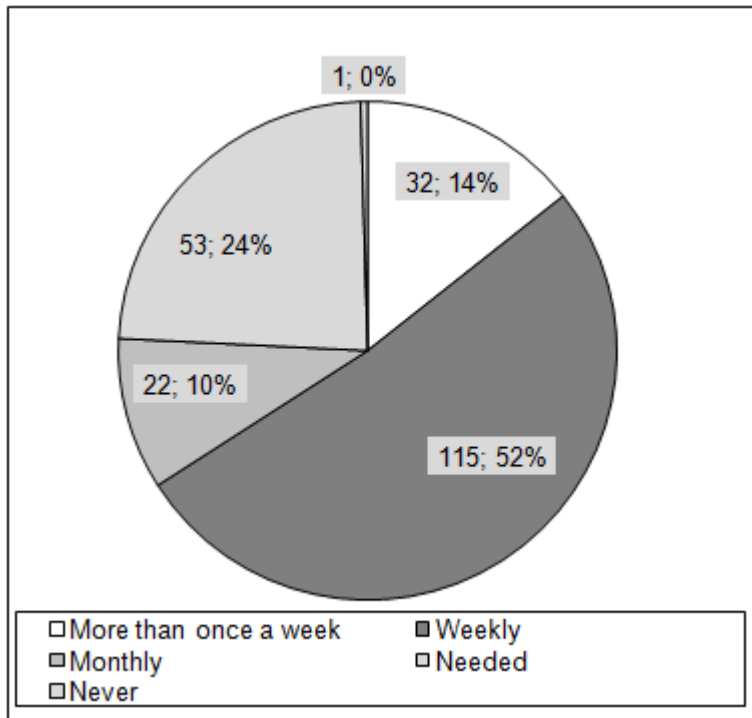
Figure 22: Preference in terms of frequency of contact with a tutor

Figure 23 outlines the number of hours that respondents have available for the purposes of CAT at home and at work respectively. From this it is clear that more than half of the respondents (55% and 51% at work and at home respectively) have between one to five hours available per week to receive training via CAT.

Table 8 suggests that respondents prefer to receive EDT during the working week, more specifically from a Monday to a Thursday. Only a very small proportion indicated a preference for Friday, Saturday or Sunday. It is interesting to note that the largest portion of the respondents selected Tuesdays (33%) as a first choice, Wednesdays (34%) as a second choice and Thursdays (29%) as their third choice for the most appropriate days to receive training through CAT.
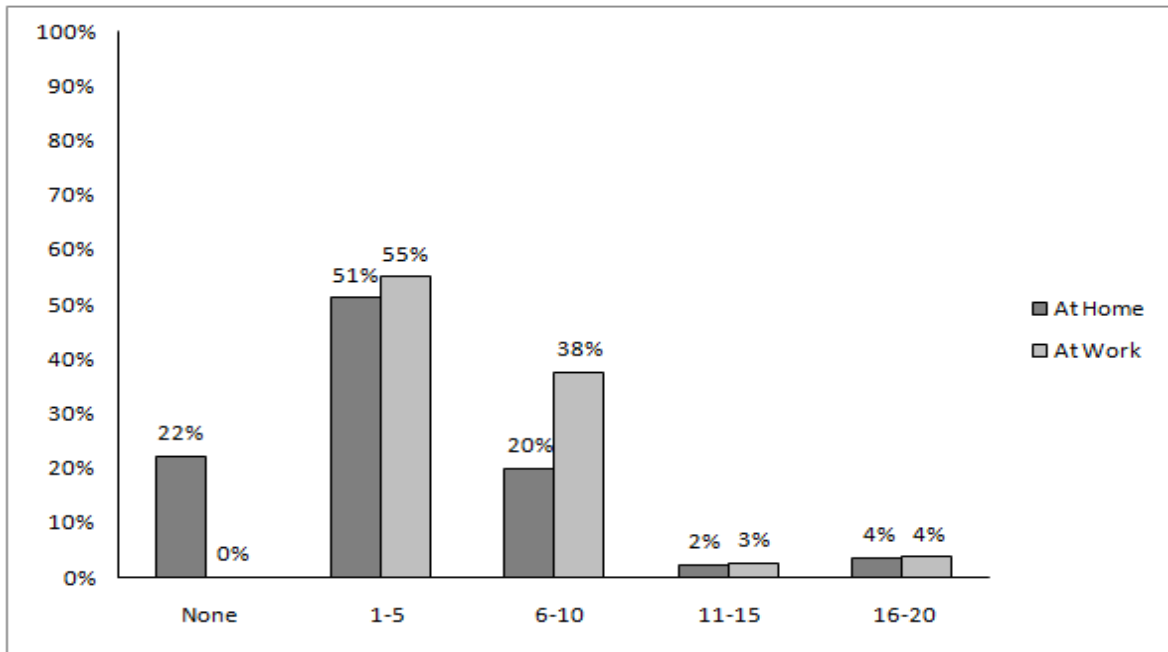
Figure 23: Numbers of hours available per week for CAT

Table 8: Choice of most appropriate day for CAT

Day of week	Not	First choice	Second choice	Third choice
Monday	**144 (64%)**	68 (30%)	2 (1%)	10 (5%)
Tuesday	73 (32%)	**74 (33%)**	67 (30%)	10 (5%)
Wednesday	44 (20%)	53 (24%)	**75 (34%)**	52 (23%)
Thursday	114 (51%)	15 (7%)	30 (13%)	**65 (29%)**
Friday	**172 (77%)**	10 (5%)	8 (4%)	34 (15%)
Saturday	**214 (96%)**	5 (2%)	2 (1%)	3 (1%)
Sunday	**215 (96%)**	1 (1%)	1 (1%)	7 (3%)

Linked to the above, the majority of respondents (82%) indicated that the most appropriate time for CAT is between 08:00 and 13:00 hours (see Figure 24). It can be inferred from this that respondents expect to receive such EDT during the mornings while at work. This would clearly have human resource policy implications for the EC SAPS since it would need to be ensured that receiving EDT through CAT does not conflict with the work responsibilities of trainees.
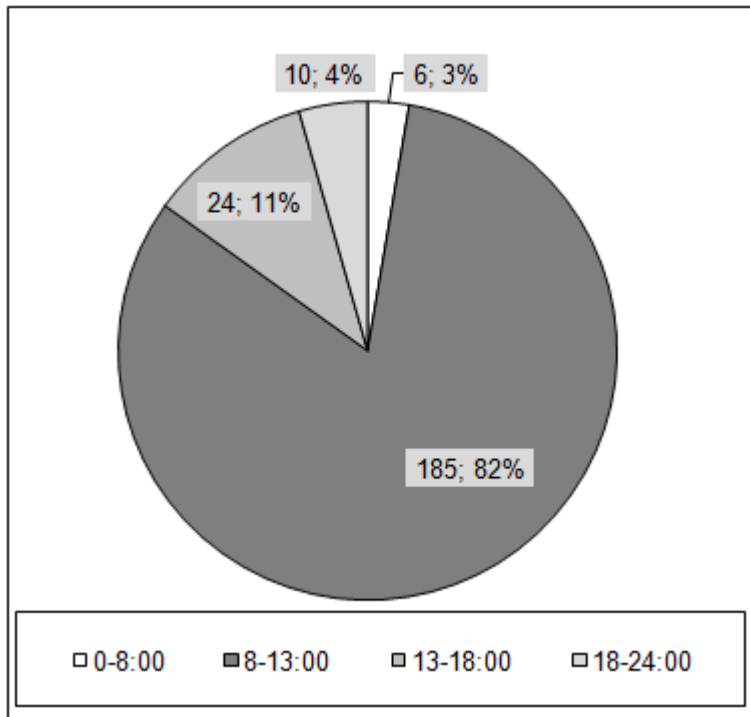
Figure 24: Most appropriate time for CAT

The 2010 survey interviewees agreed that current SAPS EDT methods, including the classroom set-up, still fulfil a critical role with respect to EDT in the SAPS. However, it was acknowledged that SAPS members are increasingly recognising the potential use of computers as a means to enhance the efficiency and effectiveness of EDT in contributing to learning.

It was agreed that CAT can be used to save time and money, to enable members to study in their own time and at their own pace, and that it also has the potential to enable distance learning.

Interviewees were of the opinion that the computer knowledge and skills of SAPS members is currently the most prominent obstacle in the way of using CAT for EDT purposes. It was agreed that CAT has much greater EDT potential than CBT. This may be attributed to the perception of respondents that CAT may satisfy a wider range of EDT requirements than would be the case with CBT which is limited to the use of computers for this purpose.

The interviewees were of the opinion that a tutor should be available on a permanent basis to assist members with respect to EDT through CAT. It was agreed that 10 hours per week at home and 10 hours per week at work would be sufficient for the purposes of CAT.

6. CONCLUSION

The chapter commenced with an exposition of the biographical details of the respondents. Accordingly, the sample is well represented of the target population in respect of all prominent aspects. This was followed by a depiction of the Level of computer literacy of the respondents that constituted the sample, as well as their access to the appropriate facilities to assess the viability of applying CAT for EDT purposes in the EC SAPS. More than half of the respondents (54%) were of the opinion that they demonstrate an average Level of computer literacy while a further ten per cent rated their computer literacy as being above average. However, the follow-up survey revealed that the Level of computer literacy of EC SAPS officials is viewed as below average.

Furthermore, more than two thirds (67%) of respondents have had three or more years of experience in the use of computers and nearly half of the respondents (49%) reported that they make use of the computer more than six hours per week at the workplace. In the follow-up interviews, it was pointed out that the EC SAPS officials have been using computers for more than 16 years at the workplace. In addition ISM officials make use of computers for an average of 30 hours per week at the workplace, while HRM officials do so for an average of 15 hours per week.

It is interesting to note that although 64 per cent of the respondents indicated that they have not received some form of training with respect to computers and/or information technology, more than half of these respondents (54%) reported that they have received training with respect to the CAS-system, more than a third have received training in Corel Word Perfect (35%) and Microsoft Word (33%), and a quarter (25%) with respect to the PERSAL/PERSAP system. The follow-up interviews conducted during 2010 indicated that 50 per cent of the EC SAPS officials that were interviewed have received some form of formal computer/information

training. Of this, the majority of HRM and ISM officials in the EC received training in Microsoft Word, while the majority of HRM interviewees had received training in the PERSAL/PERSAP-system.

Based on the findings of the questionnaire and the follow-up interviews, it is fair to state that the levels of computer literacy of the target population could have implications in respect of the viability of CAT for the purposes of EDT in the EC SAPS. This would probably need to be improved to ensure the effective and efficient implementation of CAT as an EDT mechanism.

