

**THE EFFECTIVENESS OF THE CASCADE MODEL IN THE IN-SERVICE
TRAINING OF ADULT BASIC EDUCATION AND TRAINING (ABET)
EDUCATORS IN THE NORTH WEST PROVINCE**



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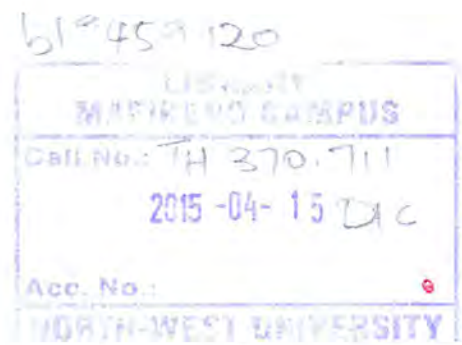
BA (Ed), B.Ed & M.Ed

THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
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DECLARATION OF ORIGINALITY

I, Mpho Mildred Dichaba, declare that this thesis for the degree of Doctor of Education at the North West University has not been previously submitted by me for a degree at this or any other university. It is my own work in design and execution. All the materials taken from other sources contained in the thesis have been dully acknowledged.

A handwritten signature in blue ink, appearing to read 'M.M. Dichaba', is written over a horizontal dotted line. The signature is stylized with a large loop at the top.

M.M Dichaba

DEDICATION

This work is dedicated to my late father Thompson Lerebolo Dichaba who taught me to be thankful and to trust in God. I also dedicate this research to my mother, Puso, my brothers, Motswasele and Kabo, and my two sisters, Valerie and Ruta.

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ABSTRACT

This study investigated the effectiveness of the cascade model in the in-service training of ABET educators in the North West Province with special reference to its dissemination and application at the workplace. To seek an overview of longer term gain from the cascade model of training, the Kirkpatrick model of training evaluation was employed. The evaluation sought to obtain post training perception of the effectiveness of training and its longer term impact. To achieve this goal, qualitative and quantitative research approaches were employed to gather information. A survey questionnaire was used to collect data regarding the biographic information of 103 ABET educators from five Area Project Offices and to determine factors that impede or facilitate the effectiveness of the cascade model of training. Also, interviews were conducted with one ABET Provincial trainer and five APO ABET specialists.

This study's significant contributions are its realization that ABET educators are not adequately involved in the planning of their in-service training programme. It further identifies nine factors that impede the effectiveness of the cascade model of training. The factors include the existence of gaps between the training of various levels, inadequate resources for training at the centre levels, negative attitudes of colleagues at the centres, insufficient knowledge of ABET educators to conduct workshops at their centres, misinterpretation of information and ABET educators not confident to cascade what they have learned from the in-service workshops, low morale of ABET educators, pressures of work and limited time at the centres to cascade training to colleagues, ABET educator's attrition, among others.

To circumvent these factors, this study recommends twelve intervention mechanisms namely: involving ABET educators in the planning of their in-service training, basing training on careful assessment of ABET educators' needs, using work-related situations in training, providing support during training, limiting time gaps between the training of various cascade levels, evaluating the impact of in-service training, among others. Finally the study suggested areas of further study on ABET educators' attrition, ABET educators' conditions of service and transfer of learning and the cost-effectiveness of the cascade model and the quality of in-service training of ABET educators. Insights from this study are beneficial to educators,

educational managers, policy makers, in-sevice trainers, NGOs, researchers, facilitators and students.

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ABBREVIATIONS AND ACRONYMS

ABE	: Adult Basic Education
ABET	: Adult Basic Education and Training
AET	: Adult Education and Training
APO	: Area Project Office
CASS	: Continuous Assessment
CPD	: Continuous Professional Development
C2005	: Curriculum 2005
DoE	: Department of Education
GET	: General Education and Training
GETC	: General Education and Training Certificate
FETC	: Further Education and Training Certificate
INSET	: In-Service Education and Training
NCS	: National Curriculum Statement
NGO	: Non Governmental Organization
NQF	: National Qualifications Framework
OBE	: Outcomes-Based Education
PALCs	: Public Adult Learning Centres
PoE	: Portfolio of Evidence
REQV	: Relevant Education Qualification Value
RNCS	: Revised National Curriculum Statement
RPL	: Recognition of Prior Learning
SANLI	: South African National Literacy Initiative
SAQA	: South African Qualifications Framework
SBA	: Site Based Assessment
SETA	: Skills Education Training Authority
SMMEs	: Small, Medium and Micro Enterprises
SPSS	: Statistical Programme for the Social Sciences
US	: Unit Standard

CHAPTER ONE

ORIENTATION

1.1 Introduction and Background to the Study

This chapter begins by giving an overview of Adult Basic Education and Training (henceforth ABET). It continues by stating the problem, research questions, the purpose of the study, rationale of the study, delimitations and limitations of the study, definition of terms and the organizational overview of the thesis. This is done by way of providing background information to this study of the effectiveness of the cascade model in the in-service training of ABET educators in the North West Province.

Adult education is a multifaceted concept that encompasses Adult Basic Education and Training, continuing education and enrichment activities for the highly educated. ABET is relatively new in South Africa and, as a result, the new cohort of ABET educators has had little, if any, training in adult education. The past decade has been characterized by intellectually stimulating developments in ABET. The Bill of Rights enshrines the right of all citizens to basic education, including Adult Basic Education (ABE), which through reasonable measures, must be made progressively available and accessible to everyone (Department of Education, 1997). Therefore, ABET forms an integral part of the government's educational redress and transformation initiatives in adult education.

The National Qualifications Framework (NQF) was introduced in 1995 through the South African Qualifications Authority (SAQA) Act (No. 58 of 1995) to apply to ABET programmes offered by different providers such as the State Adult Education centres, companies, Non Governmental Organizations (NGOs), communities, technical colleges and universities (DoE, 2004:55). The NQF was introduced to facilitate redress and provide access to all learners whose education and training opportunities had been previously hindered. According to Malan (1997:5), the NQF is a scaffolding that represents learning pathways, opportunities of learning and levels of qualifications that will empower learners to become part of the society of lifelong learners (DoE, 2004:42). At its core is an attempt to provide lifelong learning opportunities through an integrated system of learning pathways which

enable the adult learner to move from illiteracy towards accessing general, further and higher education. To assist the adult learner in this progression, the NQF has also introduced Recognition of Prior Learning (RPL), which accredits evidence of previous learning whether acquired formally or informally.

The ABET curriculum consists of school-based academic courses, skills training courses and life-skills courses. These include the teaching of Language, Literacy and Communication, Mathematical literacy, Mathematics and Mathematical Sciences, Natural Sciences, Technology, Human and Social Sciences, Economic and Management Sciences, Life Orientation and Arts and Culture (Quan-Baffour, 2000:5). Training may also cover: small, medium and micro enterprises (SMMEs), tourism, agricultural science, ancillary health care, Aids education, entrepreneurship, human rights education and voter education. ABET combines numeracy, literacy and other school-based core learning areas with a vocationally-focused skills training component. Realizing the need for literacy and numeracy, many NGOs and some education institutions in South Africa have either started ABET programmes for their employees or encouraged them to take part-time courses in order to upgrade their skills (Quan-Baffour, 2000:3). This is an attempt to meet the ABET learners' dual need for both basic education and income generation. The skills training component most commonly takes place through work-place learning made possible through learnerships offered by the Skills Education Training Authorities (SETAs) and trains learners in specific skills needed for a particular industry or sector. Apart from skills training, ABET learners also receive general life-skills education which is tailored to respond to the needs of their age group and relevant to the communities in which they live. HIV and Aids training, in particular, features prominently in ABET curricula.

In 2001 the National Department of Education under Professor Kader Asmal, launched the South African National Literacy Initiative (SANLI), as part of Tirisano, the National Education Strategy. SANLI oversees the establishment of a voluntary service to reach the 3.2 million illiterate adults in South Africa and caters for pre-ABET and ABET Level 1 learners (DoE, 2003:244). More recently, government's mass literacy campaign, *Kha Ri Gude (Let us learn)*, offers lessons at 22,000 sites involving about 328,000 adult learners of various ages. The five-year campaign aims at making 4, 7-million illiterate adults literate by 2012.

In the report on the Quality Assurance of ABET assessment, it is indicated that the first national examination for adults at ABET level 4 was conducted in 2001 and, later Continuous Assessment (CASS), also known as Site Based Assessment (SBA) was introduced in 2002 (Department of Education, 2004:4). This was done in compliance with the decision of the Committee for Heads of Departments. This form of assessment contributes 50% towards the final score of a learner which is the continuous assessment (CASS). The other 50% is achieved through a formal written examination, The National External Examination, Department of ABET, (Department of Education, 2004:3). A new policy for educators, the Norms and Standards for Educators, was developed alongside Curriculum 2005 (C2005), for the purpose of preparing educators and supporting their acquisition of the competencies needed for the effective implementation of C2005 (Department of Education, 2000). It adopted an outcomes-based approach to teacher education, providing a detailed description of what a competent educator can demonstrate and emphasizing practical and foundational competencies as well as the development of reflexive competencies (Parker, 2003:29). Educators are expected to perform seven roles including those of mediator and assessor of learning and of curriculum and learning support materials developer.

The successful implementation of the new policies, such as the outcomes-based curriculum and inclusive education, will only be effective if educators are adequately prepared and equipped by means of initial retraining so that they realize the importance of improving their practice by means of Continuous Professional Development (CPD) (Coetzer, 2001:89; Early & Bubb, 2004:3). The fifth objective of the ABET policy at the national level deals with the development of practitioners in ABET. This policy is articulated as follows,

All ABET practitioners (educators, trainers, education managers and curriculum and materials co-developers) at all levels of the systems should be equipped with the knowledge, skills, attitude and values required to implement ABET programmes, this will require training in adult education principles, philosophy, values and teaching or facilitation methods (DoE, 1998).

It has become necessary to help educators update their knowledge and skills and to deal with change, on the one hand, and manage human resources better, on the other (Anderson, 2001:1).

Taylor and Vinjevold (1999: 227-235) express the view that South Africa has undergone a decade of educational reforms since the dismantling of apartheid. The apartheid educational system had been designed for the continued social and economic reproduction of conditions in which the whiteman was the boss and the blackman was in bondage (Bhola, in Quan-Baffour, 2000:23). Present reforms are based on theories of teaching and learning radically different from those that underpinned apartheid education. The Report of the Review Committee on Curriculum 2005 states that the process of training and orientating educators for the implementation of Curriculum 2005 began in 1997 (DoE, 2000:52). The Report identified “inadequate orientation, training and development of teachers” as one of seven confounding factors in the government’s initiatives to transform education in South Africa (DoE, 2000:52). Numerous initiatives have and are being made in an attempt to improve the quality of education, increase the accountability and productivity of the educators’ work. Since 1994, policy initiatives have reflected a shift away from the traditional view of teachers as technicians implementing someone else’s policy, a view promoted and maintained by the top-down, authoritarian and fragmented national system during the apartheid era (Jansen, 2003:35; Jansen and Middlewood, 2003:51). The recent phenomenal growth of ABET has stimulated the need for trained ABET educators.

Prior to 1994, largely part-time staff administered traditionally ABET education services in South Africa. There was little formal training for the ABET educators and they (educators) were trained from a few days to months. Of the ABET educators who had some ABE teaching experience, the majority had been only on short courses involving one-day workshops (DoE, 1997). In his 2001 budget speech, the Member of the Executive Council (MEC) for Education in the North West Province (South Africa), Pitso Tolo, stated that from 1999 they had since given preference to employing educators who were unemployed over those who had already been employed as a way of enhancing the quality of teaching in the ABET centres (DoE, 2001). By virtue of their background, most of these ABET educators have not acquired the instructional competencies needed by adult learners’ educators. This trend may also have had a negative consequence leading to the development of hostile

educators if they were more or less forced against their will into the Public Adult Learning Centres (PALCs). Inadequately trained educators lack self-confidence, doubt their ability to communicate effectively with learners and feel disempowered (Motseke, 1998:85; Moriarty, Edmonds, Blatchford and Martin, 2001:37).

ABET requires fundamentally different teaching and learning processes from that of formal schooling. It should therefore be designed to be specific and directed towards learning goals. Given this scenario, ABET educators need to be as effective, knowledgeable and accurate in their teaching as possible. They need basic principles to guide them in selecting particular instructional methods that will assist adult learners to attain their goals. The success of adult literacy and basic education depends largely on the facilitators and their efficiency depends on the training they are given (Rashid & Rahman, 2004).

The in-service training of ABET educators has therefore been seen as a strategy by the Department of Education to improve the quality of ABET. The in-service training initiated by the Department of Education could be viewed as a mandatory change (Eraut, 1995:621-622). In this regard, in-service training and its activities need to be conducted in such a way that the ABET educator becomes satisfied in terms of the effectiveness of the training itself. DoE (1999:40) postulates that in the short term, in-service training programmes will have to reorient the ABET educators in the outcomes-based education and training approaches.

The cascade approach, therefore, became the common approach used to train ABET educators on a large scale in the North West Province. The cascade model of training works on the principle that a small team of trainers train a large group which is willing to pass on their knowledge to a further group (McDevitt, 1998:25). This means that, one group trains another group which then goes on to train others so that the educational benefit is supposed to cascade downwards (Bax, 2002:166). For implementing training for ABET educators, the National Department of Education trains officials from each province, who in turn cascade the knowledge they have gained to district officials who then workshop ABET educators.

1.2 Statement of the Problem

Over the years, in-service training has been used by the Department of Education as a tool to develop educators. The National Department of Education has used the cascade model to train a large number of ABET educators. The education review commissioned in 2000 by South Africa's Minister of Education found that the cascade model of information transfer often used for in-service training under the previous systems of education was inadequate in many ways (DoE, 2000:26).

The cascade model of training has been widely criticized as an inadequate approach for delivering effective in-service training programmes. Chisholm (2000) for example, does not think that the cascade model as conceptualized under Curriculum 2005 has a positive effect on teacher learning and student teaching. The training assumes that once the cascade has started flowing, the trainers at different levels of the cascade, would, without any difficulty, take the undiluted training message to the last level. Although this model of training has come to be accepted as the way of disseminating information in most in-service training programmes, it appears to have failed to significantly improve the performance of educators. Chisholm (2000:4), Janse van Rensburg and Mhoney (2000:45) posit that cascading of information results in dilution and misinterpretation of crucial information. This occurs, as less and less is understood, as one goes down the cascade. Concentration of expertise is at the top level of the cascade where the knowledgeable people of the cascade tend to use a purely transmissive mode of training at all levels.

In the North West Province, little is known about the impact of in-service training, through the cascade model, on the performance of ABET educators. Statistics from the Council for Quality Assurance in General and Further Education and Training (Umalusi) certification results for ABET examinations and from the Independent Examinations Board show that the entire ABET system run in Public Adult Learning Centres (PALCs) resulted in the very meagre output in the years 2001 to 2003 in the final (level 4) examinations. In 2001 18,438 candidates enrolled and by 2003 this had risen to 26,067. In 2001 a mere 78 qualified for a General Education and Training Certificate (GETC), in 2003 it had risen to 1,252 (Umalusi, 2004:12). More broadly, Umalusi had by the end of 2003 only issued 440 ABET GETC certificates (it is unclear why the other successful candidates had not received theirs) and 19,028 learning area certificates (for individual learning area courses passed). It is clear that

there is an enormous dropout rate of people registering for courses and examinations with only about 50% of enrollees actually writing examinations and a minuscule proportion passing them.

Although the establishment of the National Assessment for ABET level 4 has been a significant achievement of the past three years (2007 to 2009), improvement has been slow or non-existent in some assessment bodies due to the following challenges that demand systematic innovation: conditions of service of ABET educators and lack of capacity amongst ABET educators to develop good assessment instruments and implement common standards for assessment (DoE, 2004:5). ABET educators are employed on a part time basis and are employed to teach between 3 to 9 hours per week from February until the end of examinations in October of each year. When these educators are offered employment elsewhere, they leave the centres immediately and this results in lack of continuity for the learners. When the educators leave, Provincial officials have to train new educators on a regular basis (DoE, 1997:5). This study seeks to investigate the effectiveness of the cascade model of in-service training of ABET educators. The investigation focuses mainly on examining the extent to which ABET educators make use of the knowledge and skills acquired through in-service training which they receive at the centre level.

1.3 Research Questions

The investigation was guided by the following research questions:

- 1.3.1 How effective is the cascade model of training in the in-service training of ABET educators in the North West Province?
- 1.3.2 What factors, if any, impede the effectiveness of the cascade model of training?
- 1.3.3 What intervention mechanisms can be used to achieve positive results in the cascade model of training?

1.4 Purpose of the Study

The purpose of the study was to investigate the effectiveness of the cascade model of in-service training (INSET) of ABET educators in North West Province by pursuing the following specific objectives:

- 1.4.1 Investigate the effectiveness of the cascade model in the in-service training of ABET educators.
- 1.4.2 Identify factors, if any, to impede the effectiveness of the cascade model of in-service training of ABET educators; and
- 1.4.3 Suggest intervention mechanisms to achieve positive results in the use of the cascade model of training.

1.5 Rationale for the Study

According to Singh and McKay (2004:211), literacy educators are one of the least supported groups of educators worldwide. They receive little, if any, regular remuneration, lack job security, and enjoy few training opportunities and little ongoing professional support. This is inspite of the necessity for educators to play a fundamental role in the implementation of ABET at community college satellites and in the design of an integrated curriculum for ABET in accordance with the National Qualifications Framework (NQF) (DoE, 1997). Research also shows that activities that occur prior to (antecedent training), during and after training have an impact on how effective training turns out to be. The North West Department of Education needs to be aware of these barriers that could be considered as a threat to the optimal performance of in-service training trainees. Although the cascade approach has come to be accepted as a way of disseminating knowledge in this regard, little has been done to find out whether this model of training achieves worthwhile results in the ABET sector.

This study is of particular significance to education specialists in terms of providing in-service training to educators using the cascade model of training. The theories, namely, adult learning theories and constructivism, in this study will help Provincial trainers, designers of in-service training and district and regional in-service trainers to establish which techniques work best in specific in-service training settings. The findings of the study may be useful, not only to the Department of Education, but to other departments which use adult education principles in their training.

It is hoped that through this research, researchers, the participants, Provincial trainers, ABET district/circuit coordinators (trainers) and ABET educators in the province will gain a scientific understanding of the impact (positive and negative) of the cascade model of in-

service training programmes on ABET educators. In addition, it may shed light on the validity or compatibility of the cascade model as described in the theoretical framework. Such understanding may guide the Department of Education to enhance effective future in-service training for better delivery and performance.

1.6 Delimitations and Limitations of the Study

This study focused on the North West Province Department of Education with particular reference to the Ngaka Modiri Molema (formerly known as Central Region) in the North West Province. In this case, data was obtained from 103 ABET educators who attended training sessions intended for implementing programmes in the North West Province.

When answering the questionnaire, some ABET educators found it difficult to answer open-ended questions. The problem was compounded when these ABET educators used English as a second language. This resulted in them writing what they did not mean. They avoided writing something because of their limited knowledge in the language. This limitation was addressed by encouraging ABET educators to use their mother tongue where necessary.

One of the goals of semi structured interviewing was to allow the respondents the time and scope to talk about their opinions. It is paramount that the researcher establishes rapport with respondents, that is, the researcher must be able to take the role of the respondents and attempt to see the situation from their viewpoints rather than superimpose his or her world of academia and preconceptions upon them (Fontana and Frey, in Denzin and Lincoln, 2000). Without such rapport, it is difficult to convince respondents to participate in the interview, and to talk freely and frankly about the issues addressed (Henn, Weinstein and Foard, 2006:163).

Another limitation was encountered when interviewing Department of Education senior officials such as Deputy Chief Education specialist (Teacher education) and Area Project Office managers (previously called District/circuit coordinators) who are always pressed for time. Although they have the ability to express themselves, they had little time to go into details. To curb this problem, the researcher conducted interviews on weekends, during the interviewees' spare time. In this case, the interviewees felt comfortable to speak openly about their point of view.

Inconsistencies and contradictions often occur in people's testimony (Henning, van Rensburg and Smit, 2004:128) and the quality of data collected from interviews may be weakened by biases. Sometimes when the interviewees were unable to admit that they do not know the answers, they give bland evasive and polite answers. Significantly, the role of the researcher in the qualitative analysis refers particularly to awareness of bias and preconceived ideas, since assumptions may hide the evidence of the data (Henning et al, 2004:129). Since the interviewees cannot consult records as a memory aid, the researcher used documents to complement information interviews.

Inaccessibility of some of the trained ABET educators is one of the limitations of this study. Many people who seek employment treat it as a stepping stone to employment in other areas. Such people tend to leave the ABET centres whenever they find employment in a formal sector and this becomes a limitation.

Educators are all professionals but this study only focused on educators who operated within the ABET domain and this limited the category of educators concerned.

1.7 Definition of Terms

The following terms are frequently used throughout the study and have been defined in order to clarify their usage in the study.

1.7.1 Effectiveness

Effectiveness is a measure of the match between stated goals and their achievement (Frazer, 1994:104). The MacMillan English Dictionary for Advanced Learners (2002:445) defines effectiveness as working well and producing the intended results. Van Aldesberg and Trolley, in (Anakoka, 2008:20) see effectiveness as delivering services that tangibly help businesses to achieve their goals. It is a measure of the extent to which a specific intervention, procedure, regimen and service, when deployed in the field in routine circumstances, does what it intended to do for a specified population. In this research, effectiveness means the extent to which the trainees, in this case, ABET educators, perceives the training to have enabled them to acquire the necessary knowledge, skills and attitudes that can be applied to their jobs.

1.7.2 The Cascade Model of Training

Eraut (1995:621) defines the cascade model as a model that uses a top-down approach to training. The cascade model of training is a method designed to provide serialized training at the different levels of systems (Mpambalungi, 2001:3). In this research, the National Department of Education trains the provincial personnel who then arrange two to three day workshops to train the district officials who are charged with the responsibility of training some educators, who in turn are expected to train their colleagues at ABET centres and implement the changes required within the system.

1.7.3 In-service Training (INSET)

There are several ways in which in-service training is defined. Sugrue (2002:21) equates life-long learning with INSET or continuous and professional teacher development. He states that INSET is part of a general concern for all those in employment to continue to learn and update their knowledge and skills. In-service training embraces all those education, training and job-embedded support activities engaged in by teachers following their initial certification and by head teachers. Such activities are aimed primarily at adding to their professional knowledge, improving their professional skills and helping them to clarify their various professional values so that they can educate their students more effectively (Bolan, 2000:267). For the purpose of the present study, INSET is defined as a process for continuous updating of ABET educators' knowledge, skills and interest. Thus in-service training should be developmental and be directed towards changing teaching and improvement of ABET educators. Therefore, by its very nature, in-service training is provided through seminars, workshops, conferences, short courses and long courses.

1.7.4 Adult Education

Merriam and Brockett (1997:8) define adult education as activities intentionally designed for the purpose of bringing about learning among those whose age, social roles, or self perception define them as adults. Adult education is the process whereby persons who have not attended formal schooling undertake sequential and organized activities with the conscious intention of bringing about changes in knowledge, understanding of skills, attitudes, or for the purpose of identifying and solving personal or community problems

(Coles, 1997:6). Mezirow (2004:69) maintains that adult education as an activity should help adults acquire insight, ability and disposition to realize its potential in their lives. In this research adult education means a purposeful educational process targeting learners considered to be adults who aim to achieve specified goal.

1.7.5 Adult Basic Education and Training (ABET)

Adult Basic Education and Training is often used interchangeably with literacy. For the purpose of clarification, literacy is a small component of ABET because it comprises reading writing and numeracy. Adult Basic Education and Training has been defined as the general conceptual foundation towards lifelong learning and development, comprising knowledge, skills and attitudes required for social, economic and political participation and transformation applicable to a range of contexts. ABET is flexible, developmental and targets specific needs of particular audiences and, ideally, provides access to nationally recognized certificates (DoE, 1997:8-9).

ABET subsumes both literacy and numeracy (DoE, 1998). It seeks to connect literacy with basic general adult education on the one hand and with training for income generating on the other. The Department of Education sees ABET as both part of and as a foundation for lifelong learning where lifelong learning is seen as “a continuous process which stimulates and empowers individuals to acquire and apply the knowledge, skills and attitudes required to realize their full potential” (DoE, 1997:16). ABET is focused on adults who never or only partially went to school. It essentially comprises primary education, the equivalent of basic schooling for children, adapted to suit the cognitive and specific circumstances of adults. Until recently, it appeared that the steady formalization of adult literacy and basic education was an irresistible process with complicated and heavily structured programmes and qualifications that looked remarkably like, if not being identical to; those already entrenched in schooling (Aitchison, 2007). The ABET Act of 2000 defines ABET as all learning and training programmes for adults from level 1 to 4 where level 4 is equivalent to grade 9 in public schools or NQF level 1 (DoE, 2000:6) as indicated below:

Figure 1: The Structure of the National Qualifications Framework

NQF Level	Band	Qualification Type
10	Higher	• Doctorates • Masters degrees • Honours degrees • Bachelor’s degrees • Advanced diplomas • Diplomas • National diplomas • Higher certificates
9	Education	
8	and	
7	Training	
6		
5		
Further Education and Training Certificate (FETC)		
4	Further	National certificates
3	Education	
2	and Training	
General Education and Training Certificate (GETC)		
1	General Education and Training	Grade 9 ABET Level 4
		National certificates

Source: Department of Education, 2007:3

ABET was introduced into the NQF in 2000 via the Adult Basic Education and Training Act and consists of a variety of outcomes-based, basic educational programmes and courses that specifically target adult learners.