With respect to access to the appropriate facilities, the survey conducted during 2005 revealed that while the majority of respondents have access to fax machines and computers without CD-ROMs at work, a much smaller portion have access to video cassette recorders, Internet and DVD players. At home, the majority of respondents indicated that they have access to cellular phones, video cassette recorders and DVD players, while the minority have access to fax machines, computers without CD-ROMs and the intranet.

The 2010 interviews with ISM supervisors indicated that all SAPS stations in the EC Province are presently in possession of computers with CD-ROMs. Furthermore, only three of the 191 police stations in the EC Province are not linked to the SAPS mainframe which implies that the remaining stations are all linked to the intranet. Furthermore, all SAPS stations have fax machines and approximately 90 per cent of the EC respondents are in possession of cellular phones. All EC respondents have access to a DVD player.

Only 46 per cent of the respondents indicated that word processing is used at least on a daily basis. However, the 2010 interviews revealed that word processing is used on a daily basis by approximately 80 per cent of EC SAPS officials. Interestingly, 80 per cent or more of the respondents never use the other applications at work. The situation is worse at home with 80 per cent or more of the respondents indicating that they never use any of the applications. This may make it difficult to implement CAT in the EC SAPS considering that the respondents are

management officials who one would assume are using computer software applications much more regularly than reported through the findings of the research.

Sixty per cent of the respondents utilise electronic mail at work, while almost all the respondents (92%) make use of the Internet at home. In respect of the above, all of the respondents (100%) indicated that they have access to internet either at home or at work. The follow-up interviews confirmed that all EC SAPS members have access to e-mail and internet either at home or at work. It was interesting to note that, in 2005, 70 per cent of the respondents indicated that they have access to a cellular phone, either at home or at work, while this had increased to 90 per cent in 2010. This point to the potential of mobile technology as a tool for the purpose of implementing CAT in the EC SAPS. In addition, although access to appropriate facilities appears to be limited, respondents' access to electronic mail and the internet application may be another viable consideration for the subsequent implementation of CAT.

It is therefore clear from the findings that the respondents have sufficient access to computers with CD-ROMs; Intranet; fax machines; DVD players; cellular phones; e-mail and the internet for CAT to be effectively applied for EDT purposes in the EC SAPS.

The research also served to explore the attitudes of the respondents with respect to the use of CAT for EDT in the EC SAPS. In this respect, it was found that most of the respondents agreed that CAT could be optimally applied in the EC SAPS for the purposes of complementing the use of the classroom set-up as a training mechanism for SAPS; that CAT could be used for training purposes in SAPS and that the potential of the classroom set-up as a training mechanism for SAPS will increase.

The follow-up interviews confirmed that current SAPS EDT methods including the classroom set-up still fulfil a critical role with respect to EDT in the SAPS. However, SAPS members are increasingly realising the potential use of computers, not only for purposes of enhancing effectiveness and efficiency at work, but also to enhance the process of EDT and to improve learning.

The findings presented in this chapter further revealed that more than half of the respondents indicated that CAT can be used for the purposes of the following types of functional training in the EC SAPS: human rights; community policing; crime prevention; and basic training. In addition, more than two-thirds of the respondents were of the opinion that CAT could be appropriately applied to the following types of support training: logistical management; financial management; personnel management; and information systems. It was interesting to note that while 74 per cent of the respondents felt that CAT is appropriate for training in technical skills, this was not the case for interpersonal and life skills. This was further supported by the fact that most of the respondents viewed CAT as being a useful tool for EDT in information systems.

The 2010 interviewees confirmed that CAT can be used for the provision of functional and support training in general. It is agreed that computer-assisted training due to its capability to provide EDT through a wide range of facilities has a much greater EDT potential than computer-based training that is limited to the use of a computer in this regard. Furthermore, the respondents were of the opinion that, should CAT be implemented in the EC SAPS, the tutor should be available on a permanent basis to assist members with respect to its application for training purposes. It was further agreed that 10 hours per week at home and 10 hours per week at work would be sufficient for the purposes of CAT. Added to the above, the 2005 survey findings also indicated that the respondents would prefer to be trained during working hours on either a Tuesday or Wednesday.

The research findings further served to highlight a number of challenges that may impact negatively on the implementation of CAT in the EC SAPS. More than half of the respondents agreed that the following would potentially constitute obstacles to the use of CAT for EDT purposes in the EC SAPS, namely: computer knowledge and skills of staff; access to suitable computer facilities; and inappropriate infrastructure. However, the 2010 interviews revealed that the computer knowledge and skills of SAPS members is currently the most prominent obstacle in respect of implementing CAT for EDT in the EC SAPS.

The research findings that were analysed in this chapter will form the basis for constructing a model that will ensure that CAT can be optimally applied to the particular context of the EC SAPS and thereby enhance the overall effectiveness and efficiency of the EDT process. This model will be elaborated upon in the next chapter.

CHAPTER EIGHT: THE DEVELOPMENT OF A MODEL FOR THE USE OF COMPUTER-ASSISTED TRAINING SUITED TO THE CONTEXT OF THE EC SAPS

1.   INTRODUCTION

This chapter will provide a framework that combines all the thematic areas and analytical categories of the study to serve as a basis for the development of a conceptual model for CAT to be used for EDT and learning purposes in the SAPS.

This will be done by firstly focusing on the background to the development of the model, secondly by providing an exposition of the foundation of the model, thirdly by explaining the functioning of the model, and finally assessing how the model makes provision for other requirements that were identified during the course of the study,

The background to the development of the model will *inter alia* assess how the findings of the study impact on the integration of the EDT, learning and technology dimensions for the purposes of optimally implementing CAT in the EC SAPS.

2.   BACKGROUND TO THE DEVELOPMENT OF A CONCEPTUAL MODEL FOR CAT IN THE EC SAPS

The findings of the study mainly focussed on three aspects namely, Level of computer literacy, access to the appropriate facilities and the attitudes towards the use of CAT in the EC SAPS.   Subsequently, the findings in respect thereof will comprise the background to the development of a conceptual model for CAT in the EC SAPS.

2.1   Level of computer literacy

The low Level of computer literacy of respondents may impact negatively on the use of the model. Ultimately, the effective and efficient utilisation of the model will depend on members' computer literacy levels. However, the use of the model is not solely dependant on members' use of computer technology. Various components of the

model may be utilised for the appropriate purpose without computer literacy as a requirement. Mechanisms like the landline, mobile phone, DVD and fax machine may be used interchangeably to provide for the respective learning categories. Evidently, this will be determined by the technologies, aside from computers that members have access to. These technologies may, depending on the specific purpose of the exercise be used individually or in combination. Furthermore, a landline can for instance be utilised to substitute the mobile phone and *vice verse*.

Although the computer literacy levels of respondents are not up to standard, it is evident that the technological and human resource development platforms that are available to expedite this aspect are not utilised appropriately. When assessing the extent of respondents' experience in computer use, the time spent on a daily basis using computers in the workplace, and the receipt of on-the-job computer training, one would assume that respondents should have been reporting higher levels of computer literacy.

This study therefore proposes that the situation could be rectified if the time respondents have available is used more appropriately and a suitable EDT intervention is applied to enhance the computer literacy of EC SAPS officials on an ongoing basis.

2.2   Access to the appropriate facilities

It is apparent that respondents have sufficient access to technological facilities for the use of the model for the appropriate purpose. The access of members to technologies such as computers with CD-ROM, Intranet, fax machines, DVD players, cellular phones, e-mail and the internet are sufficient for the effective, efficient and appropriate utilisation of CAT in the EC SAPS. However, due to the difference in access to facilities by respective role-players in the areas, it will not be possible to utilise a standardised model for the whole province. Consequently, the characteristics of the model will be determined by the available technologies in collaboration with the initial purpose of the exercise.

2.3   Attitudes towards the utilisation of CAT

Respondents' optimism with respect to the use of CAT for the purpose of EDT and learning in the EC SAPS will further contribute to the effectiveness and efficiency of the use of the model for this purpose. If the proposal were to have been met with a degree of antagonism, other complications like a lack of cooperation and commitment from the members would have resulted from this.

Although it was felt that traditional EDT mechanisms still play a vital role with respect to EDT and learning in the EC SAPS, respondents indicated that CAT can be utilised to complement these methods. In short, it is clear that despite certain challenges being identified, the study has found that the implementation of CAT as an intervention to complement EDT and learning in the SAPS is a viable option. Subsequently, the aspects identified as crucial components in respect of developing a conceptual model for the implementation of CAT need to be briefly highlighted.

3.   THE INTEGRATION OF EDT AS A LEARNING EXPERIENCE INTO THE CAT MODEL

The literature study identified various features that are of importance in implementing EDT interventions in any context. In this respect, it is worth noting that the SAPS CAT model will focus on reinforcing the principles of pedagogy as opposed to andragogy. With respect to pedagogy, this implies that the model will provide for a one-way transfer of knowledge. In turn, this emphasises the importance of aspects like the availability of an experienced tutor who deals with specific subject matters to assist the learner, to create a learning environment for the learner as well as to motivate the learner. Concerning andragogy the model will institute the prospect for adult learning to occur. Subsequently, this means that the model should also present the opportunity for learning to occur independently, for learners to bring their own experience to the process and to provide for the personal needs of learners. This basically implies that the ultimate goal of any EDT venture is to create an experience conducive to learning.

Consequently, any model that is developed for the implementation of CAT in the EC SAPS needs to take cognisance of the facets that promote learning so that these requirements are adequately attended to as part of the CAT learning experience. In particular, it is important to ensure that the technological platforms that are utilised for the purposes of CAT respond optimally to the various styles of learning that learners bring to the EDT experience.

As part of the literature study, various features of learning were identified including aspects of andragogy, learning theories, various types of learning, the cycle of learning, and building a learning organisation. Due to the fact that these facets comprise the apparatus of learning, all of these features should be present in the CAT model in order for learning to be optimised during EDT interventions. This implies that these aspects may be regarded as requirements of learning.

The choice to utilise the sensory learning categories as the preferred method to provide learning for the purposes of the model will to a large extent provide for the requirements placed on learning by these aspects. Consequently, irrespective of the learning style category, all information ultimately still has to proceed through the human senses in order for learning to occur. Bixler and Bergman (2007:2) elaborate in this regard that people remember 20 per cent of what they hear, 40 per cent of what they see and hear and 75 per cent of what they see, hear and do. Subsequently, the model will utilise these categories as a foundation to achieve learning.

Figure 25 highlights that learning comprises certain components that revolve around contemplating and comparing new phenomenon against previous experience which leads to a change of behaviour and the ultimate creation of new knowledge (Robbins, 2005:30).
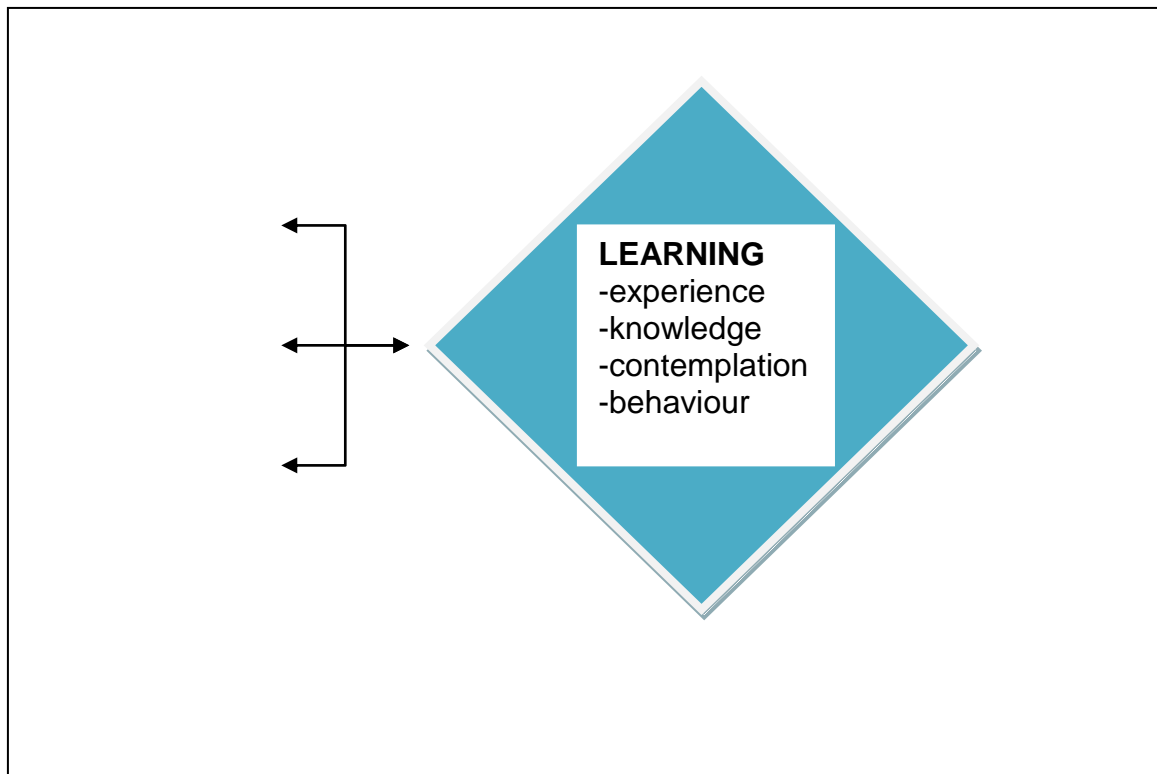
Figure 25: The components of learning

The requirements of learning with respect to the study are based on the job descriptions of the operational and support services members of the organisation. The study of these job descriptions revealed that the tasks that constitute the respective jobs contained in these descriptions could be grouped into common categories. This was found to be the case with respect to operational as well as support services job descriptions. The common task categories were identified as the execution of the actual activity, working with people and mastering the theoretical background of the aspect that is learned.

The task categories outlined in Figure 26 will constitute the objectives to be achieved in order for learning to occur. Consequently, various avenues may be followed for these objectives to be achieved. One such approach comprises advancing learning through the human senses. The model that has been developed for the purposes of implementing CAT in the EC SAPS will therefore be referred to as the SAPS Sensory Learning Model (annexure 5) since it aims to advance learning through technology platforms that cater for learners with different learning styles.
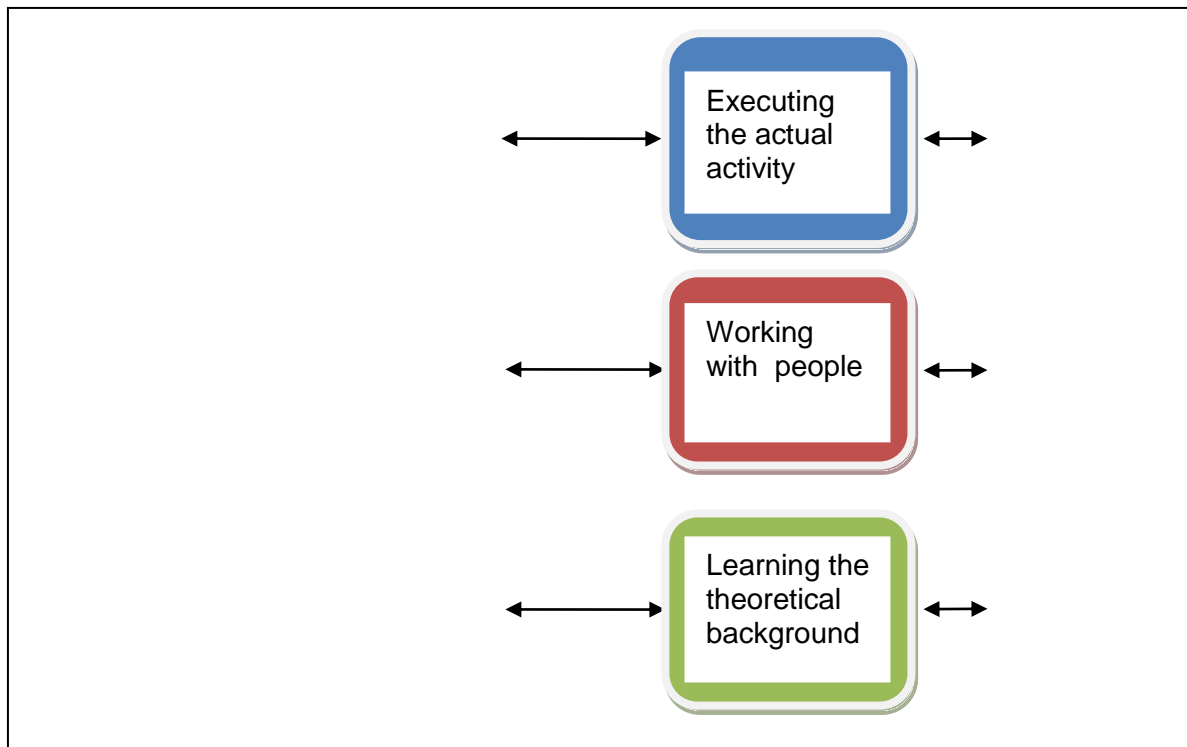
Figure 26: The objectives of learning

4.   AN APPROACH TO LEARNING THROUGH THE SENSORY LEARNING STYLES

The Think Quest Team (2000:1) in collaboration with The Student Development Centre (2005:1) and Advanogy.com (2004:1) agree that the auditory, visual and kinaesthetic styles are regarded as the main categories of sensory learning with respect to learners as proposed in Figure 27.
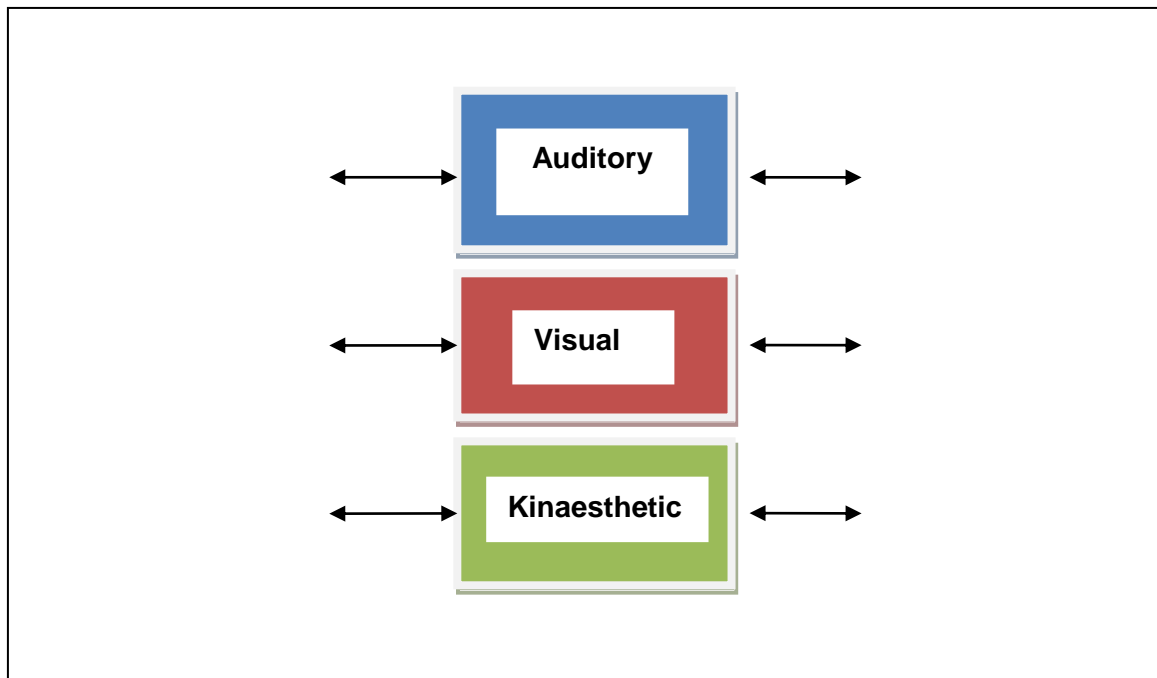
Figure 27: The sensory learning styles

The identified sensory groupings will subsequently be used in Table 9 to categorise the EDT mechanisms, traditionally used by the organisation into the sensory class that will best serve its learning purpose. This will also assist when dividing the technologies into the appropriate categories.

Evidently, the traditional SAPS EDT mechanisms largely cater for the auditory learning style category. The advantage of the model is that it promotes a more balanced approach with respect to responding to the learning needs of all three sensory categories. In addition, some of these mechanisms may be utilised for all three of these learning categories which increases its potential as a learning intervention.

The identified sensory groupings will subsequently be used in Table 10 to categorise the technological mechanisms at the disposal of the organisation into the sensory class that would best serve its learning purpose.