ABET training consists of four levels, equivalent to Grades R to 9, or GET. Upon exiting ABET Level 4, learners are granted a qualification of NQF Level 1 and may proceed to FET

training or any NQF Level 2 programme. ABET programmes are managed and delivered through a variety of public and private institutions and organizations. Government funded ABET provision takes place mostly through Public Adult Learning Centres (PALCs) established in provinces around the country. These centres make use of facilities from a variety of institutions that are semi-autonomous with their own governance structures, including schools, FET Vocational colleges, and community centres. Government has also funded a number of large-scale adult education and literacy campaigns from which the ABET sector has benefited.

While reading and writing are taught in Adult Basic Education, training includes training in different skills such as primary health care and in survival or self help projects, which would lead adults to become self-employed or employable. In this research, ABET refers to all forms of education offered to adult learners who are illiterate, semi-literate and functionally illiterate at a Public Adult Learning Centre.

1.7.5 ABET educator

A variety of terms are used to describe an ABET educator. The term endorsed by the National ABET Stakeholders forum workshop in January 1997 is “AET practitioner” and is used here for all personnel engaged in the provision of ABET. This term embraces the ABET practitioner, strategic manager, administrator, group learning facilitator, individual learning facilitator, needs analyst, learning experience designer, learning material designer, assessor and evaluator (DoE, 1997:111). In this research, an ABET educator refers to personnel working or being employed in the ABET centre to teach or train ABET learners.

1.8 Organization of the Thesis

Chapter 1: Orientation

The first chapter begins with the introduction and background to the study. The statement of the problem and related research questions, the purpose and rationale for the study are also highlighted. Limitations of the study and organization of the thesis are also presented in this chapter.

Chapter 2: Literature Review

Chapter two present the conceptualization of key concepts central to the study, the in-service training and the cascade model of training. It also presents theoretical frameworks of the study and determines what is already known about the title so that a comprehensive picture of the state of relevant knowledge can be obtained. It helps refine certain parts of the study, more especially, the problem statement and research design as well as the process of data analysis.

Chapter 3: Research Design and Methodology

Chapter three discusses the research design and methodology employed in the study, population, sampling and sampling techniques, data collect instruments, data analysis and reliability and validity modalities. Three approaches have been employed in collecting data namely, questionnaire, interviews and document analysis. ABET educator questionnaire has been used to solicit the views of ABET about the factors that facilitates or impedes the effectiveness of the cascade model of training. Interviews were conducted with the in-service trainers (ABET APO specialists and a Provincial trainer) to investigate the effectiveness of the cascade model and to elicit suggestions for intervention mechanisms to achieve positive results in the use of the cascade model of training.

Chapter 4: Data Presentation, Interpretation and Analysis

Chapter four presents the interpretation and analysis of data.

Chapter 5: Summary of Findings, Recommendations and Conclusion

Chapter five presents the summary of findings, recommendations and the conclusion.

1.9 Conclusion

By way of concluding, this chapter provided background information on ABET, outlined the statement of the problem, research questions, purpose of the study, rationale for the study, delimitations and limitations of the study and definitions of terms. It concluded by a brief outline of the subsequent chapters. The next chapter shall focus on the literature review.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter begins with a detailed conceptualization of key concepts central to the study. The concepts are in-service training and the cascade model of training. The focus here is on the cascade model of training and its use in ABET educator in-service training programmes. The views of both the optimists and critics of the cascade model of training are looked into as well as the conditions under which this model of training works best. A basis for the relevant theory (theoretical framework) is provided in this chapter. The focus here is on adult learning theory and constructivism.

This chapter also recognizes the transfer problems regarding the cascade model of training, including the identification of factors that affect adult learning as well as those that facilitate or impede the effectiveness of transfer of learning in most in-service training programmes. Other aspects discussed include training approaches that enhance the transfer of learning in ABET educator in-service training. Such aspects include training approaches covering a wide variety from which a selection must be made with the essential reminder that any training approach selected should suit the content and aim of training.

To properly situate the cascade model of training, models like Knowles' 1980 Programme Development Model, the Training Model of Camp, Blanchard and Huszco (1980), Nowlen, 1988 Competency-Based Model, Laurie Field's 1990 Model, Richey's 1992 System Training Model, Nadler and Nadler's Critical Events Model, Sparhawk's 1994 High Impact Model, Cyril Houle's 1996 Model, Lapidus' 2000 High Impact Model, Swanepoel and Erasmus' 2000 Systematic Training Model and Caffarella's 2001 Interaction model were looked into. Among others this has been done to remedy the deficiencies of the current cascade model of training. This chapter also describes Kirkpatrick's four-level training evaluation model. Lastly, the literature review looks at changes that have taken place in the evaluation of training.

2.2 Conceptualization of Key Concepts to the Study

The following terms are frequently used throughout the study and have been partially defined in section 1.7 in order to clarify their usage in this study. In this segment focus will be on an indepth examination of these concepts in an attempt to glean how this study benefits from them.

2.2.1 In-Service Training (INSET)

By way of building on section 1.7 in this study, the terms “continuous professional development” and “in-service training” are used interchangeably. Mothata (2000:85) sees in-service training as a continuous professional development of teaching practitioners. It is a necessary extension of pre-service training with the aim of enhancing awareness, knowledge and skills of personnel (Malone, Straka and Logan, 2000:54; Coetzer, 2001:78). Such activities are aimed primarily at adding to their professional knowledge, improving their professional skills and helping them to clarify their various professional values so that they can educate their students more effectively (Bolam, 2000:267; Adler, Slomisky and Reed, 2002:137). In-service training can be beneficial because its purpose is to improve the level of knowledge in a specific area of teaching (Kirby, Davis and Bryant 2005:122). Thus, the main purpose of in-service training is to impart new knowledge to current ABET educators that they will cascade to their colleagues and eventually implement in their learning centres.

In order to keep ABET abreast of changes and developments in curricula and teaching approaches, continual updates can be done through in-service training programmes. Hayes (1997:137) sees in-service training as a mechanism through which innovation in education continues to be introduced. The successful implementation of new policies, such as the outcomes-based education and inclusive education, will only be effective if teachers are adequately prepared and equipped by means of initial retraining and if they realize the importance of improving their practice by means of continuous professional development (Coetzer, 2001:89; Early and Bubb, 2004:3). Thus, in-service training is essential to update ABET educators about recent instructional development and curriculum innovation.

Effective continuous professional development should firstly be aware of and address the specific needs of teachers (Bredeson, 2003:9; Muijs, Day, Harris and Lindsay, 2004:291).

Successful in-service training begins with needs assessment to determine which employees need to be trained and what they need to be trained to do (Swanepoel and Erasmus, 2000). This suggests that some sort of needs analysis of personnel, in this case ABET educators, has to be conducted to address those specific needs. Once these needs have been identified, activities need to be properly planned to support educators in applying the knowledge and teaching methodology creatively and confidently (Anderson, 2000:1).

Training is only successful when participants have learnt, that learning happens when participants can recall the skills and abilities that were taught and can put them to work on the job (Furajik, 2000:61; Caffarella, 2002:204; Lessing and De Witt, 2007:56). Therefore, by its very nature, in-service training is provided through seminars, workshops, conferences, short courses and long courses. In-service training expectations seem to be that the provision of information will translate directly into effective outcomes, that the one short workshop will meet the implementation needs of participants (Malone, Straka and Logan, 2000:205).

In-service training relies on the prior knowledge (Bredeson, 2003:9), the participants' potential and experience that can be built upon and incorporated into further initiatives (Early and Bubb, 2004:17). For effective in-service training to happen, each training session conducted by in-service trainers should encourage trainees to draw upon and share their experiences with one another. Education for adults relies on the situations and experiences that need to be brought into the adult educational experience during in-service training.

Before the commencement of training, planners of training programmes should reflect on what they wish to accomplish through training (Lessing and De Witt, 2007:55). They should know who the customers of training are, that the right programme has been selected, that the right participants are in attendance, that the right participants have been appropriately orientated before coming to the programme and that the goals of the programme are specific, clear and measurable (Lapidus, 2000). The in-service training of ABET educators should be contextualized. Merriam and Caffarella (1999:1) maintain that learning is a personal process. What an adult needs and wants to learn and, to a somewhat lesser extent, when and where learning takes place, are shaped by the context of adult life and the social context.

Therefore, the need for in-service trainers to conduct follow up could not be overemphasized. Furthermore, the in-service trainers need to receive constant feedback from the educators and

both the trainers and the trainees need to reflect on the outcomes of the training, addressing the question, did the training achieve the set goals and objectives? Follow up is vital in every training activity. Follow up activity could take the form of classroom support. The method that has been used and found successful is where the staff developers work alongside educators in their own classroom after the training (Moon, Butcher and Bird, 2000:17).

2.2.2 The Cascade Model of Training

The major concept underlying the cascade training is that of critical information flowing from one group to another until it reaches its final destination (Jacobs, Russ-Eft and Zidan, 2001:496). It has been particularly influential in industry, extraterrestrial space exploration, military applications and agriculture. For instance, the first reported use of the cascade model was to implement the Job Instruction Training (JIT) programmes as part of the Training Within Industry (TWI) effort during the Second World War (Jacobs, 2002:180). According to Dooley in Jacobs (2002:180), plant managers were trained by TWI staff on the need for effective technical training in their organization. In turn, these individuals were expected to train their line managers on the issue, and they in turn helped their supervisors become On-the Job (OTJ) trainers. In the end, supervisors were expected to deliver the technical training through OTJ to production employees (Jacobs, 2002:180). This is what McDevitt (1998:425) refers to as a system of dissemination that ensures that what is produced at the top filters down effectively to the base.

The cascade model is widely used to maximize throughput of trainee educators in a cost-effective manner (Gilpin, 1997:185; McDevitt, 1998:428; Hayes, 2000:137-138 and Bax, 2002:165). In essence, the cascade model of training means that training messages flow-down from experts and specialists, through several tiers of personnel and eventually to the educators (Masheshwari and Raina, 1998:92). Cascade training offers a logical approach to disseminate this information through the ranks of employees in a relatively short period of time (Jacobs, Russ-Eft and Zidan, 2001:498). The cascade model represents an essentially technicist approach to teacher development (Janse van Rensburg and Mhoney, 2000:45). In essence the cascade model of training uses a top-down approach.

This model of dissemination works on a principle that teams of trainers train a large group, who in turn pass on their knowledge and skills to an even larger group down the

implementation chain (McDevitt, 1998:425). The cascade model suggests that is a form of communication that can have an impact on individual and ultimately on group or organizational values and attitudes (Buckley and Caple, 2000:5). This is because it suggests that good expert knowledge can be packaged for delivery to users who will recognize its benefits and accept it as effective and safe (McMillan and Schumacher, 1986; Marsch, 1986; Cousins & Simons, 1996).

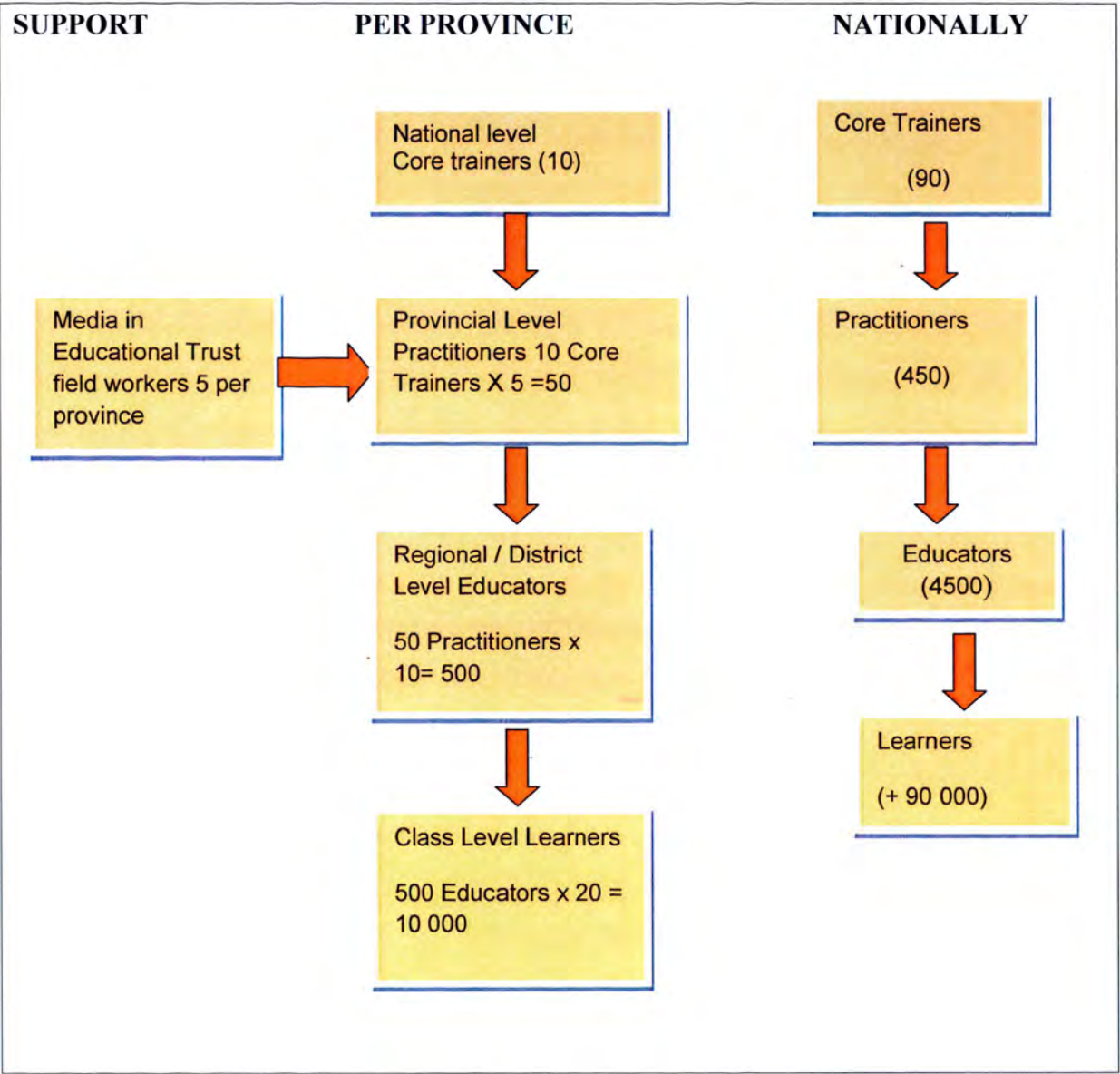
The cascade model of training consists of several steps including:

- *Development of training materials*: This could mean the design of materials such as manuals. These training materials are designed to provide systematic direction for the training process.
- *Training at different levels*: This refers to the unfolding of the actual training by the facilitators.
- *Follow-up training*: This kind of training is meant to close the gaps left by the initial training and is used for consolidation purposes (Mpambalungi, 2001:3).

Based on the first two steps highlighted above, the cascade model of training involves training of a group at one level of the organization and then allowing them to pass on content and attendant attitudes to others further down the chain (Buckley and Caple, 2000:5). The last step implies that the trainers often re-evaluate the training programmes. The South African experience however, reveals that the last step is seldom applied (More, 2004:82).

According to Kennedy (2005:24), the cascade model involves individual teachers attending 'training events' and then cascading or disseminating or passing on the information to colleagues as illustrated in Figure 2.

Figure 2: The Cascade model of training



Source: Department Of Education (1998:4)

The schematic representation in Figure 2 above seeks to shed light on how the cascade model works. In the case of in-service training, the National Department of Education commissioned the Media in Education Trust (MiET), a non-government organization, to train the provincial personnel who then arranged two- to three-day workshops to train the District officials who are charged with the responsibility of training the educators who are also expected to train their colleagues at the centre level and equip them to implement the required change. As evident, the cascade model has fewer trainers at the national level and the numbers swell as the model descends. One can infer that the model takes the form of a

pyramid structure because of its small number of core trainers. The core trainers train approximately doubles their number of trainers who, in turn, train educators almost double their numbers.

2.2.2.1 The optimists' view of the Cascade Model of Training

The cascade model of training seems to be preferred by the Department of Education because it seems to be cost-effective as it uses existing teaching staff as co-trainers (Hayes, 1997:137-138; McDevitt, 1998:428). Gilpin (1997:185) describes the cascade model as a classic example of the process of educational change in which the participants are both the subjects and agents of change. This means that the cascade model of training is economical in the sense that a package of material is prepared and delivered to the first level of recipients, who in turn are trained to deliver the same package to the next level (More, 2004:428). In theory the benefits to the first group will be identical to the benefits of the last group but in practice this smooth transference is rarely possible (McDevitt, 1998:426). This has often been seen as observed by Gilpin (as quoted by Bax, 2002:166) contends, as a relatively cheap way of training many teachers (educators) relatively quickly.

The cascade model of training is designed for training tasks of immense magnitude (Ellinger, Watkins and Barnas, 1999:389). It also targets immediate, functional capacities required to improve the skills of the range of actors involved in the in-service planning and delivery (Mpambalungi, 2001:12). More (2004) sees the cascade model as being attractive to planners of change on a large scale. For instance, it is often adopted for introducing major changes in educational systems. In South Africa, the cascade model was a bold attempt to popularize outcomes-based education and demystify Curriculum 2005 at the time when there was a great deal of confusion and anxiety (Chisholm, 2000:47). While the cascade model of training may be an inexpensive way to reach large numbers of educators, the period of time between the cascades, the quality of the presentations and the messages delivered may contribute to the deteriorating quality of the model. This study now looks at critics' views of the cascade model of training.

2.2.2.2 Critics' view of the Cascade Model of Training

The model has been widely criticized as an inadequate model for delivering effective in-service training. Educator development within the sort of technical paradigm evident in the official cascade model for Curriculum 2005 has been rejected by a number of theorists, including, Fullan (1993), Hoyle and John (1995), Kemmis and McTaggard (2000), Southwood (2000) and Hageaves (2004). The main weakness of this strategy is the dilution that invariably takes place when the training design is passed down the various levels of personnel. This is why the cascade strategy may be suited to relatively simple messages involving no radical innovation of ideas or working practices. Otherwise, there is a danger that innovations imperfectly adopted at one level may be distorted or ignored at the next lower level and down the system (Maheshwari and Raina, 1998:92).

The prime cause of failure of the cascade model of training is the concentration of expertise at the topmost level of the model, allied to a purely transmissive mode of training. In the cascade model of training the audience is constantly changing from level to level and this poses a serious problem for the design of the package (McDevitt, 1998:426). For instance, in India, there was a considerable loss of information due to the time gaps between the training of various levels and lack of motivation among trainers and facilitator's trainers who had neither genuine interest in nor aptitude for being educators of adults (Shah, 2004:38).

The cascade model is often reduced to a trickle by the time it reaches the educators (Hayes, 2000:3). This view is supported by Rashid and Rahman (2004:172), who state that, in Bangladesh, it has been discovered that loss of information sometimes occurs because of the system of conducting the training. At least one agency reported that where such an approach was adopted, most of the resources went in to train the top-level trainers at the expense of the larger number of grassroots educators. It was concluded that the availability of resources - in terms of training content, materials, funds and technical inputs gradually diminished and reached its minimum at the level of facilitator training (Mitra, 2004:7). These problems circumvent the good intention of the cascade model of training.

Once the cascade model of training has been set in motion, it is difficult to view it as anything but a one-way transmission (McDevitt, 1998:427). It's tendency of using trainers drawn from successive tiers of the cascade also has potential disadvantages, the foremost

being dilution of the training, that is, less and less is understood the further one goes down the cascade (Hayes, 2000:138). Jansen (2003:35), drawing on the case studies of curriculum change in South Africa, observes that although curriculum policy is developed and promulgated by central government, it is subject to various interpretations as it moves through the system to the classroom. This interpretive drift impedes the flexibility of the cascades.

One more intriguing feature of this model seems to be that what is seen as a problem by one particular cell may not be seen as a problem by another at the same or different levels. Even when problems are identified as fairly widespread, there are considerable logistical problems in ensuring that the modified ideas filter down through the same channels (More, 2004:85). Wheeler (2001:14) cautions that continuous professional development will not have a beneficial impact in less-developed countries (LDCs) unless it is carefully designed to meet the contextual needs of the teachers involved and there are built-in monitoring and sustainable components. Mezirow (2000:4-5) contends that the justification for much of what we know and believe, our values and our feelings, depends on the context – biographical, historical and cultural. We construct meaning with different dimensions of awareness and understanding in adulthood we may more clearly understand our experiences when we know under what conditions an expressed idea is true or justified.

Some disastrous consequences of the application of the cascade model are evident in the abortive attempts at implementing Curriculum 2005 in South Africa (More, 2004:85). The Governmental Report of the Review Committee that was presented to the Minister of Education in May 2000 was highly critical of the cascade model (Bax, 2002:167). The review noted that it failed to prepare either officials or school-based educators for the complexity of Curriculum 2005 implementation. In the first instance the cascade of information resulted in the watering down and/or misinterpretation of crucial information (Chisholm, 2000:47; Janse van Rensburg and Mhoney, 2000:45). They argue that the model is limited because it is based on a limited understanding of what teacher development requires, and its assumption that curriculum knowledge can be passed down is counter to the social constructivist epistemology that is supposed to underpin OBE in South Africa.

Secondly, trainers lack confidence, knowledge and understanding to manage the training process (Taylor and Vinjevold, 1999:160; and Chisholm, 2000:47). In the context of “The

Learning for the Sustainability Project in South Africa”, curriculum developers did not seem to have confidence to conduct workshops with educators except when they were fulfilling a dissemination of information function by informing educators of the technical requirements for curriculum implementation (Lotz-Sisitka and Janse van Rensburg, 2000:38). In the same vein, the Review Commission on Curriculum 2005 emphasized that the District trainers did not understand Curriculum 2005, with the result that they did not use its principles in their own methodology of training (DoE, 2001:56). One of the biggest problems of the cascade model seems to be the lack of transfer of learning. In this case many trainees, even if they have effectively learnt the competencies, refrain from using them on the job (Harris, 2000:358). For instance, most ABET educators may be ready to train their colleagues at the centre level but the circumstances and fear of not being able to answer all sorts of questions from them may make the trainee reluctant to transfer information from the training to their colleagues.

In addition to such issues surrounding the conditions of transfer of learning, Day (1999:126) reports on a case study in which the cascade training model was employed by a group of educators as a way of sharing their own learning with colleagues. The group reported on what they learnt but no detailed consideration was given to the very principles of participation, collaboration and ownership which had characterized their own learning.

There are also a number of problems around the usage of the cascade model (Bax, 2002:167). Among others, the following are typical:

- **Confidence:** Lack of confidence on the part of educators when they have to cascade what they have learnt from the workshop. This implies that the principles learned were not internalized.
- **Knowledge:** Educators who conduct the workshop at schools (centres) have insufficient knowledge.
- **Power dynamics:** When a fellow-educator has to conduct training, the colleagues do not find it useful as he/she is seen as their equal and therefore, not efficiently qualified or knowledgeable to train them. Anderson (2001:11) contends that, guidance, support by one's 'peer group', and formative assessment must be integrated into professional development.

Notwithstanding these limitations of the technicist approach developed and used for Curriculum 2005 training, the cascade model is still the dominant model used in South Africa (Chisholm, Volmink, Ndhlovu, Potenza, Mahomed, Muller, Lubisi, Vinjevold, Ngozi, Malan and Mphahlele 2000; Frame, 2003:17; Jansen & Middlewood, 2003:52; Graham-Jolly, 2003:105). Both the optimists' and the critics' views make a lot of sense. However, to argue for or against the cascade model also depends on other variables, which include the training and the post-training context (More, 2004:85).

The next section highlights adult education theory and constructivism and discusses their utilization in the cascade model for training purposes. To be better learners ourselves and to be better facilitators of other people's learning, we need to understand how learning occurs and whether adults learn differently from children (Merriam and Caffarella, 1999:193). This assertion suggests that adult learning theory and constructivism are the tenets of learning and therefore have the roles to play in determining the direction of ABET educator in-service training. What follows is a brief summary of the way adult learning theory and constructivism can be applied to ABET educator in-service training with reference to the cascade model.

2.3 Theoretical Framework Underpinning Adult Learning

Both adult learning theories and constructive development theories shed light on understanding adult development and growth in order to support the development of adults' knowledge and skills (Grado-Severson, 2007). There are several theories that inform and guide adult learning. These theories include: andragogy, is the art and science of helping adults learn (Knowles, 1980:42). Andragogy roots can be traced back to Alexandra Kapp, a German grammar teacher who used it to describe Plato's educational theory (Knowles, Holton and Swanson, 1998:59). In 1921, a German, Eugene Rosenstock maintained that adult education requires special teachers, special methods and a special philosophy (Knowles, Holton and Swanson (1998:59). Although the term "andragogy" has been used since the 1930s in Europe, Malcolm Knowles became its pioneer. Knowles defined the concept of andragogy, as the art and science of how adults learn, conflating it with pedagogy, the art and science of helping children learn (Merriam and Caffarella, 1999:272).