Table 9: Categorising the traditional SAPS EDT mechanisms

AUDITORY (A)	VISUAL (V)	KINAESTHETIC (K)
In-service EDT (IST)	In-service EDT	In-service EDT
Classroom lecture (CL)	Classroom lecture	Simulation
Video technique (VT)	Video technique	Role play
Simulation (S)	Simulation	
Role play (RP)	Role play	
Large group discussion (LGD)		
Small group discussion (SGD)		
Case studies (CS)		
Report out (RO)		
Questions and answers (QA)		

Table 10: Categorising the technological mechanisms

AUDITORY	AUDIO-VISUAL	VISUAL	VISUAL-KINAESTHETIC
Landline	Digital Video (or Versatile) Disk (DVD) player	Facsimile	Discussion forum
Mobile telephone	Desktop video-conferencing	Intranet	Threaded discussion
			Internet relay chat
			Instant messaging

It should be noted that, as a result of the similar characteristics of certain of these technological mechanisms, several could be applicable to more than one sensory category to serve similar learning purposes. In turn, some of the technologies SAPS has access to, are capable of providing for all three the identified sensory learning

styles and will subsequently be placed in a single category in Figure 28, namely audio-visual kinaesthetic (AVK) learning styles.

AUDIO-VISUAL-KINAESTHETIC (AVK)

- Stand-alone computer with CD-ROM
- Internet
- E-mail
- Wiki
- Blog
- Interactive whiteboard
- Chat room
- Skype
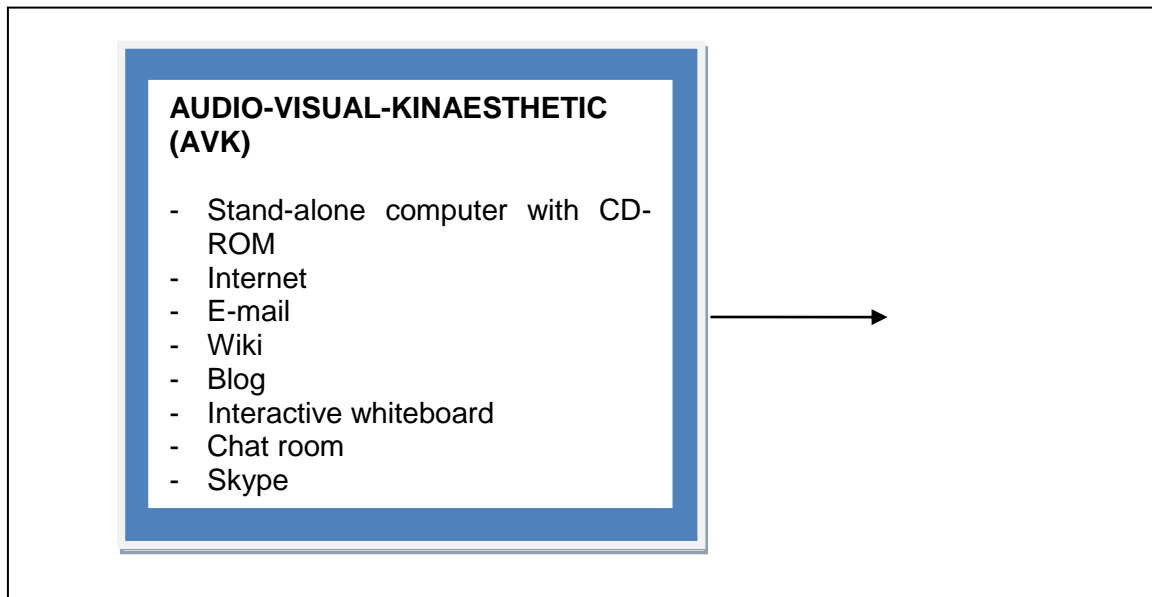
Figure 28: Technological mechanisms catering for all three sensory learning styles

5. PROVIDING FOR THE REQUIREMENTS OF THE VARIOUS CAT MODELS

The study identified four possible CAT models that could be of relevance to the EC SAPS namely, the ADDIE, ASSURE and Concentric Support model as well as the Kahn e-learning framework. Subsequently, each of these models is made up of a series of phases. Each of these phases should be executed in full to ensure the proper execution of the appropriate model. Consequently, the adherence of the SAPS Sensory model to each of the phases of these models will be qualified under the subsequent heading of each of the relevant phases.

5.1 The ADDIE – model

According to Nagy (2005:12) the ADDIE - model proposes five phases namely, the analysis-, design-, development-, implementation- and the evaluation phase. Accordingly, adherence to these phases will ensure that pedagogy and technology

are properly integrated. However, it is not possible to assess the implementation and evaluation phases at this stage since the CAT model has not yet been implemented within SAPS.

5.1.1 Analysis phase

During the analysis phase the problem that was identified was the achievement of optimised learning. The model identified three outcomes that are to be accomplished in order to give effect to the problem. These were executing the actual activity, working with people and getting to grips with the theoretical background. In turn, strategies were to be developed to realise the achievement of these outcomes in order to accomplish optimal learning.

5.1.2 Design phase

For the purpose of strategising with regard to the accomplishment of the three identified outcomes, the model focused on the sensory learning styles as an appropriate avenue to achieve learning. Subsequently, the emulation of the three identified sensory learning styles namely visual-; audio-; and kinaesthetic were identified to give effect to the three outcomes in order to achieve optimal learning.

5.1.3 Development phase

The sensory categories also served to group and categorise the conventional EDT processes of the SAPS as well as the technological mechanisms. These mechanisms could be applied as part of the model to complement these methods to move through the preferred sensory categories in achievement of one of the selected outcomes, ultimately for learning to be realised. Consequently, the technological mechanisms could be categorised in four categories namely, audio-; audio-visual-; visual-; and visual-kinaesthetic groupings. It will be emphasised that elements of both categories can be utilised in conjunction with each other for similar sensory purposes to achieve a specific learning objective.

5.2   The ASSURE – model

The model comprises six steps namely, analyse learners; state objectives; select methods, media and material; utilise media and materials; require learner participation and evaluate/revise. Application of the last mentioned phase namely, the evaluation and revision phase would however not be possible as the model has not yet been implemented.

5.2.1 Analyse learners

Subsequent to the requirements of the ASSURE - model, the intended learners were analysed in great detail through the exposition of the biographical details of respondents in the empirical component of the study. Consequently, respondents were well represented in terms of gender; largely between the age group of thirty and fourty; mainly fluent in a combination of three of the official languages of the Eastern Cape Province; mostly acquired a grade 12 qualification; chiefly had more than ten years of service and is lastly well balanced between the post descriptions of Human Resource Management and Information Systems Management.

Therefore, the model was developed and designed with due consideration of "user-friendliness" in collaboration with the requirements that were generated by the aspects of gender, age, language, qualification, years of service and post titles.

5.2.2 State objectives

The objectives of the model are specifically stated. The three objectives of the model in optimising learning comprise the execution of the actual activity, learning to work with people and understanding the theoretical background of a specific subject. These objectives have been utilised as criteria for the selection of appropriate EDT and technology systems.

5.2.3   Select Methods, Media, and Materials

In agreement with Heinich, Molenda and Smaldino (2002), the selection of the technology suitable to a particular EDT and learning environment is possible only after the instructor has analysed the learners and has articulated the objectives for the course. For the purpose of selection, the sensory categories served to group and categorise the traditional EDT processes of the organisation as well as the technological mechanisms to be utilised for the purposes of CAT.

5.2.4   Utilise media and materials

In adherence with the requirements of the ASSURE-model, attention will be given to the proper implementation of the model. The use of every mechanism and its specific purpose needs to be described in detail to learners. In this respect, the 5P-principle supported by The Human Resource Development (HRD) website (2010) is applied to ensure thoroughness and comprehensiveness. Subsequently, the material will be   **p**reviewed to ensure all role-players familiarity with the mechanisms that will be used; the **p**reparation of materials to ensure that all the mechanisms are available to enable role-players to achieve the set learning objectives; the **p**reparation of the environment to ensure the functioning of all the mechanisms in collaboration with the classroom space; and lastly the **p**rovision of an effective learning experience.

5.2.5   Require learner participation

The model will be used by the learners themselves on a continuous basis for the purposes of EDT interventions. The tutor will also be available to be of assistance when learners experience problems with systems.

5.3   The Concentric Support model

The Concentric Support model comprises nine steps namely, tutor support; student support; content; course management system; technical support; instructional support; policies and procedures; executive support; and community support. Although crucial aspects were identified by means of the use of this model, the true

potential thereof could not be explored within the boundaries of this study, but will be utilised to substantiate the identification of other crucial aspects that will ultimately have an effect on the implementation of CAT in the EC SAPS.

5.4   Kahn's e-learning framework

Kahn's e-learning framework comprises the following eight dimensions, namely: pedagogical; technological; interface design; evaluation; management; resource support; ethical; and institutional. In this respect, it must be noted that the successful implementation of CAT within the EC SAPS is largely dependent on these dimensions being adequately attended to, for example:

- The teaching/training methods need to be conducive to learning and should be adapted to suit the needs of individual learners in pursuance of the objectives of learning.

- The use of technological facilities at the disposal of the SAPS should be optimised as mechanisms to complement and reinforce the learning achieved through conventional EDT methods.

- The interface design that refers to the overall look and feel of the model implies that the model should focus on and ensure the "user-friendliness" of mechanisms that will be used to achieve its relevant learning purposes.

- The model should facilitate the assessment of learners and the ongoing evaluation of the instruction and learning environment.

- The model will provide for the maintenance of learning environments and the distribution of information to ensure the effective management of e-learning.

- The resource dimension should be capable to provide online support for aspects like career counselling. This dimension will also focus on acquiring the support required to foster meaningful learning environments.

- From an ethical perspective, the model should be accessible to all members of the EC SAPS irrespective of race and gender, including those from rural and urban areas.

- Lastly, the institutional dimension should focus on aspects like the organisation of all the elements of the model, accreditation of qualification, budgeting and media services. This dimension will also include the development of marketing strategies

and providing for the admission of learners. This dimension will also focus on obtaining faculty and staff support as well as acquiring the tutorial support related to e-learning.

6.   THE FUNCTIONING OF THE MODEL

As explained above, the CAT model was ultimately designed to optimise learning. In order to achieve this goal certain subsequent learning objectives were formulated namely, the execution of the actual activity, working with people, and understanding the theoretical background. These three objectives were the end result of a thorough perusal and study of the job descriptions and subsequent tasks of police officials of both operational and support services. It was found that this array of job tasks could eventually be categorised into the above-mentioned three comparable groupings. The learning exercise may focus on each of these objectives individually, or all three as a whole in order to achieve optimal learning.