The following guidelines are pertinent and essential to in-service training of ABET educators:

- Adults strive to be self-directed.
- Adults enjoy planning and contributing to their own learning experiences.
- Adults bring extensive experience to the learning situation.
- They always look for ways in which they may transfer their previous learning to the new situation; which increases their sense of self-worth and confidence.
- Adults' readiness to learn is oriented to the task they perceive inherent in their social and professional roles.
- Their focus is more performance centred than subject centred (Brockett and Himstra, 1991:27; Jones and Walters, 1994:160; Lambert, 1996:43-45; Speck, 1996:36-37; Furajic, 2000:62-63; Knowles, et al., 2005:159).

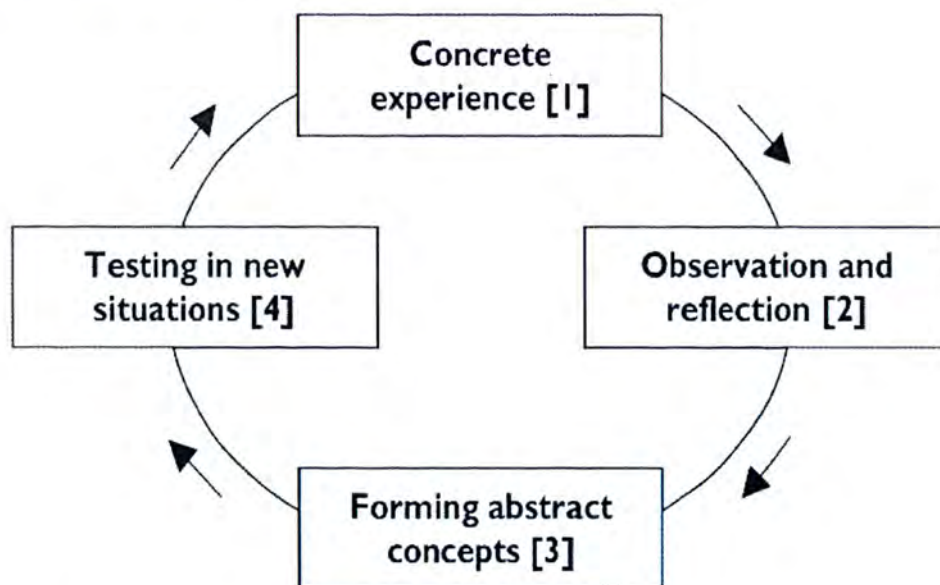
The first guideline is self-directed learning, that is, the ability of adult learners to take control of the techniques and purposes of learning. The second guideline is the learner's need to know: "how learning will be conducted, what learning will occur and why learning is important" (Knowles et al., 1998:133). The third guideline implies that the prior experience of adult learners has an impact on learning in creating individual differences, providing rich resources, creating biases and providing adults' self-identity. The fourth guideline is motivation to learn. Adults are highly motivated to learn when they can gain the new knowledge to help them to solve important problems in their lives. The fifth guideline is readiness to learn. This implies that adults become ready to learn when their life situations create a need to learn. The sixth guideline is orientation to learning. This implies that adults prefer a problem-solving orientation in learning. In this case, adults can learn best when knowledge is presented in a real-life context.

Similarly, Brookfield (1995:2) explored four exclusive adult learning processes. First, self-directed learning focuses on the process by which adults take control of their learning. Especially, they set up their learning goals. Second, they look for accessible and adequate resources so that they can more readily exercise control over their learning. That is, they decide on their learning styles and evaluate their progress. Third, experiential learning is such that adult teaching should be based on adults' experiences. Thus, those experiences could be a valuable resource. Finally, learning to learn is very crucial for adult development. When adults become skilled at learning, they have the ability of lifelong learning.

Adults bring numerous life and work experiences, needs, personalities and learning styles to their learning which shape their perspectives on learning, education and professional development (Knowles, 1984; Grado-Severson, 2007). Adult learning involves the experiential learning. Kolb (1984) has been a proponent of advancing the practice of experiential learning. The four steps articulated below are an invaluable framework for designing learning experiences for adults:

- Concrete experience – full involvement in new here-and-now experience.
- Observation and reflection – reflection on and observation of learners’ experiences from many perspectives.
- Formation of abstract concepts and generalization – creation of concepts that integrate the learner’ observations into logically sound theories.
- Testing of new concepts in new situations – using these theories to make decisions and solve problems (Knowles, Holton and Swanson, 2005:197).

Figure 3: Kolb’s Experiential Learning Framework



Source: Knowles, Holton and Swanson (2005: 198)

Experiential learning as illustrated in Figure 3 occurs as a result of a learner transforming his or her experiences into knowledge (Merriam and Caffarella, 1999:226). Therefore learning will only take place if the learner’s experience is engaged at some level. This implies that the situation-approach to education is tantamount to giving the learning process a setting of

reality from the outset (Leonard, 2002:4-5). It involves observation, discovery and collaborative inquiry or discourse through shared experience (Amstutz, 1999). We learn from experiences which shape our view of the world (Cunningham & Cordeiro, 2003:191). This shows that experiential learning approaches offer the double advantage of appealing to the adult learners experience base but also increase the likelihood of performance change after training (Knowles, Holton and Swanson, 2005:199), in light of which in-service trainers need to design in-service training so that it draws on the practical experiences of ABET educators. For instance, for effective in-service training to happen the trainers can provide a problem-solving process and ask the learners to give a case study from their experience (Moseley and Dessinger, 2007:210). This implies that the training should take into account the ABET educators' experiences.

John Dewey is considered to be the founder philosopher of constructivism (Huitt, 2003:1). It is an approach to cognitive development in which learners discover all knowledge about the world through their own activity (Berk, 2000:645). Bently and Watts (1994:8) define constructivism as:

“a philosophy and psychology about the way people make sense of the world. The central point is that people are always intellectually active – they do not learn passively, but go out of their way to try to make some meaning in what is taking place in the environment”.

Therefore constructivism does not represent a single unified theory on its own, but it is a group of perspectives that are related to each other (Merriam and Brockett 1997:46); Nesbit, Leach and Foley (2004:81). Influences of behaviouristic, cognitive, humanistic and social learning thinking are present in the different constructivist views (Nesbit et. al., 2004:81). Much of adult learning theory is constructivist in nature (Merriam, Caffarella and Baumgartner (2007:293). Constructivism represents the most recent views on adult learning (Gravett, 2001:17). Here are some of the applications of constructivism to adult education (Knowles, Holton, and Swanson, 1998; Huang, 2002):

- Adults want to learn about relevant topics.
- Adults utilize previous knowledge to create understanding.
- Adult education settings need a flexible curriculum to adapt to the audience.
- Adults are mostly self-directed learners.

- Constructivism allows adults to develop their own understanding and meaning of information which can make it more useable.
- Adults do not want to be lectured to; they tend to prefer problem-solving type of situation.
- Adults want to be in control of their learning experiences.

For instance, the constructivist view of learning is particularly compatible with the notion of self-direction since it emphasizes the combined characteristics of active enquiry, independence and individuality in a learning task (Candy, 1991:278). Constructs, like schemata, help the learner understand what to expect as well as how to select and process incoming information (Carlson and Maxa, 1998:52). In constructivism, learning is not a fixed object, it is constructed by an individual through his or her own experiences of that object (Dolittle and Camp, 1999:17; Hsiao, 2007:3).

The central role of experience in adult education is another point of contact between adult learning and constructivism. Constructivist learning theory suggests that learning is a constructive process in which the learner forms an internal picture of knowledge, a personal interpretation of experience, and gets into a “sense-making process where the individual builds new knowledge and understanding from the base of existing knowledge and perceptions” (Chalmers and Keown, 2006:148). Andragogy and other models of adult learning see life experience as both a resource and a stimulus for learning. Constructivism too begins with the learner’s interaction with experience (Merriam et al, 2007:293). Constructivist approaches are capable of operationalizing the aspects of professional development and therefore highlighted the following (Chalmers and Keown, 2006; Wenger, 2007; Hodkinson and Hodkinson, 2007):

- The constructed meaning of knowledge and beliefs. In this process, teachers acquire new knowledge, skills and approaches and then interpret their meaning and significance.
- The social and distributed nature of cognition. In this regard, teachers learn best when they work in a community characterised by action and dialogue. Conceptual growth comes from sharing perspectives and the simultaneous changing of internal representations as a response to perspectives and collective experiences in learning does not take place in isolation.

- The situated nature of cognition. In this regard, it is recognised that professional development needs to be closely linked to actual situations and the contexts of individual schools.
- The importance of sufficient time for the above-mentioned aspects of training. New developments and effective change take time. Unfortunately short courses, while being worthwhile in other ways, do not allow time for the four elements of the constructivist approach.

Concepts such as situated learning, reflective practice and communities of practice are found in both adult learning and constructivism (Merriam et al., 2007:293). Both adult learning and constructivism guidelines suggest that ABET educators should be given responsibility for shaping their own programmes because if they believe that they have control over the learning situation, they will be more willing to take risks in learning new knowledge and skills. If the in-service trainer ignores these needs it is unlikely that the trainee will have learned anything, which consequently means that trainees' needs are a prerequisite for adult learning and training. The adult learner is described as having a clear sense of purpose and the ability to be more involved in the in-service training (Knowles et al., 2005). Trainers of adults need to update and upgrade their existing skills and attitudes and acquire new ones that will enhance their ability to deal with different challenges that accompany adult training (Moore, 2000:127).

The cascade model of training, however, lends itself to a behaviourist orientation. Behaviourism focuses on the measurable, overt activity of the learner and behavioural objectives that specify the behaviour to be expected of the learner after some intervention (Merriam et al., 2007:280). Training is only successful when participants have learned, and learning happens when participants can recall the skills and abilities that were taught and put into practice (Furajic, 2000:61). Thus it is important to distinguish the unique attributes of adult learners so as to be better able to incorporate the principles of adult learning in the design of the instruction (Yi, 2005:34). Within this context, adult learning aims at improving organizational performance by translating learning directly into work applications.

Skinner's major contribution to understanding learning is known as operant conditioning. The basic assumption of operant conditioning is that behaviour is influenced by its consequences

(Ivancevich, 2004:422). The trainers who belong to the behaviourist school of thought believe that learning is manifested in behavioural change (Merriam and Caffarella, 1999:251-253 and Wilson, 2005:222). Behaviourists concentrate on modifying behaviour by reinforcement. That is, the learner must be rewarded for new behaviour in ways that satisfy the needs, such as remuneration, recognition and promotion (Ivancevich, 2004:399).

During cascaded training, trainers should realize that measures taken successfully with children will not necessarily work for adults. The participants/trainees/ABET educators therefore, gain not only knowledge and skills but also insights into how to function as team members (Dean, Murk and Del Parte, 2000:3). This implies that for effective cascade training to happen each training session conducted by in-service trainers should motivate trainees (ABET educators) to draw upon and share their experiences with one another. Garst and Ried (1999:300) define motivation as the student's reasons for participation in the educational programme.

The critics' view of the cascade model of training, taking account of the core principle of transferability of learning, led the researcher to focus on the issue of andragogy. Andragogy is seen as the adult equivalent of pedagogy and is the prevailing approach to adult in-service training (Knowles, 1970). It argues that effective adult learning demands the employment of different teaching methods from those applied in the teaching of children. Group work will be ideal for in-service training of ABET educators. Learning in groups help to create positive group cohesion that carries over into the job after training. If trainers want to deliver messages that will capture their adult learners' attention and interest, it is helpful to understand adult learning and try to mould such training experiences to the orientation of the adults in each training session (Furajic, 2000:61). In essence education for adults relies on situations and experiences that need to be brought into the adult educational experience during training. The next section looks at learning styles.

2.4 Diversity in Training and Learning Styles

Effective use of the cascade model of training requires different learning styles and individual ways of learning. Some researchers call these processes "methods of learning" or approaches to learning. A wide variety of training styles are at the disposal for in-service training purposes for ABET educators. Cognitive psychologists have divided training into three

groups: visual, verbal and textile. Most learners use a combination of these orientations (Jonassen and Grabowski as cited in Knowles et al., 2005). To Megginson et al., (1999:56), the processes by which individuals learn relate to how learning takes place rather than to its outcomes. They maintain that these processes will impact on the extent and nature of the learning that takes place.

These training and learning styles are chosen because they are compatible with training and learning of adults. These approaches address the involvement of trainees that is central to an effective cascade model of in-service training. Different training styles are identified and described, enabling the trainers to choose the appropriate one for their training. Agochiya (2002:149), Cunningham and Cordeiro (2003:210-334) and Bryars and Rue (2008:182) identify training and learning approaches listed below.

2.4.1 Lecture Approach

This training method centres on the lecturer/trainer by virtue of his/her knowledge and expertise in a field. The subject matter is presented directly and unilaterally. Thus, the method uses a one-way communication channel with minimum interaction between trainer and participant, and among the participants themselves. The main advantage of this training model is its ability to cater for a large number of trainees simultaneously (Agochiya, 2002:155).

The lecture method is often used to make complex content understandable without losing the essence of the concepts. Therefore, the instructional device is suitable when delineating new concepts and for the introduction as well as explanations of roles. The drawback about this training approach is that it is time-consuming (Gravett, 2001:68). This approach does not allow feedback from trainees who are often passive and partly dependent on the trainer (Byars and Rue, 2008:182).

2.4.2 Case study approach

The case-study approach is characterized by a high level of participant involvement. It samples a real-life situation which allows the participants to learn from a well-documented series of events (Agochiya, 2002:159). It helps the participants to familiarize themselves with

facets, situations and dilemmas that they might face in real life. In the case study the trainees analyze real and hypothetical situations and suggest not only what to do but also how to do it (Byars and Rue, 2008:182).

The case-study method thus provides a frame of reference for the participants. It stimulates analytical, in-depth discussions with a view to presenting a multifaceted perspective of the situation for better understanding (Byars and Rue, 2008:182). The case study is an account of events from the real world to which learners are required to react by analyzing, deliberating, assessing and suggesting solutions (Gravett, 2001:68). A good case study should also be a representation of events with which learners can identify themselves. It should also raise thought provoking issues that do not have obvious answers. Despite the very useful attributes of this approach, it may, unfortunately, be burdensome and time-consuming.

2.4.3 Role-playing

Training in role-play requires a major time-consuming and costly effort. In applying this method trainees are assigned different roles and are required to act out those roles in a realistic situation (Byars and Rue, 2008: 182). The participants are required to act out the role of an individual in a particular situation. This is a conscious attempt to bring out the dynamics and intricacies of various roles performed in real life. It improves problem-solving and decision-making skills of trainees (Agochiya, 2002:166-167). Acting out a possible situation or scenario affords learners a chance to try out ideas and skills that may have been introduced through learning materials (Gravett, 2001:69). Videotaping allows for revision and the evaluation of the exercise to improve its effectiveness (Byars and Rue, 2008:182).

2.4.4 Reflective Learning

Reflective practice in its present form (Merriam and Caffarella, 1999:226) means looking back from time to time on one's training and identifying areas that need improvement or special attention. Reflective practice is an approach to teaching that involves a personal commitment to continuous learning and improvement (Yortk-Barr, Sommers, Ghore and Montie, 2001:3). By attaching a reflective activity to the in-service training, ABET educators may increase the probability that new knowledge and skills will be incorporated into the participant's practice (Lowe, Rappolt, Jaglal and MacDonald, 2007). Bandura's social

learning theory contends that persons can regulate their own behaviour to some extent visualizing self-generated consequences (Bandura in Merriam et al., 2007: 288).

The practice seeks to inculcate the habit in the in-service trainers of always looking back evaluating their trainees progress and current position compared to relevant objectives so that the need for improvement can be measured. Reflective learning culminates a reflective thinking, which is crucial in helping to improve both in-service trainers and trainees in problem-solving (Cunningham and Cordeiro, 2003:211).

2.4.5 Cooperative Learning

Cooperative learning is not merely another name for group work (Van der Horst and McDonald, 1997:129). It is a learning approach in which learners are divided into heterogeneous groups according to their levels of ability. They work in co-operative groups to achieve a common goal. That is, learning takes place through collaboration in cooperative groups (Cunningham and Cordeira, 2003:211). Collaborative learning is in line with constructivism and adult learning. Social constructivism contends that knowledge is constructed by social interaction and collaboration (McDonald and Gibson, 1999). Because of the ability grouping, this learning approach has the potential of yielding results. However, ability grouping requires more time which is not always available in in-service training. Therefore the educators are divided into groups which are not necessarily according to ability.

In the light of this, a general understanding of learning styles can help trainers become sensitive to how trainees learn. The trainer who primarily relies on aural teaching (e.g., the content expert or didactic trainer) will be less effective than one who uses multiple methods (Knowles et al., 2005). It is imperative to note that there is no single approach that will suit all learning situations; therefore trainers have to develop styles that suit the circumstances of their situation.

2.5 Choice of Training and Learning Styles

The strategies discussed above should be viewed as a continuum, where, in any given learning environment the appropriate strategy is chosen depending on the expected learning

outcomes (Lazenby, 2002:43-44). However, Bigge and Shermis (1999:2) believe that trainers may not have a particular strategy that they subscribe to, but may inadvertently follow a particular training pattern that is grounded in particular theory. These activities should be designed in such a way that teachers (educators) maintain, or in some cases rediscover, the enthusiasm, hopefulness and commitment they generally tend to have for teaching (Marks and Wright, 2002:1). It is therefore possible to combine these theories within a given learning environment. In-service trainers must design an environment that is conducive and that acknowledges that there is no best way to understand learning, just as learners and educators are very different and constantly changing.

These basic styles of learning are to be used by trainers when training ABET educators. In-service trainers will need to realize that they are training adults and therefore, each training session should be needs orientated and its treatment should be handled in the same manner (Lambert, 1996:44). The cascade model of training could promote genuine development if trainers and managers make sure that project training and development strategies are context sensitive, collaborative and reflexive (Hayes, 2000). Research of Knowles and Kolb must be integrated into the design of in-service training programmes. This means that for cascade model to be effective, the design of the in-service training must integrate the principles of learning cycle, learning styles, and encouragement of learning to learn. The North West Department of Education should be concerned with the ABET educator's retention of knowledge and skills, not only during training but also after training when they apply that knowledge and skills on the job. This is what is referred to as transfer of learning.

2.6 Transfer of Learning in the Cascade Model of Training

Transfer of learning is the effective and continuing application of knowledge and skills gained in both on-and-off the job training by trainees to their jobs (Baldwin and Ford, 1988:63; Broad and Newstrom, 1992:6; Analoui, 1994:134; Harris, 2000:515, Salas and Cannon-Bowers (2001.)). When the trainee (in this case ABET educator) is not able to demonstrate on the job what she/he has learned, the trainer tends to retrace the route of the course to where the training started.

One of the earlier reviews on learning transfer was provided by Baldwin and Ford (1988:68). They used a conceptual model that focused on training inputs, outputs and the condition of transfer. Training inputs included:

- Trainee characteristics (ability, personality and motivations)
- Training design (principle of learning, sequencing and training content) and
- Training outputs included learning and retention.

In terms of trainee characteristics, Baldwin and Ford (1988:91) maintained that studies are needed in which personality or ability are measured and individuals placed into training programmes under different conditions of instructional methodology to determine which types of individuals best match which types of programmes for effective transfer of skills to the job. In the area of training design, there is a need to explore the type and level of fidelity needed to maximize transfer given time and resource constraints (Baldwin and Ford, 1988:87). In this case, using diverse styles and situations is vital for transfer of learning to occur. Work environment requires the operationalization of a key variable such as supervisory support. Supervisory support can help or impede the transfer of training (Baldwin and Ford, 1988:92). Even though the work of Baldwin and Ford (1988) identified factors affecting transfer of training, their model failed to show how activities for enhancing transfer can be effectively performed.

After conducting their review in transfer, Salas and Cannon-Bowers (2001) are fairly specific in their conclusion that:

- The organizational learning environment can be reliably measured and varies in meaningful ways across organizations.
- The context of training is important as it sets motivation, expectation and attitudes for transfer.
- The transfer 'climate' can have a positive impact on the extent to which newly acquired knowledge; skills and attitude are used on the job.
- Trainees need an opportunity to perform.
- Delays between training and actual use on the job create significant skills decay.
- Situational cues and consequences predict the extent to which transfer occur.
- Social, peer, subordinate and supervisor support all play a central role in transfer.

- Team leaders can shape the degree of transfer through reinforcement of transfer activities.
- Training transfer differs depending on the type of training and closeness of supervision.

Salas and Cannon-Bowers (2001) recommend increased attention to vertical transfer, for instance, the extent to which learning outcomes at the individual level influence higher-level outcomes such as organizational effectiveness. In this case, trainers are expected to ensure that skills acquired during training are applied in the workplace. If this does not happen, then there will be no positive impact of training. Transfer of learning is the extent to which skills, knowledge, attitude (SKAs) acquired in training programme are applied, generalized and maintained over some time in the job environment. The following have been identified as techniques for increasing the transfer of learning:

- Participants should be actively involved in planning the training programme,
- Develop a written contract between trainee and supervisor,
- Use realistic work-related situations,
- Facilitate trainee participation,
- Arrange refresher sessions,
- Support training (Harris, 2000:358-359).

Transfer of learning researchers like Holton (1996); Bates, Holton and Seyler (1997) and Harris, (2000), focus on experiential learning as a means to enhance transfer of learning to performance. There is a wide acknowledgement that training does not always transfer to the job. For instance, Phillips, Jones and Schmidt (2000) assert that learning does not transfer to the job in 90 percent of cases. The next section discusses factors that impede the effectiveness of the transfer of learning in a cascade model of training.

2.6.1 Factors that impede the effectiveness of transfer of learning

One of the biggest problems associated with most in-service training programmes using the cascade model of training is the lack of transfer of learning. The issue of the type of learning that is transferable to the job is a most perplexing one for every single development programme (Schutte and McLennan, 2001:49). Very often what is learnt in a training session

faces resistance back on the job. Such resistance is given prominence in the Penryn Outreach Teacher Training programme's report from the Mpumalanga Province in South Africa, where Mateme (2001:38) found that when educators went back to school to try what they had learnt, (in training) they met with resistance from the principals. Researchers have found that people who experience lack of support have more stress-related physical and psychological symptoms than those with support (Chaplain, 2001:208; Cooper, Dewe and O'Driscoll, 2001:143; Hawe, Tuck, Manthei, Adair and Moore, 2000:203; Rout and Rout, 2002:52-55; van Dick and Wagner, 2001:258). This implies that for in-service training to be effective principals of ABET centres (centre managers) and colleagues should support educators who have attended the in-service training.

Sullivan, Brenchin and Lacoste (1999:156), in evaluating the Health Training Intervention in Zimbabwe, noted the following about the transfer of learning. Although the individuals who attended the group-based training course demonstrated mastery of clinical skills during training, they did not always use these skills in providing services to the clients at their work site. The following are the three key reasons why transfer of learning frequently fails to take place:

- Lack of support for use of the new competencies on the job.
- Trainees are uncomfortable with using new competencies.
- Trainees perceive training programmes to be impractical or irrelevant (Harris, 2000:358).

Similarly, the evaluation of the Media in Education Trust (MiET) training in the Benoni/Brakpan Teaching and Learning Unit by Potenza (1999:234) revealed that the cascade model was not an effective way of training educators for the following reasons:

- Many educators who received training were not given sufficient time to train the staff back at their schools. In several schools these educators were only given time to report back on the training during break.
- Principals and HODs were generally not involved as trainers, hence, the management of most schools did not provide the necessary support required to cascade the model at school level effectively.
- Many teachers who were trained by the district indicated that they felt confident to deliver sessions at their schools. However, when district staff visited schools to

observe them training the rest of the staff, they were often disappointed at the poor quality of training presented.

- Most presenters and teachers felt that the session on assessment was extremely weak and created a lot of anxiety and confusion (Potenza, 1999:234).

The literature presented so far underlies the problematic nature of the transfer of learning, an issue that deserves priority in the in-service training of ABET educators. The concept of learning transfer is an important principle in the cascade model of training. Again, if the assertion made by Phillips et al., (2000) holds that learning does not transfer to the job in the vast majority of cases, then there is much work to be done. The North West Department of Education has invested in the cascade model of training to help ABET educators to achieve the highest learning possible. But if these educators do not apply their learnt skills at their work sites, then it would lead to a negative impact or ineffectiveness of these training programmes. Making training work is all about being sure that learning drives performance, since it is performance, not just capability that contributes the most to impact from training (Brinkerhoff and Apking, 2001:17).

Successful large-scale change begins with a shared assessment of the problem by power-groups and stakeholders, and the identification of specific challenges associated with the change effort (Joyner, 1998:864). This implies that in deciding to use the cascade model of training to introduce major innovations in the Department of Education, ABET educators should not be neglected in the designing of the training programmes. Trainees need to be included in what may be referred to as management of his/her professional growth (Miles, 1998:62).

The literature consulted confirms that in most in-service training programmes, transfer of learning in the cascade model of training fails because organizational objectives are not clearly formulated, training programmes are not evaluated and skills, knowledge, attitudes and behaviour change apparently do not form part of the training. In order to deal with the people aspect of learning situations as well as its task and role related aspects, the possession of appropriate and relevant knowledge and skills on the part of the trainers involved, will guarantee effective training and transfer (Analoui, 1994:142).

2.7 Guidelines for Conducting Effective Cascade Model of In-Service Training

At the final stage in the training process one has to find out how effective the training has been. The term “effective training” implies that whatever knowledge and skills have been acquired in a learning situation should, totally without any loss, be deployed to the actual work situation (Wills, 1993). Research has shown that activities that occur prior to training have an impact on how effective training turns out to be (Salas, et al., 2001:7). These activities fall into three general categories: firstly, what trainees bring to the training setting; secondly, the variables that engage the trainee to learn and participate in developmental activities; and thirdly how training can be prepared to maximize the beneficial impact of the learning experience. The development of a training programme should therefore not occur in isolation from the ABET educators.

The following are key guidelines that underpin the success of in-service training:

- In-service training activities must be based on a careful assessment of the actual and perceived needs of the participants.
- In-service training goals and outcomes must be clearly specified.
- The design of objectives must be specified and linked to the in-service training outcomes.
- Specific in-service training activities must be designed to meet the identified objectives.
- In-service training facilitators must blend traditional and emerging views of professional development as they plan in-service activities.
- In-service training must consider group size, time and group composition as factors related to in-service outcomes.
- Consultation-based technical assistance that addresses support relative to the transfer of knowledge and skills should be considered.
- Model sites must be used for in-service training purpose to demonstrate best practice or concepts being taught in in-service activities.
- A clear method of participant evaluation must be specified (Malone et.al., 2000:5-56).

The above guidelines imply that before engaging in training, it is important to consider what the in-service training is expected to achieve, what kinds of people will be the most effective trainers, and whether training needs (i.e. uninformed, unskilled state) of the ABET educators are considered a threat to the optimal performance of the in-service training programme. Once these needs have been identified, activities need to be properly planned to support teachers in applying the knowledge and teaching methodology creatively and confidently (Anderson, 2001:1).

For in-service trainers to achieve ‘application and problem solving based on assimilation of newly acquired skills into the repertoires of ABET educators, the in-service trainers have to consider the following pedagogical elements:

- Presentation: formal communication of information and theory;
- Modeling: watching demonstration;
- Simulated practice: trying out new skills in controlled conditions;
- Feedback: discussion and reflection on outcomes of the above; and
- Coaching for application: classroom support while practicing the new skill on the job (Harvey, 1999:597).

Consonant with the guidelines offered by Malone et al. (2000), Harvey (1999: 57) notes that for in-service trainers to achieve significant and successful training they also need to be knowledgeable enough to impart theory during their presentation. However, theory alone is insufficient, as it has to be coupled with practical skills. Thus, the in-service trainers have to demonstrate what the educators need to cascade when they go back at their work sites.

After exploring the literature on the cascading model of training, More (2004) devised an idealized framework for cascade training. This model suggests the following:

The training needs analysis should precede any attempt at making use of the training model. The analysis cited here refers to the following: Pre-training requisites should be properly taken care of in good time before the actual training commences. The actual training could benefit from co- facilitation, with one facilitator concentrating on the actual facilitation and another taking care of aspects that will form either training validation or the consolidation thereof towards the end of every training level. Where one facilitator is involved, his/her

cognitive abilities should be such that they will produce the expected results. The cognitive analysis is critical here, since it suggests that the knowledge and skills the trainer possesses are first assessed before he/she can conduct training. Lapidus (2000:17-27) contends that well designed programmes often fail because lessons learnt are not used and are soon forgotten. To help curb this problem the time between the cascading tiers should be constantly gauged after every step in the cascade process to establish the usefulness of the suggested breaks (More, 2004).

The challenge facing the in-service trainers is to grant them the opportunity to do class visits in order to be able to identify problems and frustration that ABET educators experience when implementing the changes that the in-service trainers have taken them through. It is suggested that relapse prevention strategies should be developed and be informed by observed practice and a detailed but brief empirical assessment procedure which is made part of training (More, 2004). An agreed-upon time for intervention with post-training strategies should also inform part of such interventions. Where consultants are involved, a certain amount of contract settlement (retention fee) will have to be retained (as per contract agreement) until the post-training strategies have been conducted (More, 2004:92-93).

In order to identify appropriate training outcomes, the ABET sector needs to measure changes in knowledge, skills, behaviour and attitudes of trainees as suggested by Bramley (1997:39-52). All the in-service trainers need to receive constant feedback from the educators and both the trainers and the trainees need to reflect on the outcomes of the training. Positive instances of cascade training can be found which remedy such deficiencies, that is to say, whether the training has achieved the set goals and objectives. Follow-up is vital in every activity. Therefore, the need for in-service trainers to conduct follow-up cannot be overemphasized. This follow-up activity has to be done in the form of classroom support. Thus, in-service training will now be recognized as one of the best ways to assist teachers (educators) to effect these educational changes in their schools (centres) (Boulton-Lewis and Smith, 2001:1-2).

Hayes (1997:138) recommends several key guidelines which may be used for a successful cascade model of training. These include:

- The method of conducting the training must be experiential and reflective rather than transmissive;

- The training must be open to reinterpretation. Rigid adherence to prescribed ways of working should not be expected;
- Expertise must be diffused through the system as widely as possible: it should not be concentrated only at the top;
- A cross-section of stakeholders must be involved in the preparation of training materials; and
- Decentralization of responsibilities within the cascade structure is desirable.

To remedy the ineffectiveness of the cascade model, Mwiroti, Herriot, Waudu, Crooley and Osborn (1997:7) in exploring the training of head teachers in Kenya, indicated that head teachers' explicit intention was to reduce dilution in training and weaknesses in monitoring by employing a strengthened cascade system which led to decentralization of responsibilities and an ability to self-regulate the process. Further, the mode of training was not transmissive but experiential and reflective:

- At every cascade level . . . as part of the training process, daily sessions on reflection were included.
- Trainers were required to consider the relevance of what they learned and to think how best their new found knowledge, skills and competences could be adapted and applied to their own local situation as they listened to and reflected on other views (Mwiroti, et al., 1997:8).

For effective cascading of knowledge and skills, Swanepoel, et al., (2000:507) suggest that trainers must take note of the following:

- Skepticism (the extent to which the trainee exhibits a questioning attitude and demands logic, evidence and examples).
- Resistance to change (the extent to which the trainees the process of moving into the unknown or the effect that this may have in him/her).
- Attention span (the length of time a trainee can pay requires from the attention before attention wanes).
- Expectation level (the quality and quantity of training that the trainee requires from the trainers)
- Topical interest (the degree to which the trainee can be expected to have personal (job relevant) interest in the topic).

- Self confidence (the degree to which the trainee independently and positively view him/herself).
- The results (determining the trainee for feedback, reinforcement and success experiences).

Jacobs (2002:181) suggests that the cascade model of training should achieve the following goals:

- Address the respective competence needs of the employees affected by the change, including the use of awareness, managerial and technical training.
- Use of an array of training approaches that are best suited to meet those needs, including both training conducted on the job and off the job.
- Be coordinated so that the training outcomes of one group are reconciled with the training outcomes of other groups.

It is not the cascade model per se which the problem is, but the manner in which it is often implemented (Hayes, 2000:138). The cascade model of training still remains the dominant training model used by the North West Province Department of Education (Frame, 2003:17; Chisholm, 2004:45). Literature suggests that for effective functioning of the cascade model of training, the training must be experiential in nature with maximum participation of trainees. For effective in-service training for ABET educators, Hagreaves (2004:2) suggests that the support systems that educators most require are: support systems for training, mentoring, time and dialogue which are so essential to successful change management. Nevertheless, in coming to terms with learning, it is imperative for trainers to understand the difference between outcomes and processes. Megginson et al., (1999:55) postulate that the intended outcomes can be categorized in terms of learning:

- How to do things well- This is sometimes described as vertical learning.
- What a person can already do, better, differently or to higher standards - This can also be described as vertical learning, because a person would be increasing his or her capability in an area in which a certain level of competence already existed.
- Something new, which is different from a person's existing capabilities – this can be understood as horizontal learning because the person would be extending his or her capabilities into new areas.

This section highlighted that for effective in-service training, the first step is to identify the training needs, the second step is to analyze the issue that can influence the new skills and the third step is to evaluate the training to ensure that sufficient resources have been applied in the implementation of the training programme. The next section deals with the cascade model of training and Kirkpatrick's four levels of evaluating the effectiveness of training. Kirkpatrick's model has provided a straightforward system relating to training outcomes and the various kinds of information that can be provided to assess the extent to which the training programmes have achieved certain objective.

2.8 The Cascade Model of Training and Kirkpatrick's Framework

Evaluation is the major phase of in-service training. Alvaretz, Salas and Garofano (2004:387) provide a conceptually useful distinction between training evaluation and training effectiveness:

- Training evaluation is a methodological approach for measuring learning outcomes while training effectiveness is a theoretical approach to understanding outcomes.
- Because training evaluation focuses only on outcomes, it provides an intimately detailed picture of training results, while training effectiveness focuses on the learning system as a whole; hence it provides an overview of training outcomes.
- Evaluation looks for the benefits of training to individuals in the form of learning and enhanced on-the-job performance; effectiveness is a measure of benefit to the organization indicating why individuals learned or did not learn.

According to Rae (2000:193) evaluation is carried out to ensure that:

- The training is seen to make a change in the working practice of the individual and the organization.
- The cost of the training matches the value of training.
- Valid responses to challenges arising from the training are possible.
- Concrete evidence of the effectiveness of the training programme is available for senior management.
- The planning and design of the training programme are assessed.
- Training programme achieves its objectives.
- Learners achieve their objectives

- Learners appreciate what they have learned and know how to apply their new knowledge.

Evaluation results describe what happened as a result of the training intervention. Findings on effectiveness tell us why those results happened, and so help experts to develop prescriptions for improving training (Alvaretz et al., 2004:387-388). The literature reviewed suggests that the final stage of the in-service training process is to find out how effective the training was.

There are three overriding criteria for training evaluation (Ivancevich, 2004:428). Internal criteria are directly associated with the content of the programme, that is, whether the employee learnt the facts or guidelines covered in the programme. External criteria are related to the more ultimate purpose of the programme. Possible criteria include job performance rating, the degree of learning transferred from training and development sessions to the job situation. Participants' reaction or how the subjects feel about the benefits of a specific training course is commonly used as an internal criterion (Ivancevich, 2004: 428). The models used to guide evaluation are closely related to the effectiveness and utility of the evaluation (Bates, 2004:341). In a much quoted work, Hamblin (1974) identified five levels of evaluation: 1) evaluating the training, 2) evaluating the learning in terms of how the trainees now behave, 3) evaluating changes in job performance, 4) evaluating changes in organization performance and 5) evaluating changes in the wider contribution that the organization now makes.

Perhaps the most referenced approach to evaluation is that of Kirkpatrick (1959, 1976 and 1994) who suggested four levels of measuring the effectiveness of in-service training in the workplace, somewhat similar to Hamblin:

- **Reaction level** - whether the participants like or dislike the programme,
- **Learning level** – the extent to which the subjects have assimilated the knowledge offered and skills practised in the training programme, and the learning objective has been met. Do the participants score more on being tested after the training than before?
- **Behaviour** – an external measure of changes in job behaviour, that is, how has the individual behaviour changed back in the job?

- **Results** – the effects of training on the organizational dimension: what is the impact of training on job performance? (Kirkpatrick, 1998; Ivacevich, 2004; Alvaretz et al., 2004).

In essence, measures at level 1 are directed at assessing trainees' affective responses to the quality (e.g. satisfaction with the instructor) or the relevance of training (Bates, 2004:341). Level 2, learning measures are quantifiable indicators of learning that have taken place during the course of the training. Level 3 addresses either the extent to which knowledge and skills gained in training are applied on the job or result in exceptional job-related performance. Finally, level 4 outcomes are intended to provide some measure of the impact that training has had on broader organizational goals and objectives (Bates, 2004:342).

Alvaretz et al., (2004) describe Kirkpatrick's model as the simplest and the commonest model used for training evaluation. Usually levels 1 and 2 are measured within the training setting and are fairly easy to measure. Level 3 and 4 are measured outside the training setting and are typically more difficult to measure, but they are relevant to discussions of transferring the training beyond the training setting. The model is often implemented sequentially, in the belief that each level requires successful completion of the previous level(s). Thus reaction to training is related to learning, learning is related to behaviour and behaviour is related to results.

Flowing from Kirkpatrick model, Allinger, Tannenbaum, Bennett, Traver and Shortland (1997) offer an augmented framework to capture some important distinctions that they then used for conducting a meta-analysis of the relationship between the levels of training criteria. Reaction is devisable into affective reactions (liking the training) and utility judgments (usefulness of training) (Allinger et. al., 1997:353). Although they did not include it, they note that Warr and Bunce (1995) suggest a third reaction measure (Allinger et al., 1997).

Allinger et al., (1997) used the sub-categories of immediate post-training knowledge (commonly measured), knowledge retention (measured later) and behaviour/ skill demonstration (within the training setting). They classify the Kirkpatrick's third-level, behaviour as transfer, to denote the skill performance transferred to the work setting. They retain the fourth-level results (organizational impact, e.g., productivity, customer satisfaction,

profitability), but recognize that although important in measuring training success, organizational constraints often limit the ability to collect these data.

A second model -Tannenbaum, Cannon-Bowers, Salas and Matheiu (1993) - discussed by Alvaretz et al., (2004) expands on the Kirkpatrick model. They add post-training attitudes and divide behaviour into two outcomes for evaluation: training performance and transfer performance. In this model, learning is related to training performance, training performance is related to transfer performance and transfer performance is related to results.

In a third model, Holton (1996) includes three evaluation targets: learning, transfer and results. According to Alvaretz et al., (2004) reactions are not part of this model because reactions are not considered a primary outcome of training. Instead reactions are defined as a mediating and/or moderating variable between trainees' motivation to learn and actual learning. In this model, learning is related to transfer and transfer is related to results. In addition, Holton (1996) argues for an integration of evaluation and effectiveness.

Alvaretz et al., (2004) describe the fourth model of evaluation provided by Kraiger (2002), which emphasizes three multi-dimensional target areas:

- Training content and design (design, delivery and validity of training);
- Changes in learners (that is, affective, cognitive and behavioural); and
- Organizational pay-offs (that is transfer climate, job performance and results).

Reactions are not considered outcomes, but rather measure how effective training content and design were for the task to be learned.

The American Humane Association model, developed by Parry and Beddie (1999) expands Kirkpatrick's model to ten levels:

- Course (formative evaluation to assess and improve content structure, methods, materials and delivery);
- Satisfaction (trainees feelings about trainer and training);
- Opinion (trainees attitudes toward utilization of training, i.e., relevance);
- Knowledge acquisition (learning and recalling terms, definitions and facts);
- Knowledge comprehension (understanding material);

- Skill demonstration (application of new materials in the classroom);
- Skills transfer (application of new materials on the job);
- Agency impact;
- Client outcomes; and
- Community impact.

Parry and Beddie (1999) note that lower levels are more directly related to training and are easier to measure. Bramley (1997) suggests that performance effectiveness can be measured at individual, team and organizational levels and that change in behavior, knowledge, skills and attitudes needs to be considered. Bramley (1997) is therefore a useful source of practical approaches to evaluation of in-service training.

With regard to considering cost-effectiveness, an important reason to adopt the cascade model for the introduction of educational change, Wedell (2005:647) suggests the following:

- If educators hinder rather than support their attempts to apply the training they have received, the cascade project is more likely to constitute an example of ‘triumphalism symbol action’ than to affect what actually happens in the classrooms (Goodson, 2001:53);
- From the very beginning of the cascade planning process, therefore, planners need to ask two parallel sets of questions to identify the extent to which the aims of their proposed training are in harmony with the key factors within the subject-specific classroom context (Wedell, 2005:647);
- When planners find that potential contextual barriers to the application of training content in the classroom are prevalent, their planning needs to develop a second, equally important strand, running concurrently with the planning and implementation of the training itself (Wedell, 2005:647).
- The second strand focuses on establishing contextually appropriate systems to make schools (centres) and classrooms as supportive as possible for educators returning from training. It will require further resources. Planning will probably be more complex than, and may need to extend beyond the lifetime of the planning of the training itself (Wedell, 2005:651); and
- If, as a result of such parallel planning, educators both receive an appropriate training and feel enabled and encouraged to apply a version of this training in their

classrooms, then extra planning and expenditure will have been cost-effective in the sense of helping cascade project aims to be met (Wedell, 2005:651).

These are performance indicators that trainers need to acquaint themselves with when planning in-service training for ABET educators. These indicators are guides to the efficiency of the process as they provide the rudimentary measures of the quality of learning or the effectiveness of the institution in meeting its customers' needs (Sheppard, 1999:10). The next section examines a range of training models. It should be noted that these models are not necessarily exclusive; they are rather an attempt at identifying key characteristics of different types of models with the aim of remedying the deficiencies of the cascade training model.

2.9 Alternative Training Models

The section looks at different training models to ascertain the effectiveness of the cascade model used in training programmes of ABET educators and to make improvements where necessary. There are other training models that can be used as an intervention mechanism to improve cascade model of training. There is a wide variety of models to draw from for designing training models for ABET educators. This section discusses different training models or frameworks which guide the training process. What educators take away from professional development efforts is based on the existing knowledge and beliefs about subject matter, student learning and instruction in the light of innovation (Marx Blumenfeld, Krajcik and Soloway, 1998:33). This is to say that the search for professional development has to give attention to both practical and theoretical knowledge that goes back to Knowles.

In this section, existing exemplary training programmes and practices are identified and described, enabling the researcher to choose alternative training model for ABET educators in the North West Province (South Africa). The model which is suitable would depend on the specific needs of adult educators to be trained, the degree and complexity of ABET objectives and the context of adult learning. This implies that the training model would depend on the competencies that ABET educators possess and on those they should acquire for effective performance on the job.

2.9.1 Knowles' 1980 Programme Development Model

In his model, Knowles (1980:59) identified the following seven major steps:

Step 1: Establishment of a climate conducive to adult learning

Knowles (1980:59) discusses ways of establishing an educative environment within an organization that is built on democratic philosophy and recognition of the need for change and growth.

Step 2: Establishing a structure

Here, Knowles discusses ways of creating the right kind of committees or other structures to support and promote adult education within the organization.

Step 3: Assessing needs and interests

In this regard, Knowles examines different kinds of needs and interests that individuals, organizations and communities might have and then outlines a number of ways of identifying them.

Step 4: Translating needs into objectives

Knowles discusses how the needs that have been assessed should be screened through three filters - different formats for learning.

Step 5: Designing a programme

Here, Knowles looks at various principles of programme and course design and processes for selecting different formats for learning.

Step 6: Operating the programme

Knowles discusses the practicalities of implementing and managing a programme, including recruitment of teachers, promotion, recruitment of participants and management of finance and facilities.

Step 7: Evaluating the programme

Here, Knowles discusses purposes and methods of evaluation and to which the finding can be put.

Although Knowles (1980) identified seven major steps; according to him, the most important four are:

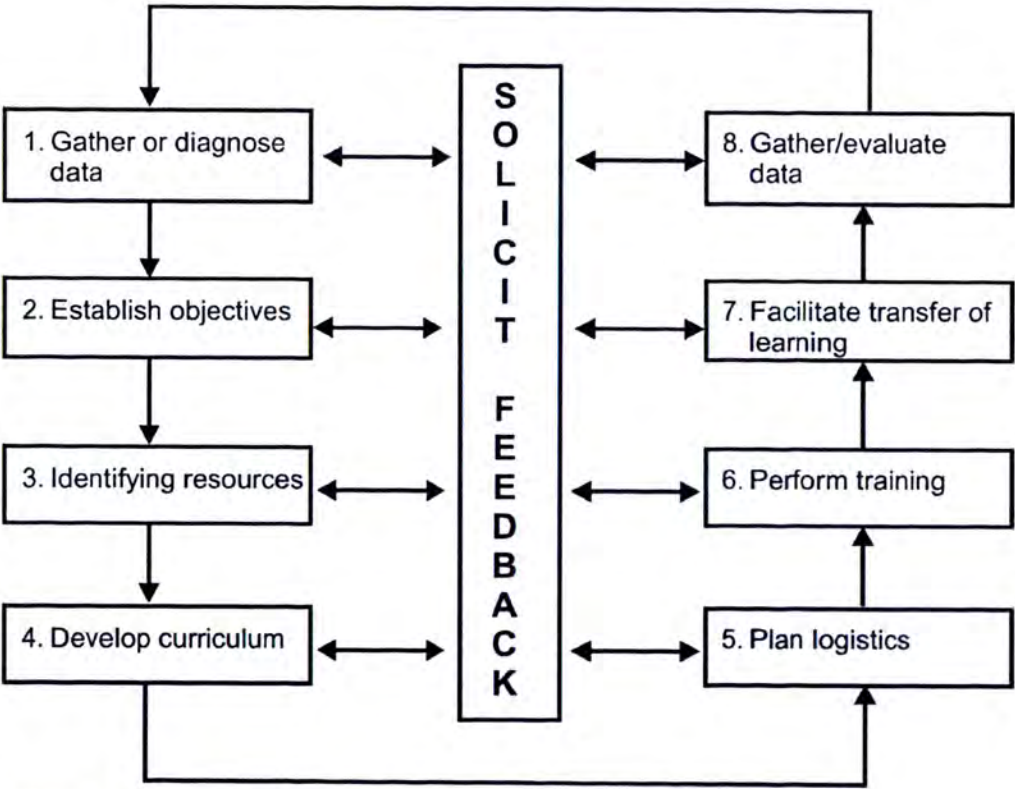
- The establishment of a climate conducive to adult learning;
- The diagnosis of needs for learning;
- The development of a design of activities, and
- The re-diagnosis of needs for learning.

Knowles’ model (1980) allows for mixing the personal development of the individual with the requirements of the organization and society.

2.9.2 The Training Model of Camp, Blanchard and Huszco (1986)

Nadler’s critical events model (1982) coincides with the model of Camp, Blanchard and Huszco (1986) who place their model in the following perspective:

Figure 4: The Training Model of Camp, Blanchard and Huszco (1986)



Source: Erasmus and van Dyk (1999:44)

Step 1: Carry out a comprehensive training needs analysis

Step 2: Determining training objectives

Step 3: Identifying resources

Step 4: Development of curriculum

Step 5: Plan logistics

Step 6: Perform training

Step 7: Facilitate transfer of learning

Step 8: Gather/evaluate data (Camp et al., 1986:4)

2.9.3 Nowlen 1988 Competency-Based Model and Performance or Up-Date Model

According to Nowlen (1988), the competency-based model specifically addresses needs (knowledge or skills) required by professionals to enhance what they do for living. The performance or up-date model is characterized as being adaptive to changing needs as having a boarder purpose or perspective. Nowlen (1988) further contends that the performance model's field of vision is alert to science that the professional's knowledge and skills need to be refreshed or updated and that new research, technology and societal developments needs to be brought instructively to a professional attention.

2.9.4 Laurie Field 1990 Model

Laurie Field (1990) drew his examples from the hairdressers, road tankers, drafts people, bank clerks, car mechanics, chemical workers, telecommunications technician, and retail industry workers in the food industry. His model consists of the following:

Step 1: Investigate skills and training issues

In step 1 Field discusses how the trainer might enter a workplace, carry out an exploratory study and use different kinds of research to understand the workplace and identify the problems and issues that can be addressed through training.

Step 2: Analyze competencies for a job

Here he discusses the concept of skill and offers a schema for describing occupations and job and then developing comprehensive lists of competencies necessary to perform those jobs.

Step 3: State performance objectives

In step 3 Field showed how to write performance objectives that state the activity, the conditions under which the activity must be performed and the standard that must be achieved for each competency achieved.

Step 4: Structure a training programme

Field (1990) examines different ways of building a sequence into a training programme and the different ways through which skills can be provided. These include off-site training in a college, in-house training, simulator training (often using computer models) and on-the job training.

Step 5: Deliver the training

Field provides a number of chapters looking at different methods of delivering training-on the design and use of job aids such as reference guides, user manuals and computer aids, on the job training, the use of computers in training. He also devotes a chapter to the processes involved in explaining and demonstrating a task.

Step 6: Supervise practice

At several stages in the book, Field discusses the processes of transferring skills learnt to the actual job. Here Field examines ways of providing the learner with structured and supervised practice in the skills learnt.

Step 7: Assess skills

Here Field discusses ways of testing learner's competence and assessing the change in their skills and knowledge as a result of the training (Field, 1990).

Field's model is concerned with getting people to perform more skillfully to make the organization more efficient and productive.

2.9.5 Richey 1992 System Training Model

Richey System Training Model identifies factors in need of training intervention. This model has included three components (Richey, 1992:28):

- Conceptual factors which affect adult learning;
- A procedural guide to design practice, and
- A theory component consisting of propositions which both describe the learning process and prescribe the learning process and prescribe the design process.

This model incorporates four variables: the learner, the content, the environment and the delivery of instruction. In his conclusion, Richey (1992:28) maintains that there is considerable research evidence to warrant a belief that these learning factors affect the learning outcomes directly or indirectly by interacting with other elements of the model.