Furthermore, the model focused on the main categories of the human sensory learning styles to achieve these three separate learning objectives. These are the visual, auditory and kinaesthetic sensory learning styles. Furthermore, these learning styles were used to categorise the traditional EDT mechanisms at the disposal of the SAPS, as well as the technological mechanisms that will support or complement the traditional EDT mechanisms. As a result of the similar characteristics of certain of these technological mechanisms some could be combined into sensory categories while others had to be separated to constitute specific categories in this regard. The model identified the auditory, audio-visual, visual, and the visual-kinaesthetic categories in this respect.

In the event that the mentioned mechanisms are not available to the learner for a specific learning purpose, yet another tool was identified that contains technological systems capable of providing for all the identified sensory learning styles. This implies that any of these systems could be used to provide for any of the three sensory learning style categories. The ideal of this model is to have a large number of facilities available for the mentioned respective learning purposes. Consequently,

should a specific method not be available, a substitute should always be available that will serve a similar learning purpose.

To illustrate the model in more detail, the following section will focus on applying the model to specific examples of the operational and support functions within the SAPS of EC Province.

7.   APPLICATION OF THE MODEL WITH RESPECT TO OPERATIONAL FUNCTIONS IN THE EC SAPS

In pursuit of optimising the learning experience during EDT interventions, the learning objective that was selected, of the three outlined above, was the execution of the actual activity. The activity selected in this respect, as demonstrated in Figure 29, was the effecting of an arrest. Therefore, the model will be applied to demonstrate how a learner undergoing an EDT intervention would learn to effect an arrest.

In this case, the learner has a dominant visual sensory learning style whereby learning occurs when the learner sees the subject of learning. According to Sims and Sims (2002:2) pictures and images will assist these learners to understand ideas and information better than explanations. According to the Think Quest Team (2000:2) visual learners easily memorise visual displays including diagrams, sketches, illustrated text books, overhead transparencies, videos, flipcharts and hand-outs; and outlines the key topics in chart or diagram format.

Simulation exercises are the traditional SAPS mechanism chosen to teach the member how to affect an arrest. This is one of the methods that are appropriate to learning through the visual learning style. Burke, Sarpy, Smith-Crowe, Chan-Serafin, Salvador and Islam (2006:6) write that it involves the imitation of a real set of conditions to enable the comparison of the likely outcomes of various courses of action. It involves constructing and testing a model of a real-world phenomenon.
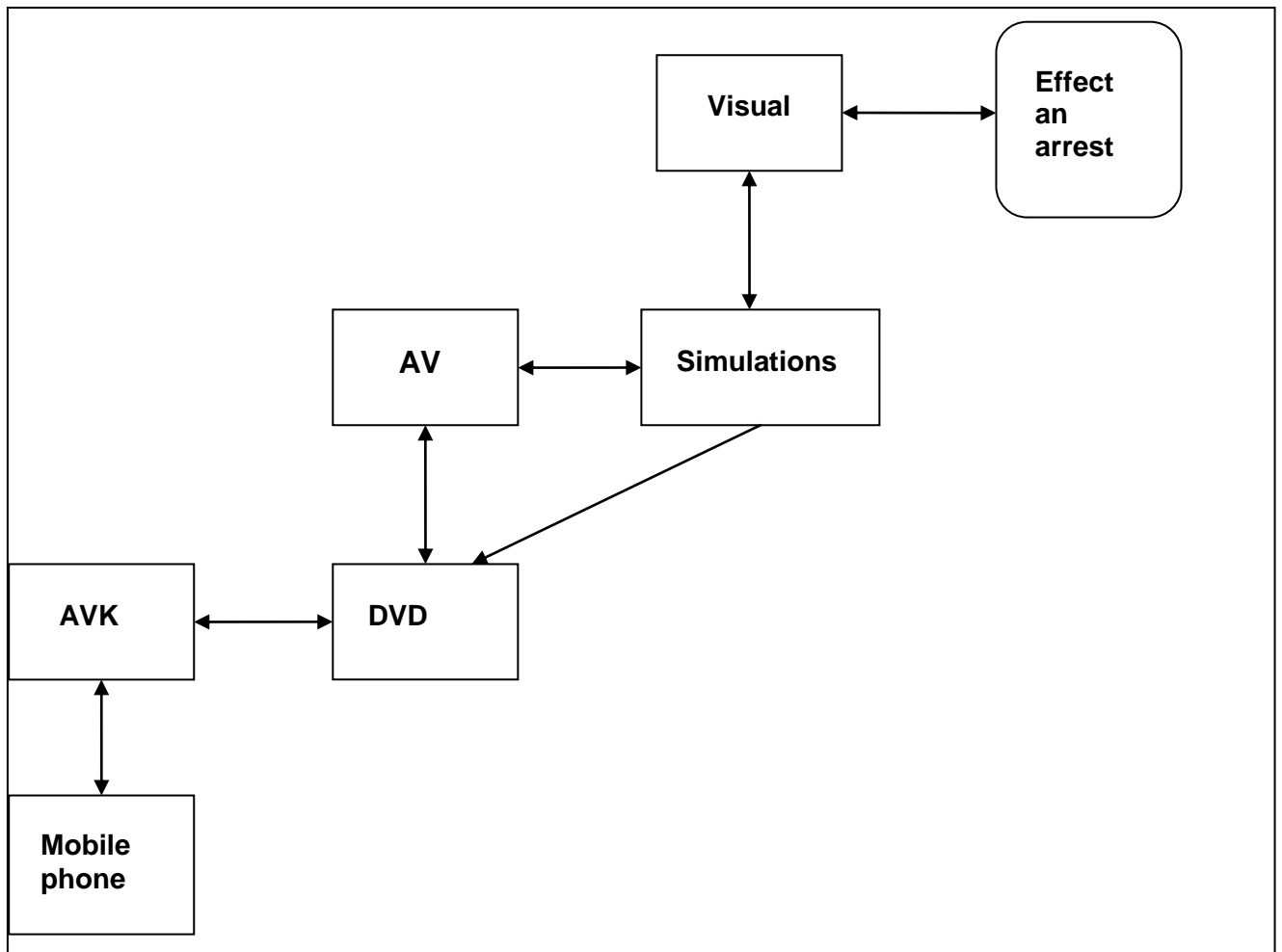
Figure 29: Application of the Sensory Model with respect to Operational Functions

In accordance with the model, the visual learning style category is supported by the technological groupings of the audio-visual, visual, and the visual-kinaesthetic categories. Thus, a technology proposed by the model as a support intervention to the simulation exercise is the DVD player. The DVD player enables the reproduction of images from a compact disc (CD) or DVD. Tiene and Ingram (2001:307) state that the DVD can be used to store high-quality video as well as sound, data and computer programmes.

If for some or other reason a DVD is not available or fails to function properly, the model provides for a separate category of technological mechanisms that are capable of providing for all three of the sensory learning style categories, namely the mobile phone. According to Van Dijk (2006:47) mobile telephony enables the

sending and receiving of text through the Short Message System (SMS) and pictures through Multi Media Messaging (MMS) as well as Mobile Internet web pages. The sending of a video clip demonstrating the effecting of an arrest by means of the mobile phone would suffice in this regard.

8. APPLICATION OF THE CAT MODEL WITH RESPECT TO SUPPORT FUNCTIONS IN THE EC SAPS

For the purposes of demonstrating the application of the model to support functions in the EC SAPS, the learning objective that has been selected in Figure 30 is developing an understanding of the theoretical background. The topic chosen in this regard is an appreciation of human rights as it applies to the duties and functions of SAPS officials.

In this case, it is assumed that the learner has a dominant auditory sensory learning style whereby learning occurs when the learner listens to the subject of learning. According to Sims *et al* (2002:2) these learners prefer the spoken message. The Think Quest Team (2000:2) writes that auditory learners learn best through verbal lectures because they enjoy listening.

The classroom lecture method is the traditional SAPS mechanism currently utilised to teach members the theoretical background with respect to human rights. The organisation uses live classroom lectures where the trainer provides the learners with a lecture on the theory of the study material in question. This includes public seminars. Interview with Botha (2009) supplemented this method by initiating an approach whereby the lecturer is sent to the students and not the students to the lecturer.
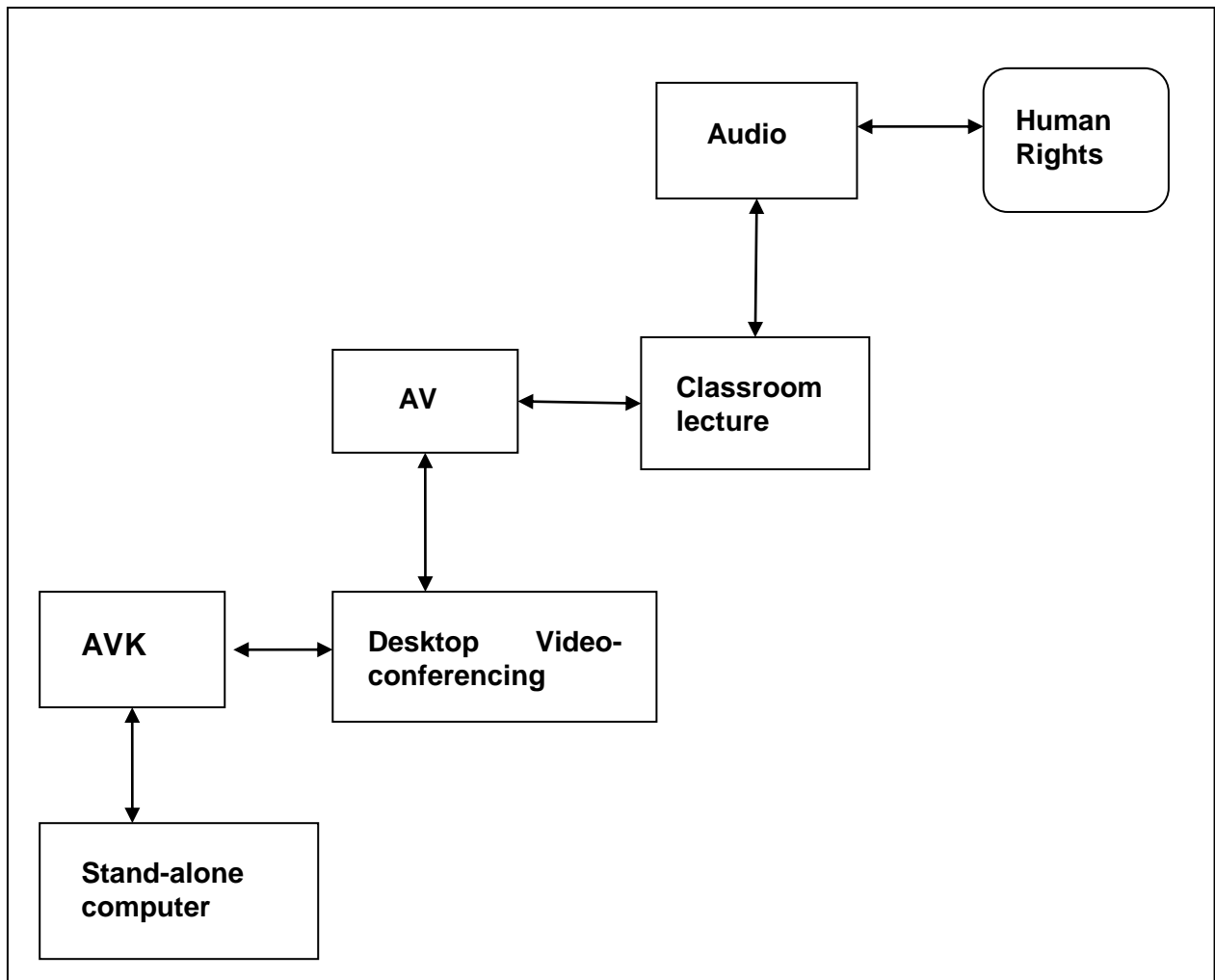
Figure 30: Application of the Sensory Model with respect to Support Functions