2.9.6 Nadler and Nadler's 1994 Critical Events Model

This model proposed by Nadler (1982: 14) is a general model for training and views the training process in holistic terms. Leonard and Zeace Nadler's model identified eight events. They are:

- Step 1: Identify the needs of the organization,
- Step 2: Specify job performance,
- Step 3: Identify learner needs,
- Step 4: Determine objective;
- Step 5: Building curriculum,
- Step 6: Selection of instructional strategies,
- Step 7: Obtain instructional resource, and
- Step 8: Conduct training (Nadler and Nadler, 1994:34).

Step 1: Identifying the needs of the organization

A number of factors (both internal and external) affect the ability of an enterprise to survive in economic terms and to grow. Because it is an open system, there is a continuous interaction between the enterprise and the internal and external environments. Nadler examines a number of factors generating needs for the enterprise and the employees, and these include:

- A change in the production or in the service produced,
- A change in equipment and rules,

- A new product service.

According to Nadler (1982:12) an important consideration during this step is that both enterprise and individual needs are taken into account when information is gathered. Once all the interested parties have reached agreement regarding the nature of the training needs, in an enterprise, the design and implementation of a training programme can take place.

Step 2: Evaluation and Feedback

Evaluation and feedback are aspects that are central to this model and must be regarded as continuous processes that must be executed in each step of the training processes. Continuous evaluation and feedback ensure the accurate execution of each step.

Step 3: Specifying Performance

During this step, an employee's work is analyzed to determine the content. Information on the work being investigated can be obtained from supervisors, co-workers and incumbents themselves. The aim of this step is to determine work standards against which individual performance can be measured.

Step 4: Identifying Training Needs

This step forms a critical part of the training process. The fact that people have specific needs must be taken into consideration when determining training needs. The following formula can be used:

$P - KD = N$

Where P = Expected performance
 KD = what the employee already knows
 N = Needs

Once the needs have been identified, the rest of the programme can be developed. The overall success of the training programme is largely determined by the accuracy with which this step is executed.

Step 5: Formulating Training Objectives

Once the training needs have been determined, the training objectives are formulated. A distinction can be drawn between general training objectives which are directed at defining student performance in general terms and specific training objectives, which are directed at satisfying specific training needs.

Step 6: Compiling a Syllabus

Training should take place in accordance with a carefully planned syllabus. The emphasis is on what must be learnt and the order in which it must be learned. The syllabus is therefore based on training objectives and the subject content must enable the students to achieve the training model.

Step 7: Selecting Instructional Strategies

In this step, aid must be selected with a view to presenting the training in a meaningful and enriching manner. Instructional strategies cover a wide variety of techniques, methods and media from which a selection must be made and it is essential that strategies selected should suit the content and aim of a training programme. Note that there is no single strategy which will suit all learning situations and therefore organizations have to develop strategies which suit the unique circumstances of the enterprise.

Step 8: Acquiring Instructional Resources

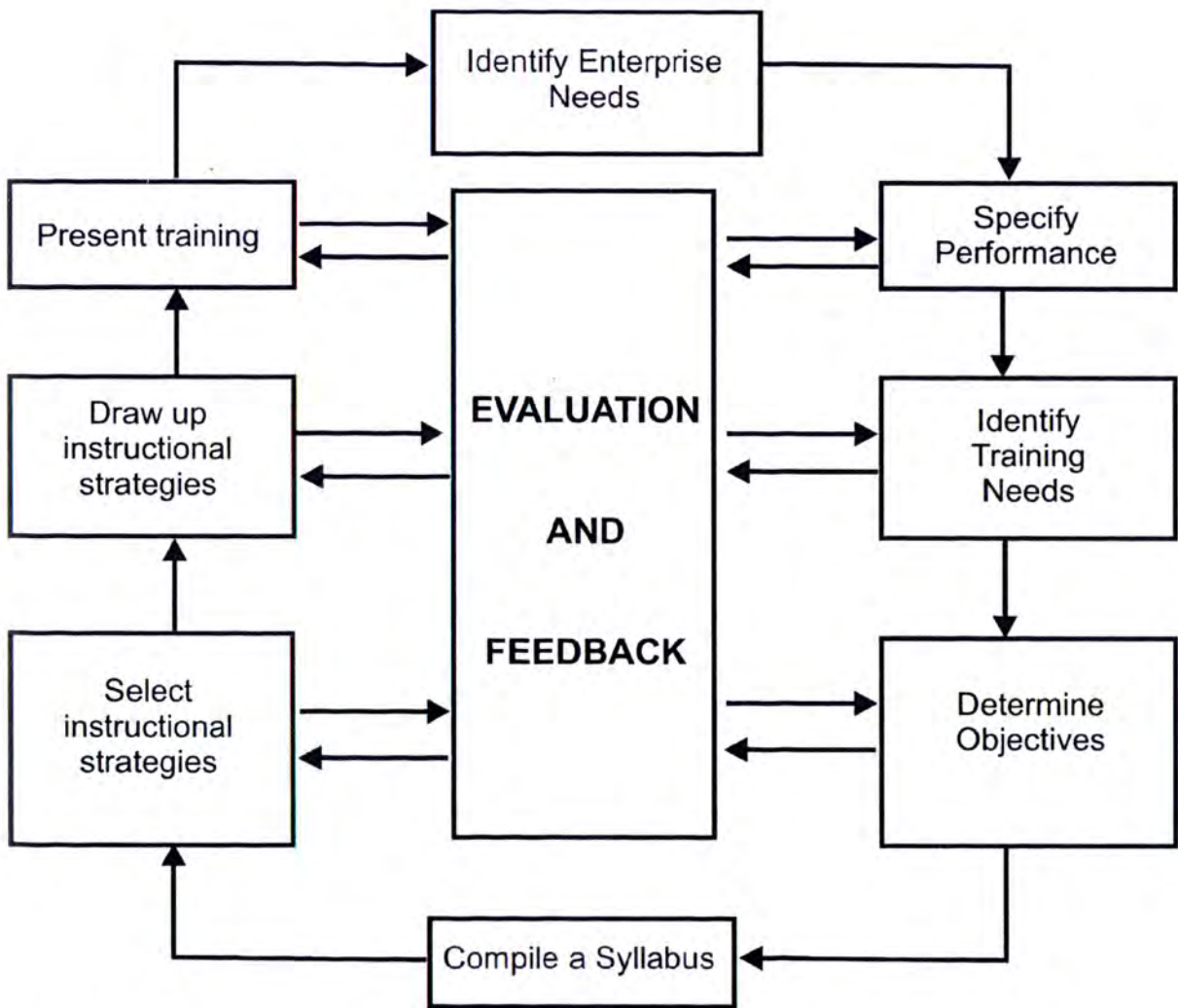
This step requires that a variety of resources be considered to ensure the successful presentation of a training programme. Three broad categories can be distinguished:

- Physical resources, which include equipment, material and facilities;
- Financial resources, where the focus is on aspects such as the cost-effectiveness of training and management of training budget;
- Manpower resources, which refers to people such as programme facilitators, instructors and students.

Step 9: Presentation of Training

The last step in the training model is the presentation of training. In this step, all the preparations mentioned above are combined and the success of this phase ensures the success of the training programme as a whole. The presentation phase integrates all previous steps and includes aspects such as presenting, evaluating and concluding the training programme. The structure (Figure 5) below is showing Nadler and Nadler’s 1994 Critical Events Model.

Figure 5: Nadler and Nadler’s 1994 Critical Events Model



Source: Nadler and Nadler (1994: 34)

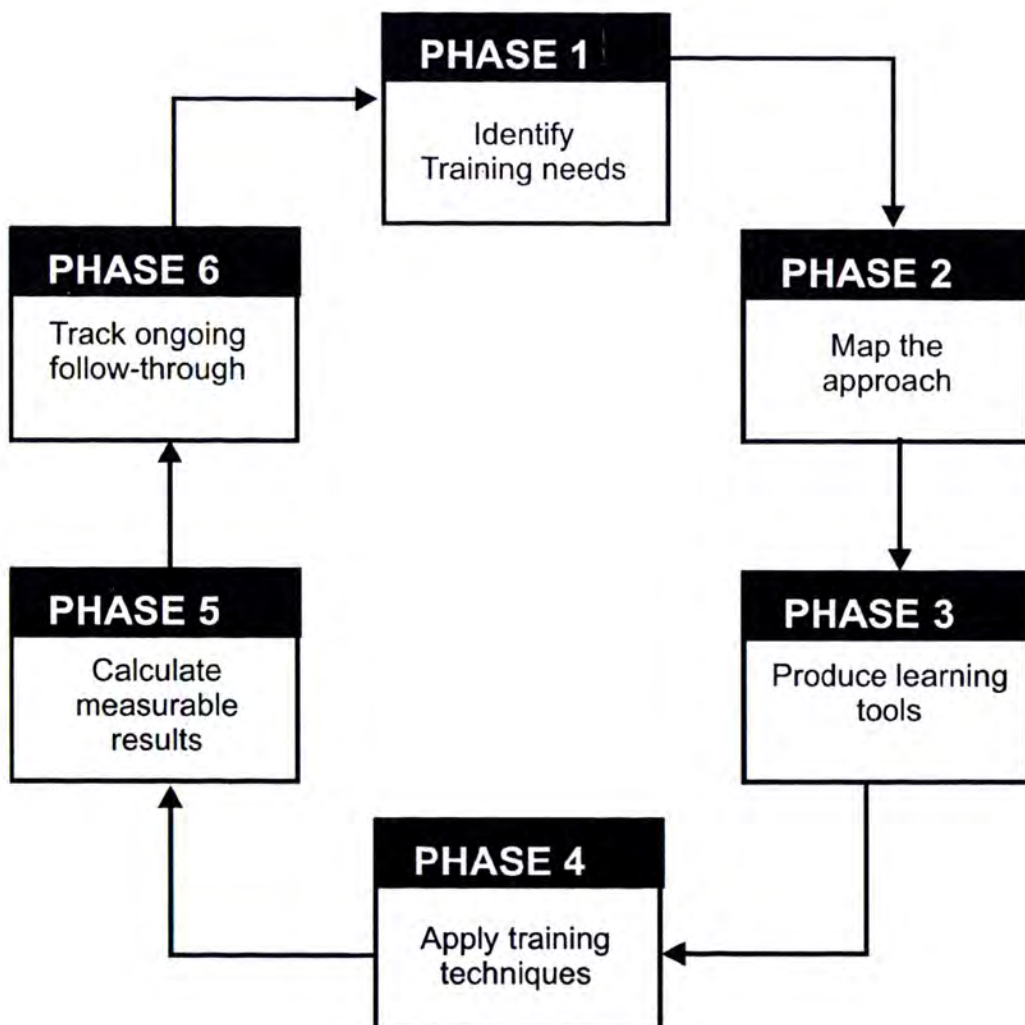
Nadler and Nadler make the following comments when describing the process of the needs of the organization.

Problems arise within groups (the total organization or part of it) and with individuals (employees and external customers). The needs of individuals and the organization do not have to be in conflict, though such conflict sometimes exists. Generally, the needs of both the individual and the organization have to be identified. However, because HRD is provided by the organization, it is necessary to first look at the organizational needs. This can be done with demeaning or ignoring individuals (Nadler and Nadler, 1994:34).

Sparhawk's High Impact Model is shown in Figure 6

2.9.7 Sparhawk's 1994 High Impact Training Model

Figure 6: Sparhawk's 1994 High Impact Training Model



According to Erasmus and van Dyk (1999:45), the High Impact Training model is a six-phase process that focuses on providing effective, targeted training.

Phase 1: Identify Training Needs

During this phase, the specific training needed to improve job performance is identified. The reason for training must be investigated and the training that must be devised to satisfy the identified needs must be described.

Phase 2: Map the Training Approach

Once the training needs have been identified, measurable objectives must be set and the design must be mapped out. The objectives define in detail what training is required to improve job performance. To develop the design plan, objectives are used to guide the trainer through the process of choosing an approach to meet the objectives.

Phase 3: Produce Effective Learning Tools

The actual development of the training approach that has been chosen is done during this phase. The actual training materials are created. These might include training manuals or materials to support on-the-job training and instructor-led course. The products of this course are manuals and audio-visual aids, among others. Objectives set in phase 2 are used as a guide to develop training materials.

Phase 4: Apply successful Training Techniques

During this phase, the training is delivered to the target group. The tools chosen in phase 3 will determine the approach during this phase. If it is a computer-based course, the training must be delivered and if it is a one-to-one approach, coaching must take place.

Phase 5: Calculate Measurable Results

During this phase, the trainer must determine whether the stated objectives were achieved and whether the training which was applied in phase 4 has contributed to job improvement. The results must be communicated and redesigned measures (if needed) must be taken.

Phase 6: Tract Ongoing Follow-Through

Once it has been determined that phase 5 is successful, the trainer must ensure that training remains objective. Organizations change constantly and appropriate training must be developed to adapt to the changes.

2.9.8 Cyril Houle's 1996 Model

Houle (1996) outlines a planning framework of decision and components. The components of his framework are:

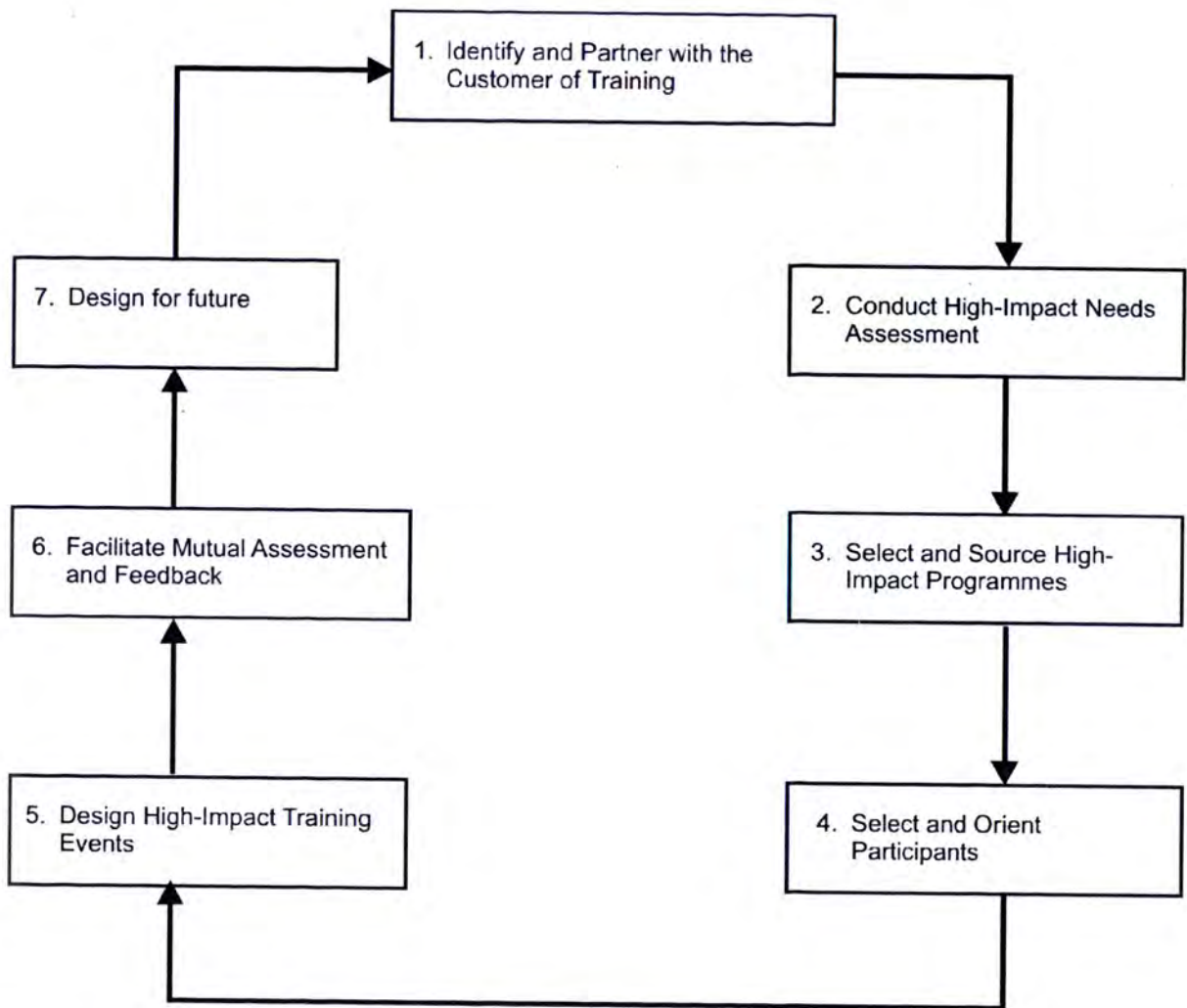
- A possible educational activity is identified;
- A decision is made to proceed;
- Objectives are identified and refined;
- A suitable format is designed;
- The format is fitted into effect, and
- The results are measured and appraised.

Houle presents his model as a number of decisions to make rather than steps to follow.

2.9.9 Lapidus' 2000 High Impact Training Model

The High Impact Training model was chosen by the researcher because it covers experiential learning, mastery of specific skills, coordination between the training setting and the classroom, faculty collaboration in planning and designing a programme's goals and methods. Designed by Lapidus (2000:17-27), the model has the following consecutive steps that are relevant for in-service training workshops for ABET educators:

Figure 7: Lapidus' Seven-Step High-Impact Training Model



Source: Lapidus in Anakoka (2008:35)

Step 1: Identify and partner with the customer of training

The fundamental assumption is that participants in the training events are not necessarily the customers of the training. Thus the model is aimed at the effective transfer of knowledge (i.e. operational performance) after the customers of the training have been clearly identified.

Step 2: Conduct high-impact assessment

This step includes raising awareness among participants that training and development is a process, not a sequence of independent events and that needs should be assessed frequently and in informal yet highly effective ways. At the heart of the high-impact training model is an increasing faith in colleagues' greater ability to communicate and understand their daily work life.

Step 3: Select and source high-impact programmes

Well-designed programmes often fail because lessons learnt are not used and are soon forgotten. To remedy this, training programmes are selected and sourced on the basis of the outcomes to be achieved.

Step 4: Select and orient participants

Trainers have to select the programme participants guided by the set guidelines on the number of participants, grade or job levels and work experience. However, as participants tend to assume a passive role, they must be carefully oriented towards active participation.

Step 5: Design high-impact training events

Traditionally, the training event is the primary focus. In contrast, the high-impact training model also includes a focus on knowledge to be gained by trainers before the training events. They should know who the customers of training are, that the right programme has been selected, that the right participants are in attendance, that the right participants have been appropriately orientated before coming to the programme and that the goals of the programme are specific, clear and measurable.

Step 6: Facilitate mutual assessment and feedback

This step should be carried out during the first two levels of assessment, which are: identify and partner with the customer of training and conduct high-impact assessment level. Assessment and feedback tend to be a passive activity at the end of a programme, using pre-printed forms that require quantitative information but little subjective comment.

Step 7: Design of the future

The focus is on the future, based on what was learnt in the design and delivery of the programme. This step includes debriefing of the participants and creative and reciprocal assessment. Furthermore, the next generation of training interventions is developed and the programme itself is improved.

2.9.10 Swanepoel and Erasmus' 2000 Systematic Training Model

The devised by Swanepoel and Erasmus' 2000 systematic training model proceeds in three phases: needs assessment, training and training evaluation:

Needs assessment (Phase 1)

This is the first phase of the model for systematic training. Successful training begins with a needs assessment to determine which employees need to be trained and what they need to be trained to do. It culminates in the formulation of a set of objectives, which clearly state the purpose of the training and the competencies required of trainees once they have completed the programme. During the first phase, the staff will do a SWOT analysis to determine their collective and individual needs (Swanepoel & Erasmus, 2000).

The last step in the needs assessment phase is to translate the needs identified by the organizational, task and individual analyses into measurable objectives that can guide the training process. Behavioural training objectives state what the person will be able to do, under what conditions and how the person will be able to do so. They should focus on the behaviour component and clearly describe what a learner has to do to demonstrate that s/he has learned (Swanepoel & Erasmus, 2000).

Training (Phase 2)

In this phase, appropriate training methods must be selected and suitable training materials must be developed to convey the required knowledge and impart the skills identified in the training objectives. The following are taken into consideration: goals, the training needs, identified audience, content, training design, skills application and on-the-job training (Swanepoel & Erasmus, 2000).

Training evaluation (Phase 3)

This is the last phase of the model for systematic training. Once the training needs have been determined, the behavioural objectives have been stated and the training programme is running, the outcomes are evaluated. Swanepoel and Erasmus (2000) use participants to evaluate the following: the levels, the design, the value for training and the feedback.

It is generally acknowledged that many activities (unacceptably high percentage) to train people are not followed by a specific evaluation of what participants have learned. The extent to which people know more or better is often only traced through occasional anecdotal evidence (Wilson, 2005:416).

2.9.11 Caffarella's Interactive Model of Programme Planning

Caffarella's Interactive Model of Program Planning lists 12 steps to be considered in detail when planning programmes for adults. The 12 steps are:

- Discerning the context
- Building a solid base of support
- Identifying program ideas
- Sorting and prioritizing program ideas
- Developing program objectives
- Designing instructional plans
- Devising transfer-of-learning plans
- Formulating evaluation plans
- Making recommendations and communicating results
- Selecting formats, schedules and staff needs
- Preparing budgets and marketing plans
- Coordinating facilities and on-site events

Caffarella presents the model as a circle where all 12 steps point toward the centre circle. The in-service trainers can begin the process at any one of the 12 steps and does not need to work around the circle but rather each step is a reminder of important tasks to be completed during the in-service training process. Caffarella's (2001:25-29) highlighted seven assumptions on which the model is grounded. The assumptions serve to remind planners that unless they agree with the assumptions, this model may not work for them.

The assumptions are as follows:

- Focusing on learning and change,
- Recognizing the non-sequential nature of the planning process,
- Discerning the importance of context and negotiation,
- Attending to pre-planning and last minute changes,
- Honouring and taking into account diversity and cultural differences,
- Accepting that programme planners work in different ways,
- Understanding that programme planners are learners.

These are the models which greatly influence the construction of the best practices of in-service training. The physical environment for learning gets much attention, making sure it is comfortable and flexible. For Houle (1996, 29–30), education is fundamentally the same wherever and whenever it occurs. It deals with such basic concerns as the nature of the learner, the goals sought, the social and physical milieu in which instruction occurs, and the techniques of learning or teaching used. The nine models from this section advocate the identification of training needs and the formulation of training objectives as prerequisites in the in-service training. Other features of the two models include a carefully planned syllabus, planning logistics, acquiring instructional resources and presentation of training. Central to Nadler and Nadler's Critical Events Model (1994) and Camp, Blanchard and Huszco (1986) is continuous evaluation and feedback which should be executed during each step of the training process. The high-impact training models (Sparhawk's 1994 and Lapidus' 2000) focuses on providing effective, targeted training. Once the training needs have been identified and measurable objectives set, the appropriate training design must be mapped out, and effective learning tools in the form of training manuals or materials to support on-the-job training should be produced and successful techniques employed.

All the models have five clear functions: they stress the importance of identifying the needs of the trainees, the design of objectives and outcomes of the training, developing the training, consideration the context and evaluating the effectiveness of the training.

2.10 Assessing the Effectiveness of the Cascade Model of Training

2.10.1 Measuring Changes in Knowledge

One of the frameworks that have proved to be useful in carrying out the analysis of knowledge measured during training and post training periods is to describe the sort of knowledge required in three levels (Bramley, 1997:39):

- The basic level is that of isolated pieces of information, i.e. the ability to recall simple rules, knowing a range of simple facts about the job area; and
- A higher level is to be able to organize a good many of the pieces of information into procedures like how to do things or how to arrange sets of actions in order.

Higher still is knowledge with which to analyze any particular situation for its key elements and thus to make a decision about whether procedure A is more likely to be successful than for example procedure D. This is essential for the skills needed to be able to select the most appropriate procedure or method of doing something, given the nature of the problem, the organizational context and so on (Bramley, 1997:39).

The function of training can therefore be seen as:

- Analyzing what is required at each of the three levels for satisfactory job performance;
- Discovering what the trainers know at each level before they attend the training;
- Attempting to close the gap; and
- Communicating to the manager to what extent they are above/below satisfactory job performance at the end of training (Bramley, 1997:40).

2.10.2 Measuring Changes in Level of Skills

In-service training can effectively disseminate knowledge without providing the skill to do the job effectively. To facilitate the understanding of changes in the skills levels, Bramley (1997:40), suggests the following:

- The basic level is the ability to communicate and for this it is necessary to be able to label items, identify parts, and name the main assemblies of machines and so forth. This level involves the ability to perform simple procedures, often with the help of instructions. It is the level of performing physically skilled action, which requiring practice; and
- Another level of skill is the ability to judge whether a piece of skilled work is of acceptable quality.

The time spent in training and the sophistication of the testing situation will increase at higher levels.

Skills should be tested with practical tests unless the skill of being able to do something can be assumed from the ability to state the correct sequence of actions. A test of skills falls into two main types:

- The trainee sets a task and the work is inspected at the end of the test period; and

- The trainee is watched throughout the test so that the method used can be assessed as well as the final product. Observation is a flexible technique for the collection and evaluation of data. It has some similarities with interviewing in that it can be quite unstructured or be supported by a very detailed schedule (Bramley, 1997:40).

2.10.3 Measuring Changes in the Level of Attitudes

Training attitudes and behaviour are deemed essential to improve practice and adhere to professional standards (Wilson, 2005:416). Bramley (1997:52), like Kirkpatrick (1987) defines attitude as a tendency or a predisposition to behave in certain ways in a particular situation (Bramley, 1997:52).

Attitudes can be measured directly but are usually inferred from what people say or are seen to do. The researcher concurs with Bramley's (1997:52) assertion that changing people's attitudes to something might change what they say or do, but would hasten to say that this will not necessarily follow, it is not guaranteed. There may be a large gap between knowing facts or principles and demonstrating them on the job.

The process of attitude training consists of four main stages:

- Identify desirable attitudes which are expected to lead to some improvements, usually the culture or climate, in some part of the organization;
- Assess where the participants are with respect to the desired attitude. Self-analysis often in the inventory usually does this. The participants' perception of their normal work behaviour is classified and shown to have some categories that diverge from the ideal;
- Convince the participants of the value of the desired attitudes by giving examples, models or counseling. Allowing them to experience some success in experiential learning, perhaps by means of role –plays reinforces this strategy; and
- If the training is well executed, the participants accept the new attitudes and return to work. It is expected here that they will display behaviour consistent with the attitudes (Bramley, 1997:52).

2.10.4 Measuring Changes in Behaviour

It is the individual whose performance and behaviour at work provides the tangible evidence for measuring the extent to which transfer has taken place (Analoui, 1994:135). In this regard, More (2004:52) contends that an evaluation strategy needs to take into cognizance:

- The original aims of the course;
- The behavioural objectives as identified in the needs analysis;
- The validation of data collection during and at the end of the course; and
- Assessment of data during and after learning transfer (More, 2004:52).

The cascade model has a place in the training strategy if it is used in conjunction with other models or frameworks (Potenza, 1999:240). The models should be useful in the evaluation of the cascade in-service training of ABET educators. In order to ensure the success of the cascade model of training, as well as to optimize possibilities for learning, a dedicated evaluation activity of the nature outlined above, is imperative. Prior experience in the USA and UK (Showers & Joyce, 1996), in Indonesia (Lamb, 1995) and in South Africa (Harvey, 1999), suggests that after any in-service training that introduces new skills, educators need some form of ongoing active coaching to develop personal confidence and competence. This, to begin with at least, needs to be led by someone who fully understands the innovation (level one trainer). This can be done by someone who can manage the development of peer coaching systems to enable teachers at similar levels of development (returning level two trainers) to collaborate with each other and their untrained colleagues, to try out new practices and to discuss how they can be made to work within context (Showers & Joyce, 1996). Such groups, meeting regularly in work time, could have helped educators to share ideas for dealing with some of the issues that they consider to be impediments to the cascading of their training into their classroom (Wedell, 2005:646).

2.11 Synthesis

This chapter began with conceptualization of key concepts central to the study, the in-service training and the cascade model of training. Literature review was conducted in order to establish the historical background of the cascade model of training. Both the optimists' and critics' views of the cascade model were looked into as well as the conditions under which

this model of training works best. It also highlighted the understanding of constructivism and adult learning theory (andragogy), which have been adopted in this study as theoretical frameworks.

This chapter also recognizes the transfer problems regarding the cascade model of training including the identification of factors that affect adult learning as well as those that facilitate or impede the effectiveness of transfer of learning in most in-service training programmes. Other aspects discussed include training approaches that enhance the transfer of learning in ABET educator in-service training. Such aspects include training approaches covering a wide variety from which a selection must be made with the essential reminder that any training approach selected should suit the content and aim of in-service training.

Models like Knowles' (1980) Programme Development Model, the Training Model of Camp, Blanchard and Huszco (1980), Nowlen, 1988 Competency-Based Model, Laurie Field's 1990 Model, Richey's 1992 System Training Model, Nadler and Nadler's Critical Events Model, Sparhawk's 1994 High Impact Model, Cyril Houle's 1996 Model, Lapidus' 2000 High Impact Model, Swanepoel and Erasmus' 2000 Systematic Training Model and Caffarella's Interactive Model 2001 were looked into in an attempt to remedy the deficiencies of the current cascade model of training. This chapter also describes Kirkpatrick's four-level training evaluation model. Level I focuses on the participants' reaction, typically the kind of evaluation that trainees complete at the conclusion of training. Level II emphasizes the amount of learning that occurs, which often is evaluated by pre and post-testing and Level III focuses on the extent to which behavioral changes are transferred to the work situation. Kirkpatrick's Level IV evaluates the amount of impact on the in-service trainees, or the results of training and transfer. Lastly, the literature review looked at changes that have taken place in the evaluation of training. The study now proceeds to research design and methodology of the study.

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter provides a description of the research design, methodology used to investigate research questions on which the study was based, discussion of data collection instruments, population, sampling and data analysis techniques used. The research design and methodology allowed the researcher to gather data in order to address the following research questions:

- How effective is the cascade model of training in the in-service training of ABET educators?
- What factors, if any, serve to impede the effectiveness of the cascade model of training?
- What intervention mechanism can be used to achieve positive results?

3.2 Research Design

Henning, Van Rensburg and Smit (2004:36) define research design as a conceptual imagery or an architectural impression of what the product of research is expected to look like. A research design determines and outlines the methods and steps a researcher follows in finding out information about the area he or she is investigating. It also holds the research together, as it shows how the major parts of the research project, the sample groups, measures, treatments and methods of assignment work together to address the central research question (Trochim, 2002:1) which, in this study relates to the effectiveness of in-service training of ABET educators.

Both qualitative and quantitative research designs were utilized for this study. Qualitative researchers usually develop context-bound generalization whereas quantitative research attempts to establish universal context-free generalizations (McMillan and Schumacher, 1993:15; Marshall and Rossman, 1995:25-26). The reason for choosing either of the two or both depends on the research question, whether data can be quantified or not, as well as the

overall purpose of research (Locke, Silverman and Spirduso, 1998:120). Qualitative design is based on deductive reasoning which begins with formulation of research questions that identify the constructs, variables and relationship to be measured (Du Plooy, 2002:82). Qualitative research is a form of social inquiry that focuses on the way people interpret and make sense of their experiences and the world in which they live (Holloway and Wheeler, 2002:3). Hence the qualitative and quantitative paradigms were used in this context. Neuman (1999:329) highlights the differences between quantitative and qualitative research as tabulated below.

Table 1: Differences between Qualitative and Quantitative Research

QUANTITATIVE	QUALITATIVE
Test hypothesis that researcher begins with.	Capture and discover meaning once the researcher becomes immersed in the data.
Concepts are in the form of distinct variables.	Concepts are in the form of themes, generalization, taxonomies.
Measures are systematically created before data collection and are standardized.	Measures are created in an ad hoc manner and are often specific to the individual setting or researcher.
Data are in the form of numbers from precise measurement.	Data are in the form of words from documents, observations, transcripts.
Theory is largely causal and is deductive.	Theory can be causal or non-causal and is often inductive.
Procedures are standard, and replication is assumed.	Research procedures are particular and replication is very rare.
Analysis proceeds by using statistics, tables, charts and discussing how what they show relates to hypotheses.	Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture.

3.3 Research Method

Mouton (2001:56) views research methodology as focusing on the research process and the kinds of tools and procedures to be used. Methodology is the body of knowledge that describes the method, clarifies its presuppositions and notes its resources as well as its possible consequences and limitations (Cresswell, 2003:4; Cargan, 2007:51). This research lends itself in descriptive method.

Assessing the effectiveness of in-service training often entails using the popular four level model developed by Kirkpatrick (1994). To provide the background information as to the types of in-service training programmes ABET educators had undergone, a document study was conducted. The more corroboration the researcher gets across the different analyses, the stronger the evidence of the transfer (Kirkpatrick, 1994). More specifically, this research is focused on the understandings of ABET educators, Provincial trainer and APO ABET specialists reactions, learning, learning transfer and experience of their model of training. Therefore, this is a descriptive research with an in-depth analysis using both qualitative and quantitative methods (Morgan, 2007:72).

The main aim of descriptive research is the exploration and clarification of some phenomena where accurate information is lacking (Gay and Airasian, 2000:25). Thus, working from a descriptive research enables the researcher to interpret and explore the socially constructed meanings of theory and practice of cascade model of training by thoroughly reviewing the literature on the topic and develop a conceptual understanding so as to apply it to the intervention mechanisms that can be used to achieve positive results in the in-service training of ABET educators. Mixed-method research means collecting and analyzing both quantitative and qualitative data in a single study (Neuman, 2000: 125; Creswell, 2003: 210).

3.4 Population

Population is a group of elements or cases whether individuals, objects or events that conform to specific criteria and to which one intends to generalize the result of any research. It is also referred to as target group (Macmillan and Schumacher, 1997:164). Gay and Airasian (2000:122) define population as a group of interest to the researcher, the group to which he or she would like the result of the study to be generalizable. North West Province is

one of the nine provinces that make up South Africa. It is situated on the North-western side of the country. Mafikeng is the capital city of this province.

The North West Provincial Department of Education is divided into four Districts, namely Bojanala Platinum District, Dr Ruth Segomotso Mompoti District, Ngaka Modiri Molema District and Dr Kenneth Kaunda District. There are 280 ABET centres with 1430 ABET educators including centre managers in the North West Province. Although there are four districts in the North West Province, the study unfolded in the Ngaka Modiri Molema District (formerly known as Central region). The basis for selecting Ngaka Modiri Molema was due to its composition of both the rural and urban participants, which represents the makeup of the North West Province.

Ngaka Modiri Molema District has five Area Project Offices (APO), namely Kgetlheng, Lichtenburg, Mafikeng, Zeerust and Rekopantswe. Each APO has a specialist (previously called a co-ordinator). There are 78 ABET centres in the Ngaka Modiri Molema District. Mafikeng has 15 ABET centres, Lichtenburg has 14 ABET centres, Zeerust has 16 centres, Kgetlheng has 12 centres and Rekopantswe APO has 21 centres. See Table 2 below). Rekopantswe APO is a Setswana word meaning ‘we are merged’. The high number of respondents in this APO is the results of a merger of two circuits previously known as Setlakgobi and Stadt. A string randomization option was used. This means that the centres were randomly selected by their names irrespective of the districts they fall under. From the 78 ABET centres in the Ngaka Modiri Molema, 25 centres were selected.

Table 2: Number of ABET centres in the Ngaka Modiri Molema District

AREA PROJECT OFFICE	NUMBER OF ABET CENTRES
Mafikeng	15
Zeerust	16
Lichtenburg	14
Rekopantswe	21
Kgetlheng	12
TOTAL	78

Each ABET centre has one centre manager, the principal. ABET centre managers were included in the sample because they also participated in the training programme workshops as trainees. The list of ABET educators in the five Area Project Offices (APO) mentioned above were obtained from the Ngaka Modiri Molema District Office.

It is within these five regions that the researcher examined the in-service training programmes offered to ABET educators, the trainers offering them, the cascade model of training and the effectiveness of such training on the ABET educators. The decision to do a study by limiting the scope of the investigation to ABET centres in the Ngaka Modiri Molema is based on Barbie's view (2004:293) that a profound study of a particular case can generate explanatory insights. A deep and a thorough investigation of a specific unit of study enables the researcher to develop specific insights and gain a better understanding of a particular case (Fouche and De Vos, 2000: 272).

3.5 Sample and Sampling Techniques

Sampling refers to the act of extracting or selecting a smaller group from a larger one with the view of representing the larger group adequately through the procedures used for the smaller one (Le Compte and Preissle, 1993:60). According to Gay and Airasian (2000:121) a sample comprises individuals, items or events selected from a larger group referred to as a population. Sampling methods are broadly divided into two categories, namely, probability and non-probability methods.

Probability sampling includes simple random sampling and systematic random sampling. In this study centres were randomly selected. In selecting the participants for the study, three reference sources were utilized, namely, Provincial trainer, APO ABET specialists and ABET educators. A stratified random sampling was decided upon. Respondents were stratified according to their level of responsibility, namely provincial trainer (Deputy Chief Education Specialist – Teacher Education), APO ABET specialists and ABET educators. This is a survey of the three levels of the education system (the province, the district and ABET centre level) to determine the effectiveness of the cascade model of training.

The first trainer in this case was the Provincial trainer (trained by the expert trainers), followed by APO ABET specialists who were meant to cascade the training to the ABET educators. In essence, cascading training means that the training message flows down from experts and specialists, through several layers of personnel and eventually to the educators (Maheswari and Raina, 1998:81). In this case, the flow of data is initially provided to trainers at the National level of the Department of Education who then become responsible for training Provincial Training Teams. The Provincial Training Teams then train APO ABET specialists who in turn provide training right down to the ABET educators.

In the Ngaka Modiri Molema, there are 327 ABET educators, but only 103 ABET educators (including the centre managers) participated in this study. In this case, both the Provincial trainer and APO specialists specializing in training ABET educators also participated in the study. The researcher acknowledges that the results obtained from these sources were bound within a particular time and setting and thus not generalizable, but the researcher believes that they are indeed transferable, as they provide suggestions for intelligent interpretation of other similar cases (Morgan, 2007:73).

Purposive sampling was also used in this research. Purposive sampling takes place when the researcher selects a sample because of their specific knowledge of the situation and from which the most can be learned (Merriam, 1998:31, Strydom and Delport, 2005:202; Uys & Puttergill, 2005:113). This kind of sampling was used to make sure that “information rich” cases are not precluded from the sample (Patton, 2002:46). In this case, APO ABET specialists were included in this study because they organized training programmes for the ABET educators and they also participated as facilitators and trainers in those training programmes. One Provincial in-service trainer (Teacher Education) and one APO ABET specialist from each of the five APOs which formed a total of five APO ABET specialists were sampled. The five ABET APO ABET specialists who conducted the in-service training sessions from 2007-2009 in the sampled APOs were interviewed.

Out of the 327 ABET educators in the Ngaka Modiri Molema District, 103 ABET educators were randomly selected. Du Plooy (2001:102) maintains that random sampling gives every unit in the population an equal chance of being selected. The method involves selecting at random from a list of the population the required number of subjects (or the sample) (Cohen, Manion and Morrison, 2007:110). ABET centre managers were included in this sample

because they also participated in the training programme workshops as trainees. The list of ABET educators was requested from the Area Project Offices (APOs) in the Ngaka Modiri Molema district. Based on the list provided, ABET educators were randomly selected. The population of ABET educators in Ngaka Modiri Molema is 327, so every third name from each APO list was sampled. In Mafikeng APO 21 ABET educators were selected, in Zeerust 16 were selected, in Litchtenburg 20 were selected, in Rekopantswe 27 were selected and in Kgetlheng 19 were selected. All in all out of 327 ABET educators, 103 were randomly sampled. The study involved a sample of 109 as follows: 1 Provincial trainer, 5 APO ABET specialists and 103 ABET educators given a total of 109.

3.6 Data Collection Instruments

There are several techniques that a researcher adopts for data collection depending on the research design. In this study, interviews, questionnaire and document analysis were used to collect data. These instruments are discussed as follows:

3.6.1 Interviews

An interview is a purposive interaction between two or more persons, with the one, the researcher, trying to obtain information from the other, who is the participants (Gay and Airasian, 2003:224). Qualitative data was collected through face-to-face semi-structured interviews with participants, namely, ABET Provincial trainers and ABET APO specialists (responsible for training ABET educators) with the view to determining the extent to which their training prepared them for the work they were engaged in (see Appendix B and C). The semi-structured interview (See Appendix B and C) is sufficiently open-ended to enable re-ordering, digression and expansion exploring new issues and probing further (Cohen and Manion, 2000:46). This took place on weekends because the Provincial trainers and APO ABET specialists were pressed for time during week days.

The researcher utilized the interview questions to allow the respondents to express with richness and spontaneity (Oppenheimer, 2001:81).

3.6.2 Questionnaire

3.6.2.1 Pilot Study

A pilot study can be viewed as a dress rehearsal of the main investigation (De Vos, 2005:206). The questionnaire was tested with a sample of 10 ABET educators not included in the final sample (because when the researcher returned to that centre it was no longer in operation), in order to rectify errors and to check the response times. Blank spaces noted during the pre-testing indicated that there was a need to review the questions. Errors detected regarding the formulation of some questions were rectified. Most double-barrel and open-ended questions were not answered. After the pilot study, the researcher was advised by the supervisor to reduce certain items from the questionnaire, especially open-ended questions. Changes were effected and questions were rephrased (See Appendix D). The data collected during a pilot was therefore not added to the data of the actual study because it served the purpose of altering the questions which proved to be inappropriate.

3.6.2.2 The Final Questionnaire

The questionnaire is a tool or instrument for collecting data in which the subjects respond to questions asked to elicit their reaction, beliefs and attitudes (McMillan & Schumacher, 2001:40). In this research, copies of a questionnaire were distributed to ABET educators including the centre managers. ABET centre managers were included because they were responsible for monitoring ABET educators to establish whether they implemented what they had learnt from the in-service training programmes organized by the Department of Education. The questions were developed and given to the ABET educators to gather information dealing with the specific knowledge, skills and attitudes that they acquired from 2007-2009 in-service training programmes. Close and open-ended questions were used in this study. Closed questions are those that the respondents choose between pre-determined responses. The questions were structured as follows:

Section A: Biographic Information.

This section consists of APOs where ABET educators work, their gender, age, positions, length of service and their highest level of formal education. The reason for seeking biographic information was to find out whether there were relationships among the ABET educators' characteristics, training design, work environments and the transfer of learning.

Section B: ABET educators' experience with the cascade model of training

This section helped to obtain the perceptions of ABET educators with the training programmes, in terms of the content and aims of the in-service training, facilitation, the training model used and the level of support given to ABET educators after an in-service programme. The questions based on research question one were formulated using Likert-type scale of 1-5 representing the following responses: 1=Strongly Disagree (SD); 2=Disagree (D); 3=Undecided (U); 4=Agree (A); 5=Strongly Agree (SA).

Section C: The effectiveness of the cascade model of training

The aim of the questions in section C was to establish whether ABET educators found the in-service training to be effective. This section aimed at eliciting aspects of interest, reflections and criticisms, identifying unique experiences and preferences and obtaining information about specific problems and stumbling blocks. This section answered research question 2. In this section questions were formulated using Likert-type scale of 1-5 also representing the following responses: 1=Strongly Disagree (SD); 2=Disagree (D); 3=Undecided (U); 4=Agree (A); 5=Strongly Agree (SA).

Section D: Intervention mechanism

This section consisted of questions that were aimed at eliciting intervention mechanisms that can be used to assist the cascade model of training. The section answered research question 3.

Section E: General comments on the cascade model

This section required the ABET educators to comment on their experiences of the cascade model. The section also answered research question 3.

3.6.3 Document Analysis

Important documents were obtained from the provincial ABET sub-directorate. Document analysis requires that relevant documents be perused to determine the contents and context of the problem. This method was used in combination with other methods (semi-structured interview and questionnaire). When used with other methods, documents were collected as entities of data and then followed the same route through analysis and interpretation (Henning et al., 2004:98). Three out of 10 ABET educators training manuals which were cascaded by the provincial trainers and ABET APO specialists to ABET educators were looked into. Assessment Policy in the General Education and Training Band - Grade R to 9 and ABET (1998), Norms and Standards for Educators (2000) and ABET Reference Guide were perused. The selection was based on purposefulness and also on the notion of the theoretical sampling in which the theory and the emergent data indicated a stronger focus on something (Henning et al, 2004:99). The advantages were that these training manuals provided background information without imposing on other people's time and provided examples and clues that were used during the interviews.

The Grade R-9 Assessment Policy for the General Education and Training (GET) band – equivalent to ABET was formally set out in a National Education Policy Document (DoE, 1998). This policy was introduced to complement the new curriculum policy (Curriculum 2005) which was introduced in 1997. The focus of Curriculum 2005 was to move away from teacher-centred and content-driven curriculum to learner-centred curriculum where, content, skills and valued development was proposed. Along with this curriculum, came assessment that was based on performance-based outcomes. This change in assessment meant that educators were obliged to change the way they assessed learners – from using the internal end of year norm-referenced, summative examination to a “process of gathering valid and reliable information about the performance (evidence) of the learner on an on-going basis” (DoE, 1998:3). The focus of learner-centred education which includes valuing learners' experiences and current understandings as a starting point for instruction added further pressure on educators' understanding of what and how to assess learners in the classroom (Zeichner, 2005:11).

Educators were also expected to ensure that assessment is authentic, continuous, multidimensional, varied, balanced, accurate, objective, valid, fair, manageable, time

efficient, bias-free and sensitive to gender, race, cultural background and ability (DoE, 1998; 2002). These policies dictated the forms of assessment that educators were expected to use: tests (including, objective, multiple choice, assertion and essay-type tests, performance based including interviews, presentations of research papers, investigation projects, practical demonstrations and role-playing), oral questions, observations and self-report assessment (DoE, 1998; 2002). The Assessment Policy of 1998 focused on criterion-referenced assessment, where learners were placed in two categories for each outcome, labelled “achieved” and “not achieved” (DoE, 1998). The New Assessment Policy focused on a standards-referenced assessment, where the learners’ assessment is in turn assessed against learning outcomes that are defined in terms of assessment standards. These assessment standards are set out in the National Curriculum Statement (NCS), which stipulates the particular knowledge, skills and values required of learners to achieve the learning outcomes for each grade (DoE, 2002). This means that the educator should have a clear understanding of exactly what knowledge, skills and attitudes need to be assessed for each learner (DoE, 2002).

3.7 Reliability

Reliability refers to how one can be sure that one’s findings are consistent and reproducible (Smith, 2003:2). In the context of this study, reliability was concerned with the question of stability and consistency. All the respondents were given copies of the same questionnaire, which they completed at their convenience, and because of the uniformity, the results were reliable. The data was coded before computing it. Coding data means systematically reorganizing data that is computer readable (Neuman, 1997:295). Neuman states that the coding procedure is a set of rules stating that certain numbers are assigned to variable attributes. The questionnaire was reliable in order to produce good results. In this study, ABET educators’ questionnaire was coded (See Appendix A).

3.8 Validity

Validity implies trustworthiness or credibility (Struwig and Stead, 2001:143). In other words, validity is another word for ‘truth’. Validity is the most important characteristic a test or measuring instrument can possess (Gay and Airasian, 2003:135). It is an attempt to check out whether the meaning and interpretation of an event is sound or whether a particular

measure is an accurate reflection of what you intend to find out (Vital and Jansen, 2001:33; Durrheim and Painter, 2007:147). A point is further made that educational studies that use measures lacking in validity are likely to produce worthless results regardless of how well sampling, data collection and analysis are carried out.

In this research, two categories of validity were used, namely, content validity and face validity. Content validity is obtained by consulting the viewpoints of experts when compiling the instrument. According to Goddard and Mellville (2001:47) the questionnaire should be representative of existing knowledge on the subject, the appropriateness of the content is based on expert judgment, item generalization and priori theoretical efforts (Cargan, 2007:232). In this case, an in-depth literature study was undertaken prior to empirical study and it confirmed that the questionnaire and interviews conducted covered the existing knowledge on the cascade model of training. Content validity was thus ensured. Face validity is concerned with the face-value of an instrument (Cargan, 2007:232). In other words, does the instrument look as if it measures what it claims to measure (Delpont, 2005:161)? In this case, colleagues from academia were asked to scrutinize the instruments. They all agreed that the instruments are relevant to measure the factors under investigation.

In order to ensure the validity questionnaire was piloted at one centre in the Mafikeng area. Certain modifications were made to ensure that participants understand the questions and experience them as meaningful within frame of reference (Delpont, 2005:171-172; Strydom and Delpont, 2005:331; Uys and Puttergill, 2005:125).

Data collected from and about participants in qualitative research studies are voluminous, non-quantitative and rich in details (Gay and Airasian, 2003:214). Cohen and Manion (2000: 105) recognizes that all qualitative data display some bias because it is impossible to ensure that the researcher is completely detached from the research, so that absolute validity is not possible. For qualitative studies the question of how well the data represent the phenomenon for which they stand should be answered to indicate the validity of the study. In this research both qualitative and quantitative research methods were used. Gathering both qualitative and quantitative data from multiple sources helps to demonstrate the extent of congruity and consistency between the researcher and the key informants' evaluation and to triangulate over given facts. Triangulation is a powerful way of demonstrating concurrent validity (Cohen and Manion 2000:112).

Data triangulation involves contrasting the perceptions of one actor in specific situation against those of others in the same situation (Hopkins, 1993:152). Triangulation means mixing qualitative and quantitative styles of research and data (Neuman, 2000:125). In this study, triangulation means that both ABET educators and specialists (provincial trainers and ABET APO trainers) in the field were involved. The researcher employed multiple data collection strategies such as interviews, questionnaire and document analysis. The researcher believes that the evidence from these strategies converge with the findings of the research questions. Some participants did not care that much about an answer or tried to give a 'socially correct answer' in responding to questionnaires (Goddard & Melville, 2001:48). To ensure validity, the researcher explained the importance of the research to the ABET educators and offered to share the conclusion with them.