Dessler (2005:278) highlights the quick and simple manner of providing knowledge to large groups of learners as an advantage of this method. In turn, this encourages the give-and-take questioning of both parties involved. It may include feedback interventions in which information is provided in small groups. This will enable learners to receive feedback on their performance and to correct their mistakes. Stephenson (2001:6) points to another advantage of the classroom set-up as the stimulation of the learner by the physical presence and personal enthusiasm of the lecturer or tutor. Scheepers (2008:74) adds that the tutor is also provided with the opportunity to adapt the programme in accordance with the audience's responses. As a disadvantage of this method, Scheepers (2008:74) points out that the partial participation of members of the audience in this type of EDT venture may limit their attention span.

In accordance with the model, the auditory learning style can be supported by the technological groupings of the audio- and audio-visual category. The technological mechanism selected to complement the classroom lecture method is the desktop video-conference. According to Kravitz (2004:61), desktop video-conferencing allows for "live" one-to-one or one-to-several video interactions. Using a colour video camera, free software, a computer, and an internet connection, one can have colour, two-way video with audio of a quality dependent on the organisation's bandwidth.

If for some or other reason desktop video-conferencing is not possible due to a lack of required facilities, the model provides for an additional back-up in this regard namely, the use of a stand-alone computer with CD-ROM. Kenet (2006:4) elaborates in this regard that a computer does not have to be connected to a network or to learning resources outside of the course to have an EDT and learning potential. In this respect the CD-ROM may, for instance, be used to retrieve audio information from a CD with respect to the theory on human rights.

9.   PROVIDING FOR THE EXPECTAITIONS OF THE RESPONDENTS

The findings of the study identified a number of expectations that respondents had with respect to the implementation of CAT in the EC SAPS. In this regard, respondents acknowledged that the classroom set-up and traditional EDT methods still have a place in the SAPS. As can be seen above, this was kept in mind when developing the model.

Respondents indicated a need to save time and money in respect of EDT and learning and an enablement to study in their own time and at their own pace. These aspects are addressed through the model in that the use of CAT to complement conventional EDT methods makes provision for distance learning. This will enable learners to save time and money by not having to always travel to relevant SAPS training sites to receive the required EDT.

It was also indicated that the model should be capable of providing for the respondents' need for EDT and learning with respect to both the operational and

support divisions. The need for in-service EDT is also addressed by placing the mechanism in the category that contains the other traditional EDT mechanisms.

Respondents expressed a preference for CAT above CBT. This was addressed through the inclusion of all other technologies the organisation has access to, including the computer. Mechanisms will be put in place to provide for the availability of a tutor on an ongoing basis at times most suited to the operational needs of SAPS members. Furthermore, it is recommended that the CAT model makes provision for EDT and learning to be available to SAPS members 10 hours per week at home and 10 hours per week at work, preferably on every week day if this is feasible.

Evidently, the single largest obstacle preventing the use of the SAPS Sensory Learning Model is the Level of computer literacy and EC SAPS members' knowledge with respect to information technology. However, the facilities to properly address this constraint are already at the disposal of the organisation. To address this issue would firstly require a constructive decision to be made by the organisation to reduce or totally eliminate the low levels of computer literacy amongst its members, especially those in management positions. Secondly, a plan in this respect should be compiled, identifying the objectives, responsible role-players, the technical facilities and infrastructure, and financial resources that will assist in this regard. Responsible role-players may comprise members from ISM and HRM Training who can take ownership of the required training interventions.

10.   CONCLUSION

This chapter focused specifically on The SAPS Sensory Learning model that has been developed as a result of the various factors highlighted as contributing to learning. As was mentioned, optimising learning is the ultimate desired outcome of the implementation of CAT as a method to supplement conventional EDT interventions in the EC SAPS. This can be achieved by simultaneously utilising the conventional EDT and technological mechanisms, as identified in the study, to accommodate various sensory learning styles in a holistic manner.

CHAPTER NINE: CONCLUSION AND RECOMMENDATIONS

This chapter will provide a summary of each of the chapters of the study. Subsequently, recommendations will be made in collaboration with the research findings. The recommendations focus on possible solutions to problems that were identified as a result of the research conducted and observations made throughout the study.

The investigation commenced in **Chapter One** with an overview of the South African public sector. This aspect was discussed to explain the place and role of the SAPS as a constituent part of the public sector. A historical overview of the SAPS since 1995 was provided to highlight the transformation that the organisation has undergone as a result of the advent of democracy in 1994. A major change brought about in this respect was the transformation of the organisation's vision and fundamental role. Other changes included the reorganisation of the SAPS divisions and functions, which eventually also impacted on the organisation's hierarchical and geographical structuring. This in turn influenced the SAPS' service accountability. Ultimately, these amendments impacted largely on features like the application and utilisation of education, development and training (EDT) interventions to advance learning in the organisation.

This paved the way for the statement of the problem of the study, which in turn represented the basis for the significance of the study. The significance of the study focused on a renewed emphasis on the enhancement of service delivery, the contribution of EDT and learning in this respect, and the desirability of analysing the viability of incorporating the use of information technology to assist in this regard.

Furthermore, a number of limitations to the study were identified with a view to indicating how these were remedied so as to limit their negative impact on the study.

Chapter Two analysed the relevant literature in order to provide a general perspective of the current EDT system in the SAPS of EC Province. Comparative views of different writers indicated that EDT cannot be detached from the aspects of education and development. The literature study furthermore also identified an association between these aspects and the concept of pedagogy. Evidently, the pedagogical viewpoint is not sustained by the transformed SAPS. The one-way transfer of knowledge to and the complete memorisation of problem solutions is what the organisation in actual fact is trying to move away from. One of the disadvantages of pedagogics is that it does not allow for any personal growth or opportunity for learners to use their own initiative in problem solving. Furthermore, the Rauch study on the issue of basic training in the former SAP was examined. The findings of the Rauch study pointed out that this approach to police training was not consistent with the viewpoint of the new government. To address this, an International Training Committee and a Multinational Implementation Team were established to investigate the issue and this resulted in Field Training and Management Development being identified as two new approaches to EDT in the SAPS. The chapter also provided an exposition of EDT methods that are traditionally used by the organisation. These systems could be categorised into two (2) categories namely on- and off-the-job training methods, each with its individual purposes.

Chapter Three provided an analysis of the literature as it pertains to the impact of learning on the utilisation of CAT in the EC SAPS. The chapter served to highlight that learning is the result of the change of behaviour of the learner that occurs after learners reconcile what was learned with relevant experience. Eventually, this leads to the creation of new knowledge. Subsequently, the concept of andragogy was identified as being of significance to this study as it is supported by the SAPS. Andragogics in general upholds the concept of adult learning. It is based on the principle that adult learners will take responsibility for their own learning. This also highlights the major difference between andragogics and pedagogics where trainers accept this task on behalf of the learner.

An analysis of the most appropriate theories of learning provided the foundation for identifying the most essential components in the learning process, various types of learning, and different phases in the learning cycle. The chapter furthermore

identified the key learning styles of learners. In this respect the sensory learning styles were identified as constituting the key focus of this study. In addition, job descriptions of members of the SAPS were scrutinised in an attempt to identify the learning needs of these members. The learning needs of these role-players could eventually be categorised into three groupings namely, the execution of the actual activity, how to work with people and developing a perception of the theoretical background of policing. In turn, the corresponding learning requirements of these categories would also assume an important segment of this study.

Chapter Four devoted attention to providing an exposition of the literature pertaining to the potential contribution of technology with respect to EDT and learning in the EC SAPS. The chapter assessed all the technologies SAPS members have access to, as well as SAPS' use of computers. This included comparing the potential of computers that are not connected to a network or learning resource outside of a course with those that are connected to some or other service provider. The chapter also examined the increased potential of computers that are connected due to the potential thereof to serve as a foundation to acquire additional EDT options. Subsequently, this entails an increase in the variety of the options in this respect. Lastly, the chapter also investigated the importance of user interface pertaining to the use of computers and the like for the purposes of EDT. This implies the degree to what the user's needs, capabilities and limitations are accommodated in the most effective manner by the facilities.

Chapter Five identified models that combine the use of technology with EDT and learning. These are the ADDIE; ASSURE; Concentric Support models; and the Kahn e-learning framework. The chapter evaluated the characteristics, advantages and disadvantages of each of these models. It was pointed out that each of these models comprises a number of phases or steps and the execution of each of these would ensure the successful utilisation of the models. Key features of each of these models were highlighted for the purposes of identifying the prerequisites for developing a customised model for the sustainable implementation of CAT in the EC SAPS.

Chapter Six focused on providing an explanation of the methodology used to ensure the quality, reliability and validity of the data, thereby warranting its generalisation.

The chapter provided a detailed analysis of the methodological approach, target population and sampling techniques, data collection and analysis methods that were applied to test the various research questions. In this respect, it was pointed out that both quantitative and qualitative research methods were used to assess the viability of CAT for the purposes of EDT in the EC SAPS.

Chapter Seven discussed the research findings of the study in detail. Firstly, the biographical details of the respondents were described to give an indication of the representativeness of the sample when compared to the target population. Secondly, an overview was provided of the research findings with respect to three core issues, namely: the Level of computer literacy of respondents; access to the appropriate technological facilities; and the attitudes of EC SAPS management officials with regards to the viability of the use of CAT to enhance EDT. This chapter also served to compare the findings from the questionnaire survey conducted in 2005 with the results from interviews conducted with key EC SAPS management officials during 2010. It was encouraging to note that, although there had been some advances between 2005 and 2010, the EC SAPS context had remained largely the same and hence the 2005 research findings can be regarded as still being valid in respect of providing a basis for developing a model for the implementation of CAT.

Chapter Eight served to combine all the crucial aspects identified in the literature study and research findings of the study to eventually constitute the foundation for developing a customised model for the implementation of CAT in the EC SAPS namely, The SAPS Sensory Learning model. The purpose of this chapter was to provide an integrated overview of the various constituent elements of the model so as to illustrate the theoretical underpinnings and practical application thereof within the EC SAPS context.

Chapter Nine has provided a synopsis of logical conclusions that can be drawn from the discussion of the research findings. Recommendations on how best to improve the EDT interventions to enhance learning within the EC SAPS will be made.

RECOMMENDATIONS

The recommendations will focus on crucial aspects that will contribute to ensuring the successful implementation of CAT as an EDT intervention in the EC SAPS.

Firstly, it will be important to ensure that CAT tutors are **effective instructors** and should be conversant with pedagogical principles. Furthermore, tutors should have easy access to the necessary technologies, as well as adequate technology skills to ensure that they feel comfortable working with course management tools, as well as troubleshooting hardware and software problems. Tutors should obtain the appropriate knowledge with respect to technical support requirements and the required infrastructure for implementation of The SAPS Sensory Learning model. Secondly, various authors write that another requirement is that **learner support** is crucial to ensure that learners are motivated to learn using technological platforms (Carlson, Downs, Repman and Clark, 1998; Palloff and Pratt, 1999; Osika and Sharp, 2002). As pointed out above, it is strongly recommended that SAPS in the EC Province implement measures to enhance the overall computer literacy of its members to ensure that CAT can be optimally applied to complement conventional EDT mechanisms and thereby promote learning on a continuous basis.

Thirdly, it is recommended that the course content of EDT interventions allows for and promotes interactivity. This interactivity needs to occur between students, between tutors and students, and between the students and the content (Carnevale & Olsen, 2003; Distance Education Report, 2000; Palloff *et al* 1999; WCET, 1999). Belanger and Jordan (2000) reported that the lack of student-to-student interaction can be a major problem, as this is an essential element in the learning process according to various educational theories. They also found interaction between tutors and learners was essential for feedback. Tutors need feedback from learners to ensure comprehension of material and to obtain information on their own performance in delivering the material. Belanger *et al* (2000:22) write that learners, on the other hand, need feedback from their tutors on their achievement in the courses that they take. Carlson *et al* (1998:142) pointed out that for success, *"rather than designing instruction that is intended to deliver information to the learner, it is necessary to design instruction which engages the learner in interactive activities".*

Tutors should therefore be conversant in the development of instruction materials that engage the learners in interactive activities to develop the learners' capabilities in this regard.

Fourthly, it is recommended that SAPS investigate utilising a **course management system** that is easy to navigate and use, allowing tutors and learners to focus on the content and not the technology (Palloff *et al* 1999). Once again this shifts the responsibility to the tutor for the development of an appropriate course management system with due consideration of the user interface.

Fifthly, institutions wanting to achieve and sustain a quality learning programme for EDT purposes must implement **policies and procedures** that support and clarify how such learning will be administered. The tutor should form part of this venture. It is recommended that SAPS analyse its current EDT policies and procedures to assess whether they are conducive to phasing in the implementation of CAT as a means of complementing conventional EDT and development methods.

Sixthly, it is crucial that executive leadership within SAPS provides clear commitment and support to the implementation of CAT as an EDT tool. This, in turn, will also allow for a common vision to be shared across the SAPS with respect to the advantages of members utilising technological mechanisms for the purposes of advancing their own learning on a continuous basis. The SAPS Sensory Learning model proposed in this study will require the approval and support of the provincial and national SAPS office for it to be successfully deployed within the EC SAPS stations. This implies that the **financial resources** required to phase in the implementation of this model of training and development would also need to be secured to ensure that CAT is supported by the required technological infrastructure and technical competency among tutors and learners.

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INTERVIEW LIST

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Annexure 1

PROFILE: SAPS NATIONAL
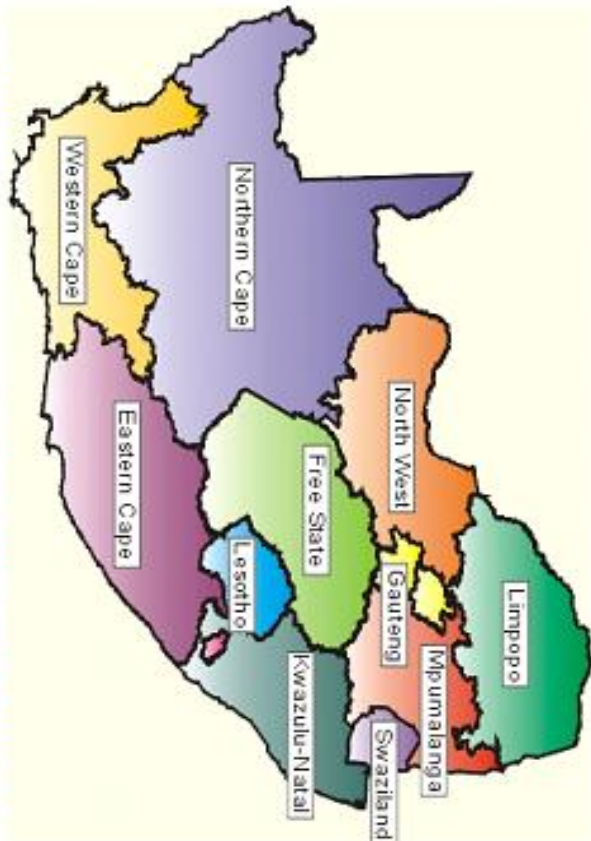
PROVINCES	9 (Excluding Lesotho & Swaziland)
POLICE STATIONS	1113
RSA POPULATION	47 849 800 (Mid-Year Est, 2008)
RSA LAND SURFACE	1219090 (per square km)
PERSONNEL STRENGTH	
SWORN OFFICERS	150373 (Nov 2010)
CIVILIANS	38115 (Nov 2010)
TOTAL	188488
POLICE - POPULATION RATIO 1:318	

Annexure 2

PROFILE : SAPS EASTERN CAPE
Lieutenant-General

MS Landu

POLICE STATIONS	191
% OF RSA POPULATION	15 % (7 million)
% OF RSA LAND SURFACE	14 % (169 580 sq km)
LOCATION OF PROVINCIAL HEADQUARTERS	Bisho
PERSONNEL STRENGTH	
SWORN OFFICERS	16930 (Nov 2010)
CIVILIAN	4103
POLICE – POPULATION RATIO	1:417
PREVIOUS PROVINCIAL COMMISSIONERS :	W Toba, G Bezuidenhout, N Slabber, RS Mpongoma

Annexure 3

Organisational chart:

- STATION COMMANDER
  - Crime Information Office
  - Management Information Centre
    - COMMANDER CRIME PREVENTION
    - COMMANDER COMMUNITY SERVICE CENTRE
    - COMMANDER DETECTIVE SERVICE
    - HEAD SUPPORT SERVICES
      - COMMANDER HUMAN RESOURCE MANAGEMENT
      - COMMANDER SUPPLY CHAIN MANAGEMENT
      - COMMANDER FINANCE
      - COMMANDER ADMINISTRATION

Annexure 4
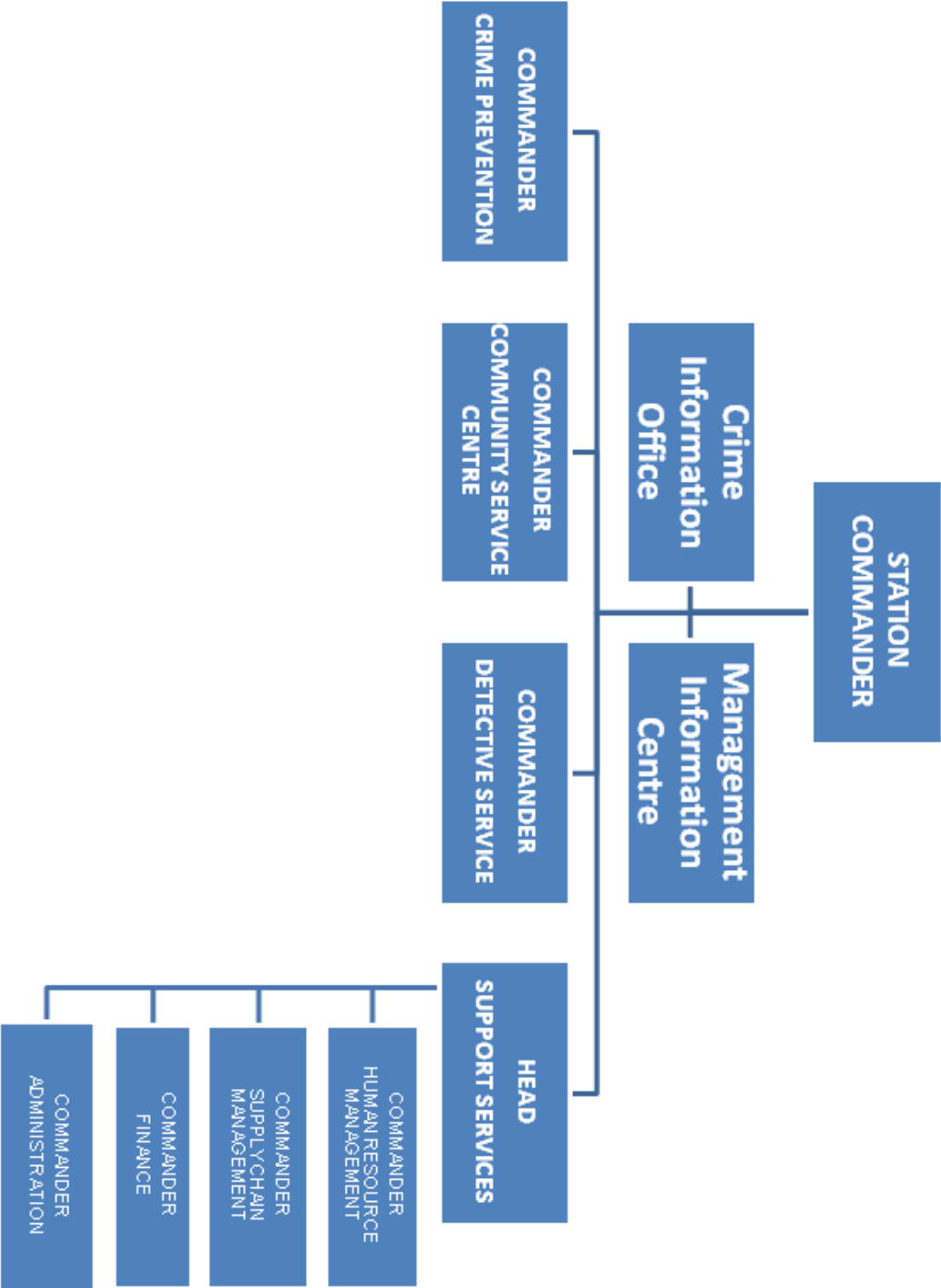
1

<u>UNIVERSITY OF PORT ELIZABETH</u>

<u>RAYMOND MHLABA INSTITUTE OF PUBLIC ADMINISTRATION AND
LEADERSHIP</u>

<u>INVESTIGATING THE VIABILITY OF COMPUTER-ASSISTED TRAINING IN
THE SOUTH AFRICAN POLICE SERVICE</u>

QUESTIONNAIRE TO THE SOUTH AFRICAN POLICE SERVICE
MANAGEMENT OF THE EASTERN CAPE

<u>HOW TO COMPLETE THE QUESTIONNAIRE</u>

1. Read the following carefully before filling in the details on the questionnaire.

2. Where applicable, the questions should be answered by circling the correct option.

3. Your own view/opinion (based on your practical experience) will also be requested. In such cases please write the required information in the space provided.