Not only the use of different types of data collection methods, but also the use of different methods of analysis was emphasized in this research. Findings from the qualitative analysis elaborated and supported the findings of the quantitative data.

The researcher strove to achieve internal validity by posing the same question to all interviewees ABET district/circuit co-ordinators (APO ABET specialists) and provincial trainers using the same method of interviewing and analyzing the results of all interviewees in a similar fashion. External validity was achieved by generalizing the results to the wider population.

The researcher used the tape recordings, which can be assessed in the event of testing and retesting. The coding used in data presentation and analysis in respect of the research questions can be checked for consistency. This inquiry can therefore be said to be open for further interrogation.

Lastly, member checking as a validity procedure was employed to make the procedure open to critical inspection by others. Taking note of this exposition, validity was insured by allowing the trainers (Provincial trainer and ABET specialists) to review the final version of this research study.

3.9 Data Analysis

The process of data analysis involves making sense out of text and image data. It involves preparing data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data and making interpretations of the larger meaning of the data (Bogdan and Biklen, 2003; Cresswell, 2003:190). The researcher used both qualitative and quantitative data analysis techniques in this study. This involved examining qualitative and quantitative data for converging and diverging or contradictory findings (Cresswell, Plano-Cark, Gutmann and Hanson, 2003:233). It also entailed examining qualitative and quantitative data for complementarity (Erzberger and Kelle, 2003:466-469).

3.9.1 Qualitative Data Analysis

Qualitative data were analyzed through inductive data analysis. Inductive data analysis means that categories and patterns emerge from the data rather than being imposed on data prior to data collection (Macmillan and Schumacher, 1997:502). In this research the actual data analysis took place after all the interviews were conducted.

The primary steps in qualitative analysis are the so called “thick” or information rich description which includes information about the context of an act – the intentions and meanings that organize action (Denzin and Lincoln, 2000:29). Qualitative analysis is an attempt to capture the richness of the information from the participants’ talks (Patton, 2000:305). Through interviews, “rich descriptions” of the roles of the APO ABET specialists as professionals as influenced by their unique circumstances were generated. These descriptions provided substantial data from which perceptions regarding the effectiveness of the cascade model were identified as themes and categories. These themes were used to suggest the intervention mechanism to assist the cascade model of training. In this study, the researcher used the tape recordings and questions that were asked during the interview and which sought to establish the chances for success and failure of the cascade model of training. In addition, responses from the open-ended questions were recorded and categorized for the purpose of qualitative data analysis.

The method used to analyze qualitative data is Tesch’s 1990 approach as contained in De Vos, Strydom, Fouche, Poggenpoel, Schurink and Schurink (1998:343). The steps followed

in this method are:

- Get the sense of the whole by reading through the transcripts. Jot down the ideas as they come to mind;
- Select one interview (e.g. the best interview) and go through it asking: 'what is this about?' and thinking about underlying meaning of each piece of information in the margin;
- Do this for several informants. Make the list of all the topics. Cluster similar topics together. You could identify major topics, unique topics and leftovers;
- Take the list and return to the data. Abbreviate topics by means of codes and write these codes next to each segment of data in the transcribed interview. See if new categories and codes emerge;
- Form categories by grouping topics together. Determine relationships between categories;
- Make the final decision on the abbreviation of categories and codes. Alphabetize codes;
- Assemble all the data material from each category in one place; and
- Recode existing data if necessary (De Vos et al., 1998:343).

In this research the mentioned steps were used to simplify data analysis. According to Barbie and Mouton (2001:6), qualitative researchers verbally analyze data which involves examining and organizing notes from interviews, observations and reducing information into smaller segments from which they can see patterns and trends. In this case the researcher reviewed the data after each and every interview to extract important issues that cropped up during the interview. This helped the researcher to make sure that those issues are prioritized in the subsequent interviews.

3.9.2 Quantitative Data Analysis

Quantitative data was also analyzed. A computer-aided statistics package was applied to compute data from all respondents. Prior to computing quantitative data using Statistical Package for Social Sciences (SPSS), response categories of closed questions were coded (Appendix A). According to Davidson & Tolich (2003:155), this involves giving a number to each response group to facilitate statistical analysis. The data included statistics such as percentage responses and frequency distribution. A frequency table is a summary table in

which the data is arranged into conveniently established numerically ordered class groupings (Berenson and Levine, 1996). Frequencies are generally obtained for nominal and demographic variables such as age, years of service, education level and others. For this study, the frequencies of respondents' years of service were depicted in a summary table. Data was analyzed, factorized and interpreted with the help of a university statistician.

3.10 Summary

In this chapter, a detailed description of the research design, research methods and data collection was presented. It shows how data was gathered through sampling, piloting, questionnaires, interviews and document analysis. Data analysis techniques were also explained. The design was aimed at the study of the effectiveness of the cascade training model on the in-service training of ABET educators. Furthermore both qualitative and quantitative findings were analyzed jointly in the next chapter.

DATA PRESENTATION, ANALYSIS AND INTERPRETATION**4.1 Introduction**

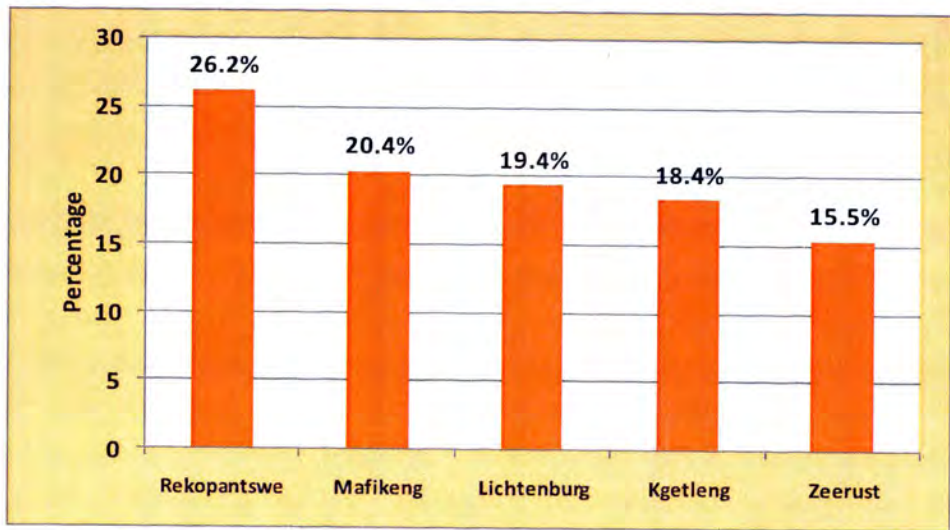
This chapter presents the findings of this study as gleaned from the responses of the study's respondents. The chapter adopts an approach that allows the researcher to first present the findings in prose or in table form followed by exhaustive discussions of the emerging trends. By so doing, the chapter will be eliciting responses concerning the effectiveness of the cascade model in the in-service training of ABET educators. Furthermore, the study would cross reference its discourse where possible so that a fuller understanding of its findings is made. This chapter further presents interview responses of the Provincial trainer, five Area Project Office ABET Specialists and questionnaire responses of the ABET educators in the Ngaka Modiri Molema District who conducted the in-service training of ABET educators from 2007 to 2009. In the resultant presentation, actual comments and statements by the respondents were quoted verbatim, was necessary, to illustrate and emphasize themes and categories. In addition, the gathered questionnaire data was analyzed using the Statistical Package for Social Sciences (SPSS). To further exemplify on the findings, figures and tables shall be produced before a chapter conclusion is given.

4.2 Presentation and Analysis of the Quantitative Results**4.2.1 Questionnaire**

As highlighted in the methodological section 3.6, a structured questionnaire was compiled and used to collect data from a sample of ABET educators in the five Area Project Offices (APOs). The items within the questionnaire focused on the biographic data of the ABET educators and ABET centre managers, the effectiveness of the cascade model, factors that impede the effectiveness of the cascade model of training and intervention mechanisms to achieve positive results in the cascade model of training. There are 78 ABET centres in the Ngaka Modiri Molema District. The findings reported in this section are based on the randomly selected ABET centres and ABET educators in the Ngaka Modiri Molema.

4.2.1.1 Biographic data of ABET educators

Figure 8: Area Project Offices (APO) in the Ngaka Modiri Molema District



Copies of the questionnaire were administered in each of the five Area Project Offices (APO) in the Ngaka Modiri Molema District. There was a reasonable balance of the returned copies of questionnaire from each of the APO as indicated in Figure 8 above. There were 21 participants in Mafikeng, which is 20.4% of the respondents. In Zeerust there were 16 participants making 15.5% of the respondents. In Lichtenburg, 20 participants constituted 19.4% of the respondents and in Rekopantswe there were 27 participants which is 26.2% of the respondents. In Kgetlheng, there were 19 participants which is 18.4% of the respondents.

Figure 9: Gender of the respondents

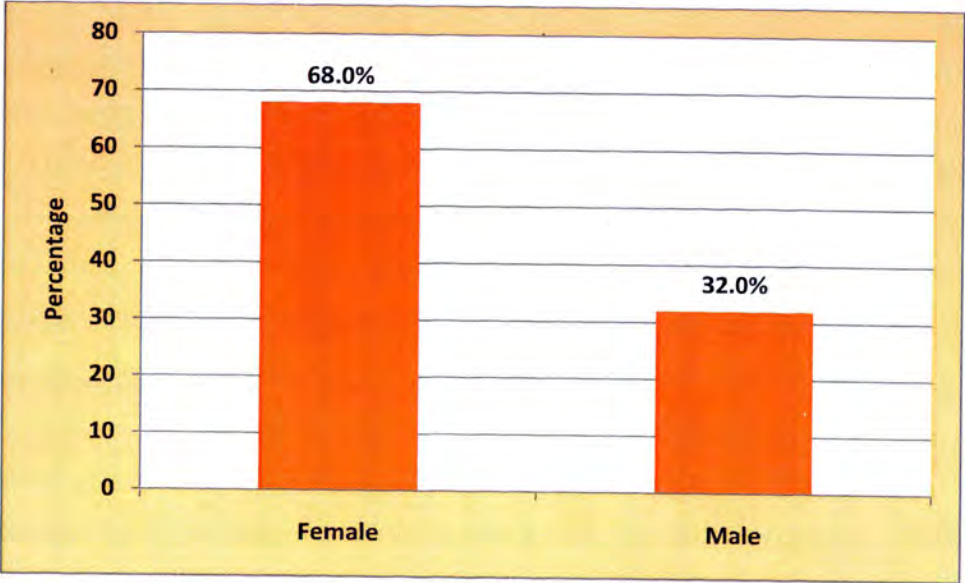


Figure 9 illustrates the total number of respondents who responded to the questionnaire. Thirty-three respondents (32.0%) were male ABET educators and 70 (68.0%) ABET educators were female. Due to the random selection of respondents, it can be deduced that more females than males are teaching in ABET centres. The sample represented a higher population of females than males, which is a reflection of the situation in most ABET centres in the North West Province. It was indicated by the Provincial trainer that some ABET educators regard ABET employment as a stepping stone, whilst they are waiting for permanent employment. Perhaps most of the ABET educators who leave the ABET centres for better employment are males. This hampers the good intentions of the cascade model of training because when employment opportunity presents itself, these educators leave the ABET employment with the training information cascaded to them. The National trainers predicted that once the cascade wheel had started rolling, the successive tier would without difficulty take the message to the next level until the ultimate target is reached (More, 2004). This rationale did not take into consideration the employment situation in the ABET sector. In this case, in-service training becomes a futile exercise.

Figure 10: Age-group representation of respondents

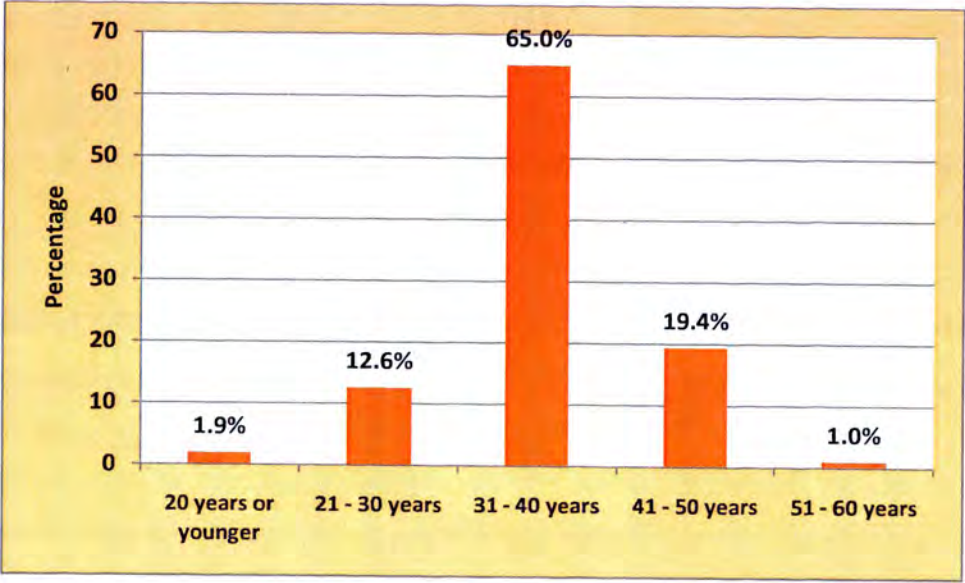
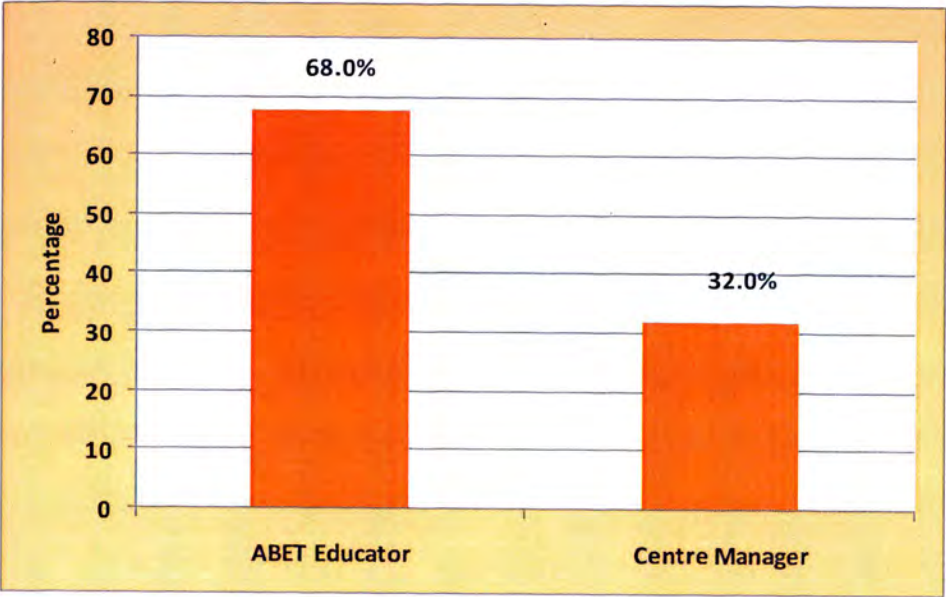


Figure 10 shows the age-group representation of the respondents teaching at the ABET centres. A significant majority, 67 respondents (65.0%) fall within the 31-40 age groups. As can be observed in Table 3 below, about 90% of these respondents had been ABET educators for 3 to 10 years. This suggests that their perceptions about the effectiveness of the cascade model are based on experience. Both young and old, 15 respondents, were found in the sample with the minimum age group of thirty years or younger (14.5%) representing young ABET educators and the age group of 41 – 60 years, 21 respondents, (20.4%) representing older ABET educators. Some studies have suggested that although aging increases knowledge of information, job relevant skills, and expertise, it decreases the ability to engage in the type of reasoning necessary for learning (Horn and Noll, 1994). In the same view, Colquitt, LePine and Noe (2000:678) maintain that trainees’ fear of failure may increase as they age, preventing older employees from seeking training opportunities. It has also been reported that age is negatively related to participation in training and development programmes. This is a positive indication of the effectiveness of the cascade training model.

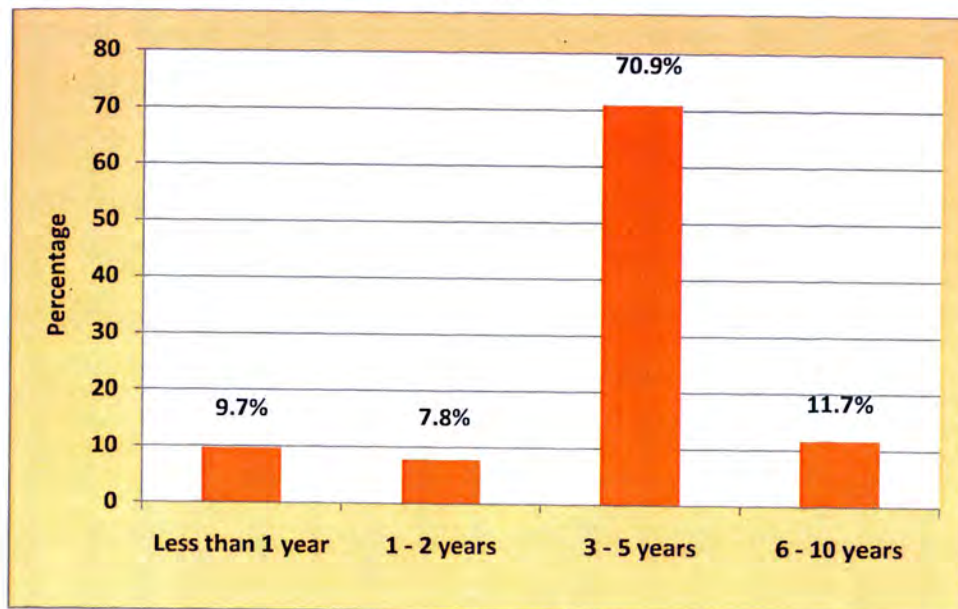
Based on the biographic variables and analysis, it can be observed that a significant number of respondents were between the ages of 31 and 40 years and they had been in the sector for more than 3 years and have adequate educational level.

Figure 11: Position of respondents



It emerges that 70 respondents (68%) were ABET educators and 33 (32%) were centre managers as presented in Figure 11. This shows that both positions are well represented. Newly appointed and existing staff in the ABET Directorate undergo in-service training in various fields through the cascade model. The main function of the centre managers is to ensure that the information received from the Department of Education and other sources is distributed to the relevant stakeholders to ensure that the Departmental policies are implemented at the centres. ABET educators are responsible for planning and facilitating learning programmes offered at the centres.

Figure 12: Years of service of respondents.



A large proportion of the respondents had been with the ABET sector for 3 to 5 years, with less than 17,5% respondents having less than 2 years of ABET sector experience. Analysis of the years of respondents' service in the ABET sector revealed that 73 (70.9%) of them had 3 - 5 years experience in the ABET sector. Section 2.2.1 of the literature indicates that in-service training relies on the prior knowledge and the participants' potential and experience that can be built upon and incorporated into further initiatives. The third guideline essential to in-service training of ABET educators implies that the prior experience of trainees has an impact on learning in creating individual differences, providing rich resources and providing adults' self-identity (Section 2.3). Broad and Newstrom (1992:88) also recognized that the characteristics of the trainee play a significant role in the transfer of learning: "Trainers need to recognize that trainees seldom come to them with a clean slate, rather, they are a product of years of experience and habits. Sometimes these acquired practices interfere with new learning". For instance, for effective in-service training to happen, the trainers can provide a problem-solving process and ask the learners to give a case study from their experience. Most respondents in the study had extensive experience in the ABET centres as reflected in the number of years of ABET teaching. Twelve respondents (11.7%) had 6 - 10 years of service in the ABET sector. This shows that the ABET centres in North West Province are manned by matured and experienced staff. This can lead to positive impact or effectiveness of the cascade model.

Table 3: Age-group representation of respondents and their years in the sector

Age of Respondent	Years in Sector				Total
Frequency Row Pct Col Pct	1 - 2 years	3 - 5 years	6 - 10 years	Less than 1 year	
20 years or younger	0	2	0	0	2
21 - 30 years	4	5	0	4	13
31 - 40 years	4	55	5	3	67
41 - 50 years	0	10	7	3	20
51 - 60 years	0	1	0	0	1
Total	8	73	12	10	103

Figure 13: Respondents’ highest level of formal education

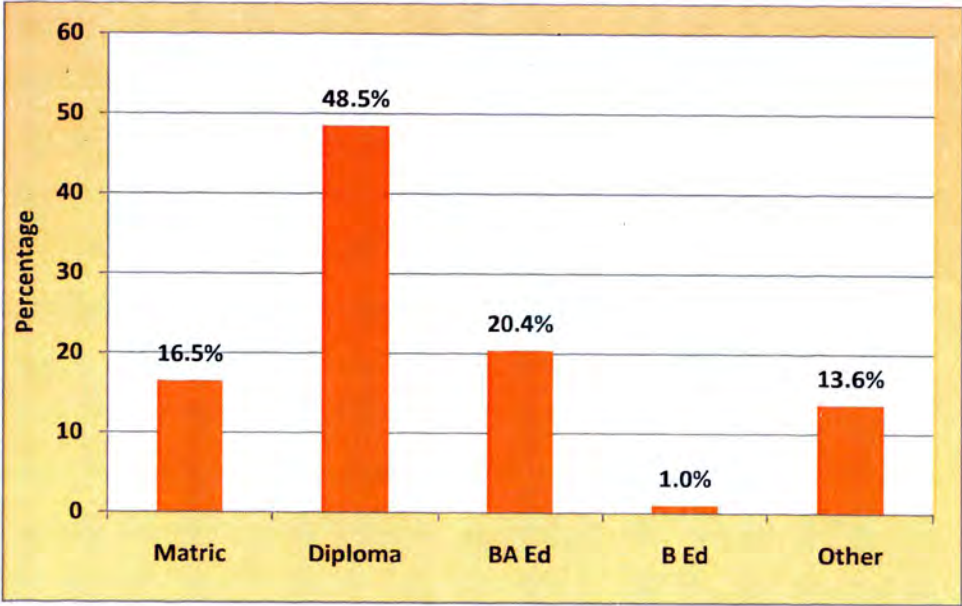


Figure 13 above shows the highest level of formal education of the ABET educators sampled. ABET educators differed with respect to their academic qualifications. It is evident that there are still ABET educators who have only matric as their highest level of education. Seventeen (16.5%) of the sampled ABET educators were in possession of matric, 50 respondents (48.5) had Diploma (particularly National Professional Diploma in Education). Interestingly, only one respondent (1.0%) of the ABET educators in the sample had B.Ed qualification. Only 14 ABET educators (13.6%) were in possession of UNISA ABET certificates. It can thus be inferred that ABET educators lack experience and guidance in adult teaching and learning methodology. This indicates that there is a huge ABET educator training need in the ABET sector.

The trainee’s pre-training knowledge, skills, and abilities are seen as an influence in the transfer of learning and the transfer of training process. Figure 13 indicates that most of the respondents (70%) were not adequately qualified to teach ABET educators. Table 4 below shows that most of the respondents had been with the ABET sector for more than 3 years, as depicted below:

Table 4: ABET educators' education levels and their service in the ABET sector

Education Level	Years in Sector				Total
Frequency					
Row Pct Col Pct	1 - 2 years	3 - 5 years	6 - 10 years	Less than 1 year	
BA Ed	0	18	2	1	21
Bed	0	0	0	1	1
Diploma	3	40	6	1	50
Matric	4	6	0	7	17
Other	1	9	4	0	14
Total	8	73	12	10	103

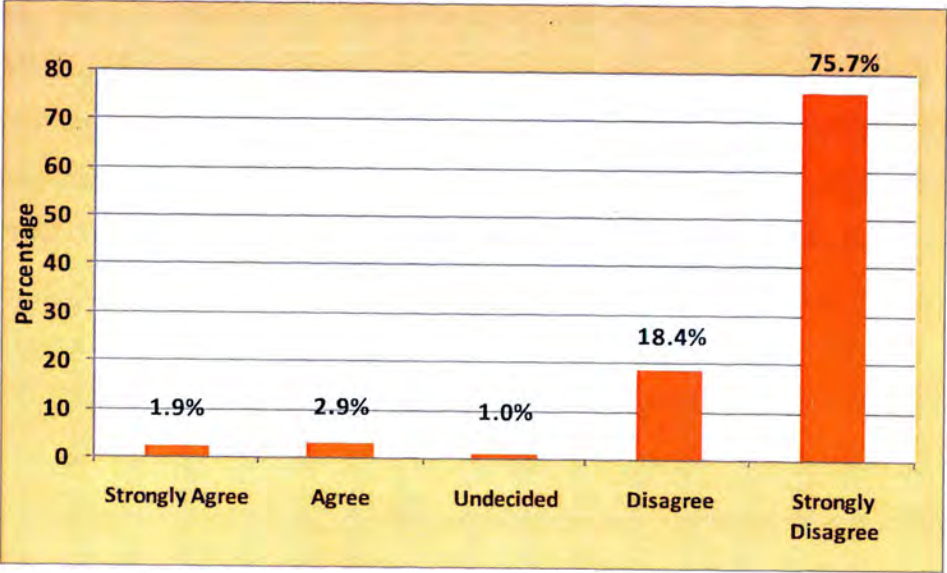
Despite the respondents' qualification, the majority of these ABET educators were not trained to teach ABET learners. This indicates that there is a huge need for the training of ABET educators. From the training manual document on induction, ABET educators are inducted on the science of teaching adults, they are guided on how to facilitate learning by

group dynamics, finding out the learning needs of ABET learners, how to plan assessment, formative and summative, how to select, use and design activities, how to guide and support ABET learners, how to manage learning events and adult learning methodologies. In Figure 16 a significant majority showed that the content of the in-service training was in line with ABET educators' needs. This is a positive indication of the effectiveness of the cascade model of training.