4. Please do not write in the shaded blocks; these are for office use.

<u>SECTION A:</u>

1

Gender	
Male	1
Female	2

2

Age	
20-29 Years	1
30-39	2
40-49	3
50-59	4
60+	5

3

Home Language	
Afrikaans	1
English	2
English and Afrikaans	3
English and Xhosa	4
Xhosa	5
Other: (please specify)	6

2

4

Highest Educational Qualification	
Less than grade 12	1
Grade 12	2
Certificate (post grade 12)	3
Diploma	4
B-Degree	5
Honours Degree	6
Masters Degree	7
Doctoral Degree	8

5

Length of Service in SAPS	
Less than 5 years	1
6-10 years	2
11-15 years	3
More than 15 years	4

6

Post Title	
Computer Trainer	1
Human Resource Manager (Training)	2
Information and Systems Manager	3
Field Training Officer	4

7

Level	
National	1
Provincial	2
Area	3
Station	4

8

Geographical Location		
8.1 Area name		
8.2 Station name		

3

SECTION B:

1   How do you rate your computer literacy?

1. Below average	2. Average	3. Above average

2   Which of the following technologies do you currently have access to?

	At home	At work
2.1 Computer without CD-Rom	1	2
2.2 Computer with CD-Rom	1	2
2.3 Intranet	1	2
2.4 Cellular phone	1	2
2.5 Fax machine	1	2
2.6 Internet	1	2
2.7 Video cassette recorder	1	2
2.8 DVD player	1	2

3   How many years have you been using computers in the workplace?

1. One to two	2. Three to five	3. Six to nine	4. Ten to fifteen	5. Sixteen plus

4   What generation of hardware does your computer belong to? (circle one option for each item)

	Pentium	Non-Pentium	Don't know
4.1 At Work	1	2	3
4.2 At Home	1	2	3

5   Which of the following applications do you make use of? Indicate the options that apply to you (circle two options for each item, one for *At work* and one for *At home*): 1 – Never   2 – Seldom   3 – Monthly   4 – Daily

	At work				At home			
5.1 Word processing	1	2	3	4	1	2	3	4
5.2 Spreadsheets	1	2	3	4	1	2	3	4
5.3 Presentation software	1	2	3	4	1	2	3	4
5.4 Calendar / scheduler	1	2	3	4	1	2	3	4
5.5 Financial analysis	1	2	3	4	1	2	3	4
5.6 Other: (please specify)	1	2	3	4	1	2	3	4

6   What is the average number of hours per week you make use of a computer?

6.1 At home	hours
6.2 At work	hours

4

7   Have you received any computer/information technology training?

Yes	1
No	2

7.1 If yes, please circle the appropriate option(s):		
7.1.1 Coral Word Perfect		1
7.1.2 Microsoft Word		2
7.1.3 CAS-system		3
7.1.4 CRIM-system		4
7.1.5 ISIS-system		5
7.1.6 CIR-system		6
7.1.7 PERSAL/PERSAP-system		7
7.1.8 POLFIN-system		8
7.1.9 Other: (please specify)	1	2

8   Which of the following Internet applications do you use?

	At work	At home
8.1 Electronic mail	1	2
8.2 Internet searches	1	2
8.3 None of the above	1	2
8.4 Other: (please specify)	1	2

SECTION C:

1   Indicate the level to which you agree/disagree with the following statements (circle one option for each item)

1 – Strongly disagree 2 – Disagree 3 – Neutral   4 – Agree 5 – Strongly agree

1.1	The current SAPS training methods are effective	1	2	3	4	5
1.2	The classroom set-up still has a place in training in SAPS.	1	2	3	4	5
1.3	The *potential* of the classroom set-up as a training mechanism for SAPS will increase.	1	2	3	4	5
1.4	The *popularity* of computer utilisation amongst SAPS members is increasing.	1	2	3	4	5
1.5	CAT could be utilised for training purposes in SAPS.	1	2	3	4	5
1.6	The *potential* of CAT as a training mechanism for SAPS will decrease.	1	2	3	4	5
1.7	CAT will complement the utilisation of the classroom set-up as a training mechanism for SAPS.	1	2	3	4	5
1.8	CAT will eventually replace the classroom set-up as a training mechanism for SAPS.	1	2	3	4	5
1.9	The training environment of SAPS is conducive for the	1	2	3	4	5

implementation of CAT.					
1.10 The training authorities of SAPS will accept CAT as a training mechanism.	1	2	3	4	5
1.11 CAT will contribute to the *Batho Pele* principles. (Improvement of service delivery)	1	2	3	4	5
1.12 CAT can be utilised to develop learners' ability to perform their duties in line with the SAPS Strategic Plan.	1	2	3	4	5
1.13 CAT can be utilised to develop learners' knowledge.	1	2	3	4	5
1.14 CAT can be utilised to develop learners' skills.	1	2	3	4	5
1.15 CAT will ensure that the individual needs of the learner are met.	1	2	3	4	5
1.16 CAT can be seen as a cost-effective training mechanism.	1	2	3	4	5
1.17 CAT can be seen as a time-effective training mechanism.	1	2	3	4	5
1.18 CAT will establish a commitment to training.	1	2	3	4	5
1.19 CAT will be utilised to identify a learner's training needs.	1	2	3	4	5
1.20 SAPS will be able to utilise the Intranet for training purposes.	1	2	3	4	5
1.21 SAPS members' access to the Intranet will be sufficient for CAT	1	2	3	4	5

2   Please indicate for which of the following CAT would be appropriate:

2.1 Detective Training	1
2.2 Coaching/mentorship	2
2.3 Integrated Systems Approach *	3
2.4 Outcomes Based Approach *	4
* See Annexure A for definition of the said approach	

3   What type of *functional training* could CAT be utilised for? (please circle where appropriate)

3.1	Basic	1
3.2	Protection services	2
3.3	Security personnel	3
3.4	Metropolitan police	4
3.5	Dog school	5
2.6	Public order police	6
3.7	Crime prevention	7
3.8	Border policing	8
3.9	Human rights	9
3.10	Task force	10
3.11	Negotiator	11
3.12	Divers	12
3.13	Air wing	13
3.14	Water wing	14
3.15	Tactical training	15
3.16	Community policing	16
3.17	Train the trainer	17
3.18	Other: (please specify)	18

6

4   What type of *support training* could CAT be utilised for?

4.1 Financial management	1
4.2 Personnel management	2
4.3 Information systems	3
4.4 Logistical management	4
4.5 Project co-ordination	5
4.6 Other: (please specify)	6

5   Could CAT be utilised to conduct in-service training in SAPS?

Yes	1
No	2

5.1   If yes, what type of in-service training? (circle all appropriate options)

5.1.1 Job rotation	1
5.1.2 Understudy assignment	2
5.1.3 Other: (please specify)	3

6   Could CAT be utilised to teach the following skills:

6.1 Technical skills?	
6.2 Interpersonal skills?	
6.3 Problem-solving skills?	
6.4 Life skills?	
6.5 **None of the above**	

7   Please name the most important factor(s) that would motivate you to receive training through CAT?

7.1

7.2

8   What would your expectations be of training using CAT technology?

8.1 To save time	
8.2 To save money	
8.3 To study in your own time	
8.4 To study at your own pace	
8.5 To enhance your computer literacy	
8.6 To enable distance learning	
8.7 **None of the above**	
8.8 Other: (please specify)	

9   What categories of training would you like to receive making use of CAT?

9.1 Police science	
9.2 Ethics	
9.3 Law	
9.4 Community policing	
9.5 Written communications	
9.6 Investigation of crime	
9.7 Computer training	
9.8 **None of the above**	
9.9 Other: (please specify)	

10   What, in your opinion, would be the main obstacles to training SAPS personnel using CAT?

10.1 Access to suitable computers	
10.2 Computer knowledge and skills of staff	
10.3 Time available to receive training	
10.4 Inappropriate infrastructure	
10.5 **None of the above**	
10.6 Other: (please specify)	

11   Computer-assisted training is different to computer-based training (See Annexure A for definitions). In your opinion which would be most appropriate for training in SAPS?

Computer-assisted training	1
Computer-based training	2

8

12   Should you make use of CAT to receive training, how frequently would you like
      to contact a tutor? (please circle one option only)

More than once a week	1
Once a week	2
Once a month	3
Only when needed	4
Never	5

13   Should you be trained using CAT, how much time per week would you be able to
      spend at a computer to master the study material?

| 13.1 At home | hours |
| 13.2 At work | hours |

14   When would suit you best to be trained using CAT?

14.1 Time of day: (circle one option only)	00:00 – 08:00	1
	08:00 – 13:00	2
	13:00 – 18:00	3
	18:00 – 24:00	4

14.2 Days of the week (kindly indicate your 1st, 2nd and 3rd choice)	Choice
	1. Monday	
	2. Tuesday	
	3. Wednesday	
	4. Thursday	
	5. Friday	
	6. Saturday	
	7. Sunday	

15   Any further comments regarding the receipt of training utilising CAT?

THANK YOU FOR YOUR TIME IN COMPLETING THIS QUESTIONNAIRE.

Annexure 5

The SAPS Sensory Learning Model