4.2.1.2 The effectiveness of the cascade model of training

The aim of the questionnaire was to establish whether ABET educators found the cascade model of training to be effective. The questions were developed and given to the ABET educators to gather information dealing with the specific knowledge, skills and attitudes that they have acquired from the in-service training programmes offered from 2007 to 2009. The questionnaire was helpful in measuring the perceptions of the ABET educators with the in-service training programmes, in terms of the content and aims of the in-service training, facilitation, the effectiveness of the in-service training model used and the level of support given to the ABET educators after presentation of each in-service programme. Some questions were formulated using Likert scale of 1-5 representing the following responses: 1=strongly Agree, 2=Agree, 3=Unsure 4=Disagree, 5=Strongly Disagree. In this section, the numbers of 'strongly agree' and 'agree' responses are conflated as positive responses, while the number of 'strongly disagreed' and 'disagreed' responses are conflated as negative responses.

Figure 14: Involvement in the planning of the training programme

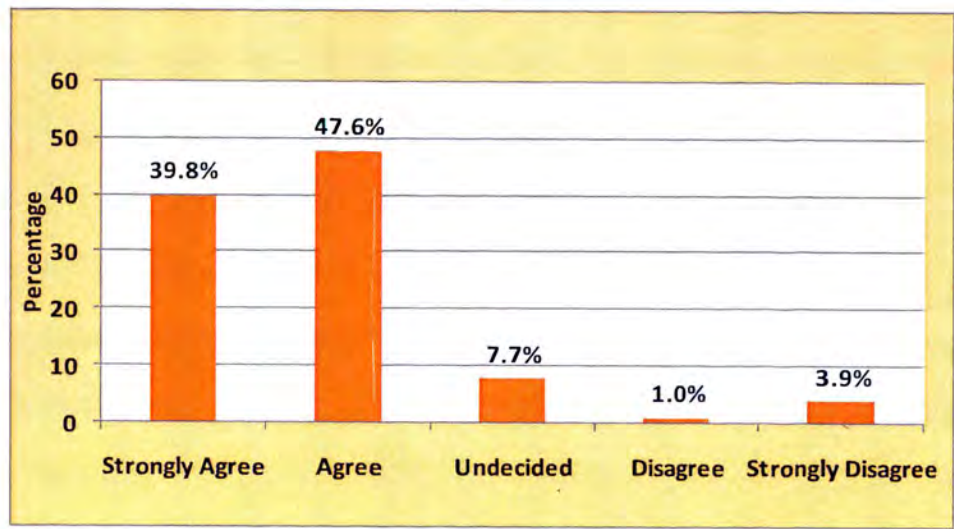


In Figure 14, frequencies were calculated to analyze the involvement of ABET educators in the planning of their in-service training. Figure 14 reflects the extent to which the ABET educators agree or disagree with the statements provided. Seventy-eight (75.8%) and 19 (18.4%) ABET educators respectively indicated that they disagreed with the statement indicating that the majority (94.2%) of respondents were reporting uninvolvement in the planning of their in-service training programme. Five respondents (3.9%) agreed with the statement. Figure 14 also shows that most respondents reported no involvement in the planning. This result should be seen as cautionary since it implies that those entrusted with delivering training materials are not involved in the planning. In section 2.3 of the literature review of this research document, Knowles et al., (2005:159) indicated that adults need to know the reason for learning something before they embark on the learning. In the same vein, Brookfield (1994:102) maintained that adults, in this case ABET educators, are more committed to learning activities to which they contributed in the planning and designing phase. Figure 14 shows that the above mentioned guidelines which are very essential when training ABET educators were not taken into consideration. This clearly indicates the ineffectiveness of the cascade model.

This is one of the items in which a difference between the responses of in-service trainers and ABET educators was found. Figure 14 indicated that ABET educators were not involved in the planning of their in-service training, but in-service trainers in Section 4.3.2.2 seems to assume that by assessing ABET educators' needs means involving them in their training. In-

service trainers indicated that they used diverse methods to assess the actual needs of ABET educators. Interestingly, despite the in-service trainers effort to assess the training needs of ABET educators, the training manuals are prepared and packaged from the National Department of Education and in-service trainers are expected to make sure that information is filtered down to the ABET educators. This can be regarded as one of the flaws of the cascade model of training.

Figure 15: Linking of objectives to outcomes



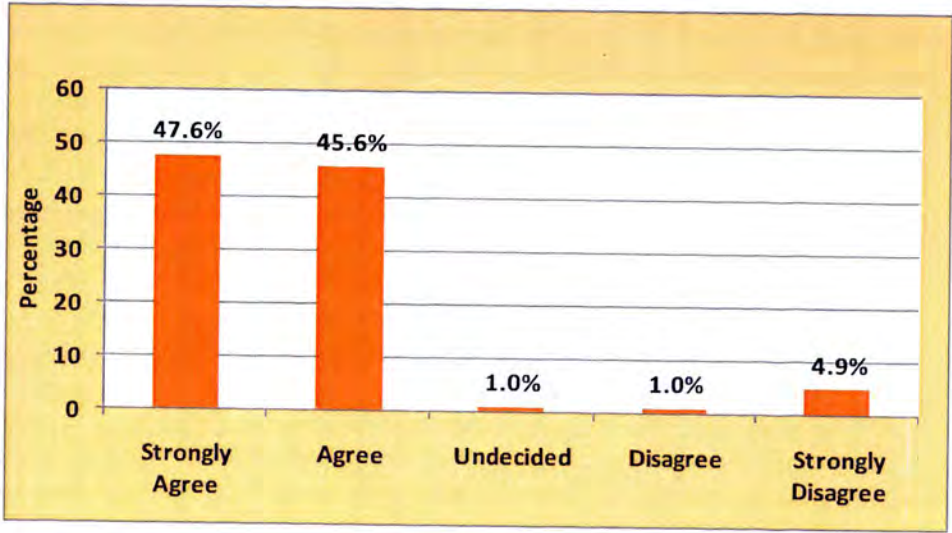
The question was whether the in-service training was likely to bring about the kind of change expected. In-service training objectives should be expressed in terms that can be explicitly defined and therefore measured.

The data presented in Figure 15 relates to the question whether the in-service training objectives were linked to the in-service training outcomes, 90 respondents, 87.4% agreed and only 5 (4.9%) disagreed with the statement. The response shows that the in-service objectives were considered achievable and realistic. The number of undecided respondents is of special concern. The researcher deduced from this that certain aspects of adult learning theory were overlooked by the trainers. Eighty-seven point four percent of the respondents felt that the in-service training objectives were related to the in-service training outcomes.

In-service training objectives need to specify as clearly as possible what is expected to change as a result of the training programme. The responses show that activities were

effectively planned to achieve the desired outcomes. This clearly indicates the effectiveness of the cascade model.

Figure 16: The content of in-service training and trainees’ needs

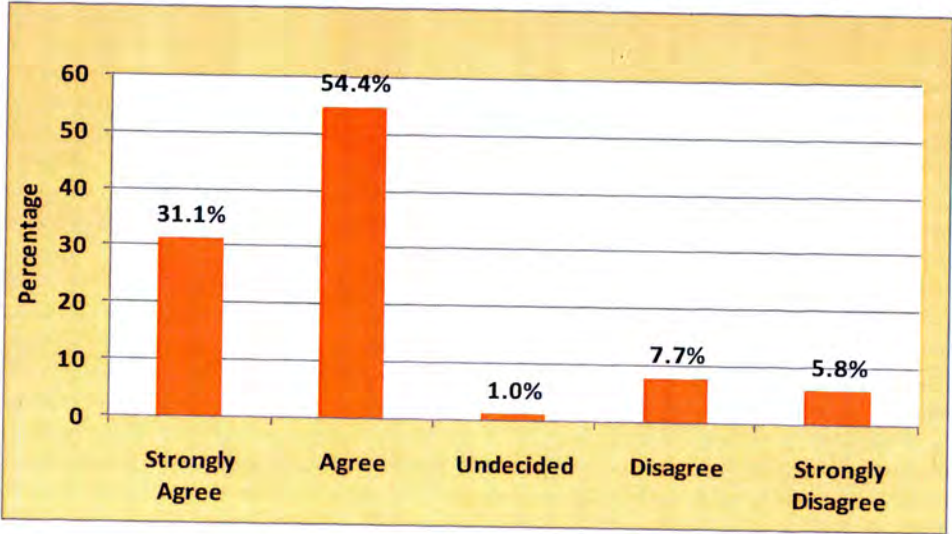


In-service trainers need to identify the training needs of the trainees in order to set specific objectives for the training. Successful training begins with a needs assessment to determine which employees need to be trained and what they need to be trained to do. The training needs are therefore best identified by collaboration between in-service trainers and trainees. It is also recognized that training content that is not grounded in the realities of the workplace can cancel any effect of having a well-designed training program. Thus, relevant training content plays a critical role in the transfer of learning (Baldwin and Ford, 1988; Holton, 2003).

Figure 16 shows that the contents of in-service training was in line with ABET educators’ training needs. A significant majority, 96 respondents (93.2%) agreed. For in-service training to be effective, the in-service trainers should first be aware of and address the specific needs of ABET educators in their training. A training need exists when an employee lacks the knowledge and skill to perform an assigned task satisfactorily. A small minority, 6 (5.8%) of respondents disagreed with the above statement while 1.0% were ‘undecided’. The training needs of the trainees ranged widely to be covered in one programme. The content of in-service training was in line with the training needs of ABET educators and this was affirmed

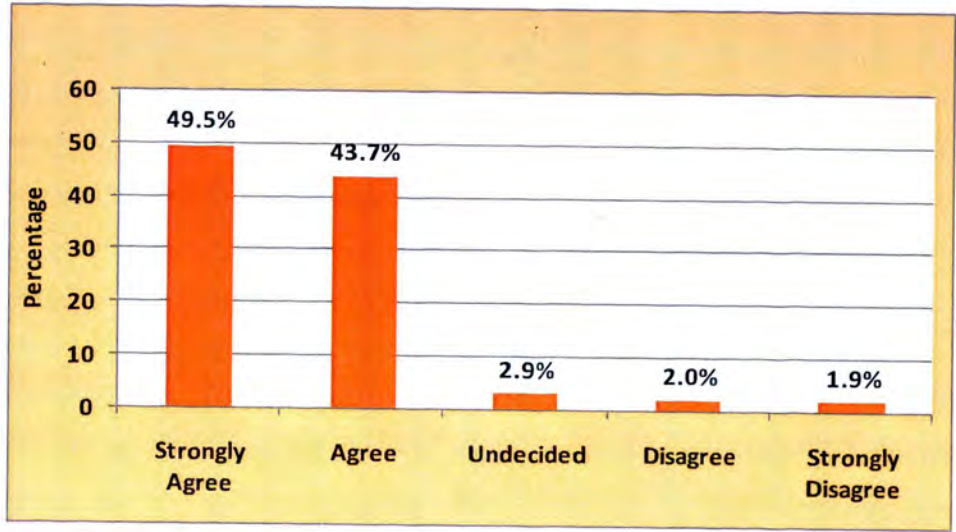
by 93.2% of respondents. From the responses, it can be inferred that the content of training reflected realistic job condition. This indicates the effectiveness of the cascade model.

Figure 17: In-service trainers’ skills in presenting the training materials



The emerging trend here is that most of the respondents 88 (85.5%) agreed that the in-service trainers had the necessary skills to present materials that encourage learning while only 7 (13.5%) disagreed and 1% was undecided as shown in Figure 17. Of the 103 respondents, a considerable number of respondents 88 (85.5%) believed that the in-service trainers had the necessary skills to present the material in ways which encouraged the respondents’ learning. This supports the view that the possession of appropriate and relevant knowledge and skills on the part of the trainers involved can promote effective training and transfer of learning.

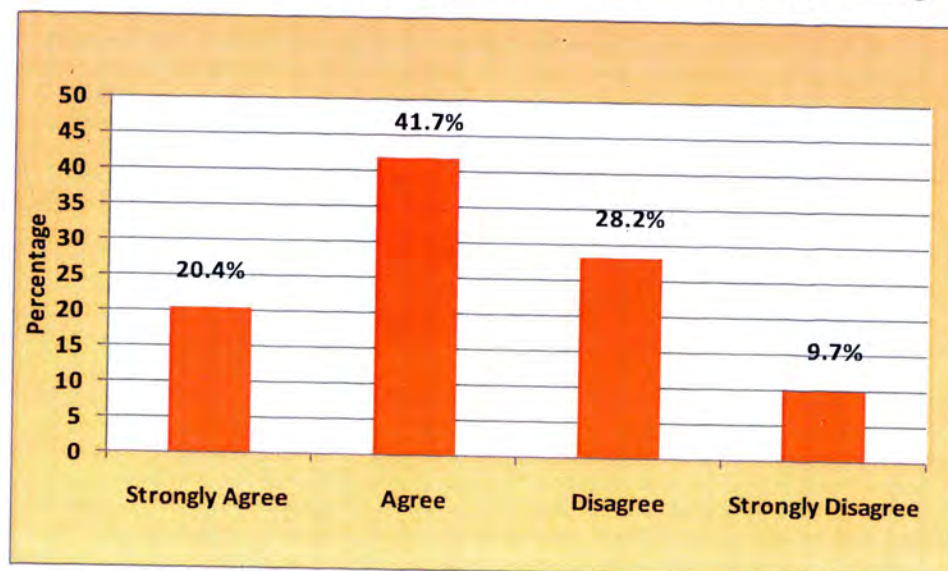
Figure 18: The in-service trainers’ knowledge of the training content



The in-service trainer has the responsibility of identifying the level to be reached by those in training. In-service training methodology is the most critical determinant of the content of in-service training. This then decides more specific details relating to such issues as the programming and format of the in-service training, the structure of the content of each session and the materials required for each session.

For effective dissemination of information, a trainer is required to be conversant with the training material. Of the 103 respondents, a significant majority, 96 (93.2%) believed that the in-service trainers knew the content. The fact that 93.2% of the ABET educators agreed that in-service trainers knew the training content and 4 (3.9%) disagreed with this statement is proof of effective cascading of in-service training. Only 3 (2.9%) of the respondents were undecided. The in-service trainers need to be able to impart theory as part of their training effort to ensure that they are really effective.

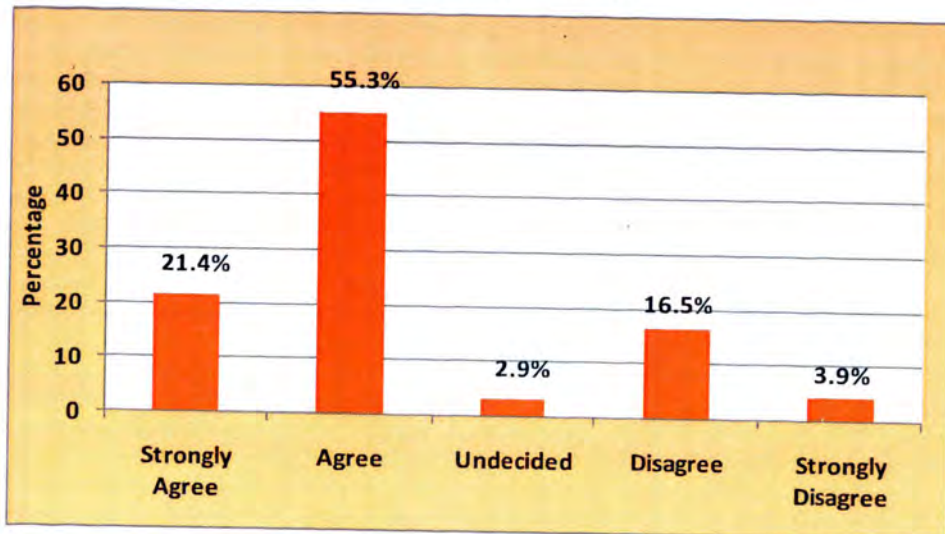
Figure 19: Provision of support to ABET educators during training



From the outset, before training begins, support must be arranged with due reference to its objectives. For in-service training programme to have a lasting effect, groups can be assigned to meet at the end of each day to discuss the day's activities and report back to the facilitators.

Sixty-four respondents (62.1%) believed that time was allowed to receive training support enabling discussions which developed during training. Only 39 respondents (37.9%) disagreed with the statement which is a point in favour of the cascade model. The results could be improved, however, trainers of adults need to upgrade their existing skills and attitudes and acquire new skills that will enhance their ability to deal with a variety of challenges that accompany adult training. The in-service training environment should be characterized by trust and mutual respect among trainers and trainees. Support during training enables the in-service trainer to assess levels of learning and keep the course pitched at the right level, and it allows trainees some control over the process.

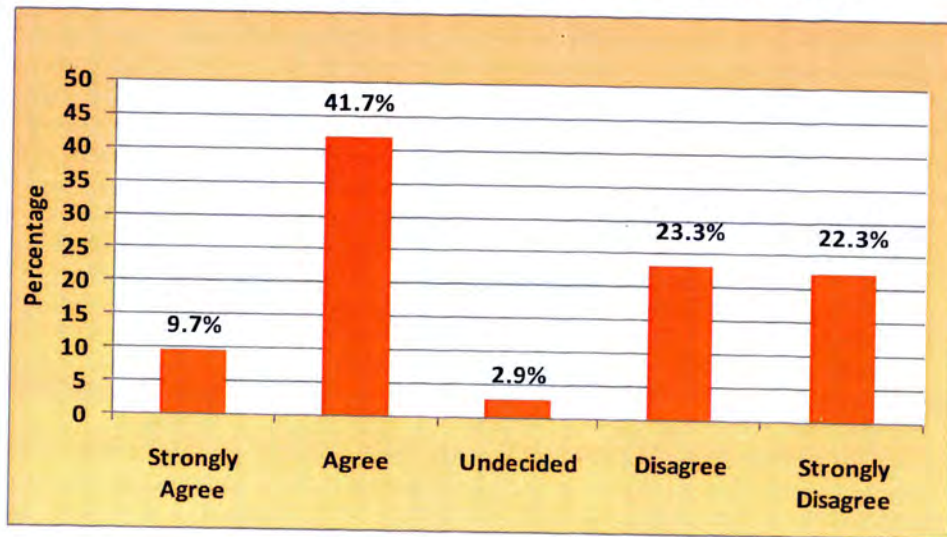
Figure 20: Training activities during training.



Effective in-service training relies on the use of a variety of training activities, such as exercises, small group discussions and brainstorming sessions. All these activities need to be designed to reinforce the knowledge and skills provided to ensure that participants themselves work through the issues so that they develop the confidence to use their knowledge and skills in their workplaces.

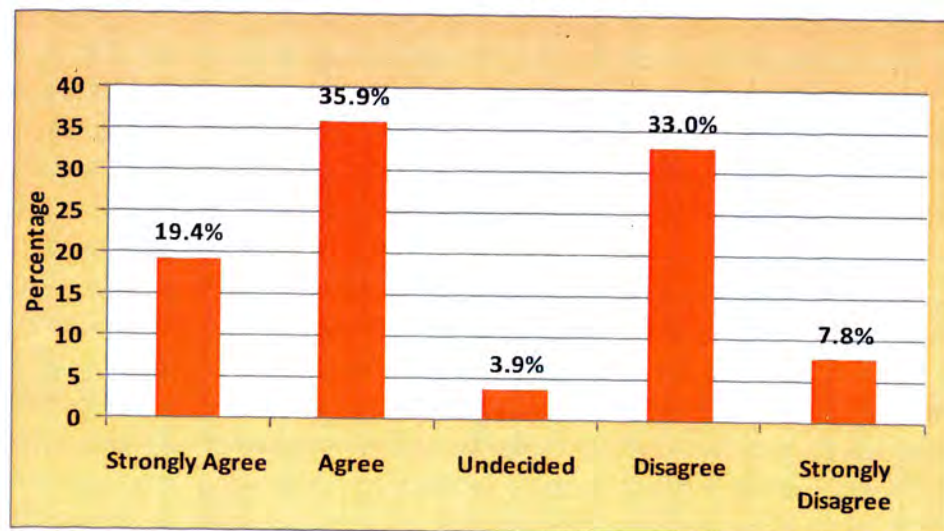
A variety of training activities was maintained to keep the ABET educators engaged during the in-service training. Figure 20 above shows that 79 respondents (76.7%) agreed with this statement while 21 respondents (20.4%) disagreed clearly showing inconsistency in training offered in different training settings. For effective cascade training to happen, each training session conducted by in-service trainers should motivate trainees to draw upon and share their experiences with one another. For the 20.4% of the respondents who disagreed with this statement, the use of an array of training approaches that are best suited to meet the needs of ABET educators is suggested. In this case, support during training can alert the in-service trainers to any difficulties in group dynamics and help to make changes to the in-service programme if needed.

Figure 21: Knowledge of ABET educators to conduct workshops



As many as 53 respondents (51.4%) believed that ABET educators have sufficient knowledge to conduct a workshop at their ABET centres (Figure 21). The response shows significant lack of confidence in the cascade model as 47 respondents (45.6%) disagreed with this statement. According to Figure 18, a significant majority, 96 respondents (92%) indicated that the in-service trainers knew the training content, while figure 21 shows that just about half (51.4%) of the respondents indicated that ABET educators had sufficient knowledge to conduct workshops at their ABET centres. This gap between the knowledge of in-service trainers and ABET educators could be attributed to delays between training and actual use on the job, that is, knowledge gained through training is soon forgotten if it is not put into practice immediately.

Figure 22: Attitudes of colleagues at the centres

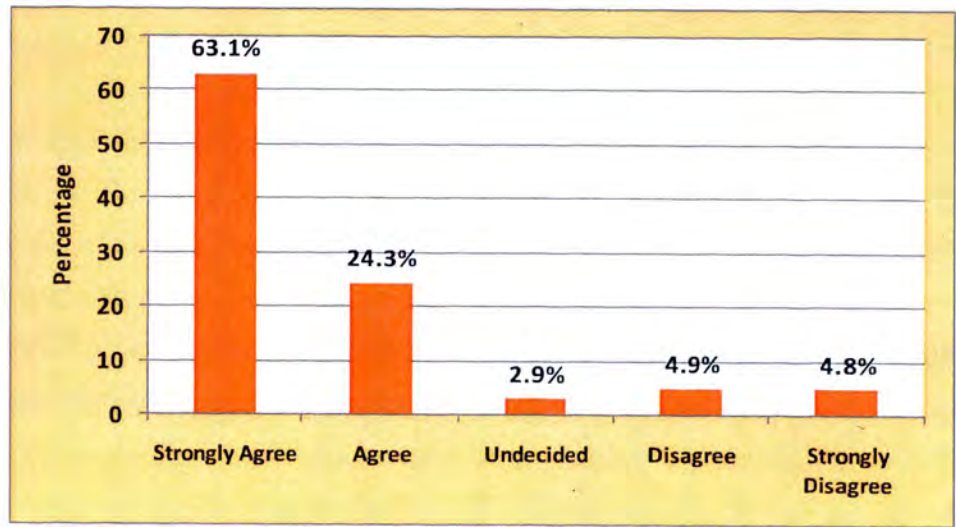


The emerging trend here is that only 55.3% of the respondents agreed that when fellow-educators were to cascade information, their colleagues found it useful as they saw each other as equals as shown in Figure 22. Of the respondents, 40.8% disagreed with the statement, while 4 respondents (3.9%) were undecided. The cascade model works on the principle that teams of trainers train a large group, who in turn pass on their knowledge and skills to an even larger group down the implementation chain. ABET educators who return from the in-service training with new ideas tends to lose the will to put them into effect in their centres if they meet ridicule from their colleagues. If 40.8% of the respondents' colleagues did not find it useful when their fellow colleague cascaded information to them, then the effectiveness of the cascade principle is questionable, implying that the information does not reach its intended beneficiaries.

Power dynamics is a serious threat to the effectiveness of the cascade model of training. In Section 4.3.2.8 the Provincial trainer asserts that peer-group acceptance and credibility of the ABET attending the training sometimes affect the extent of dissemination of what was learned. In Figure 17, 85.5% of the respondents indicated that the in-service trainers had the necessary skills to present materials that encourage learning. In Figure 20, (76.7%) of the respondents maintained that the in-service trainers used a variety of training activities to keep the ABET educators engaged during the in-service training. Contrary to that, Figure 22 showed that only 55.3% slightly more than half of the ABET educators indicated that when fellow educators were to cascade information, their colleagues found it useful as they saw

each other as equals. The cascade model involves individual teachers attending training events and then cascading or disseminating the information to colleagues. In this case uniformity of in-service training is likely to suffer as the problem of filtration of the cascade model comes to the fore. The researcher aligns herself with Hayes' (2000) view that it is not the cascade model of training which is the problem, but the manner in which it is implemented.

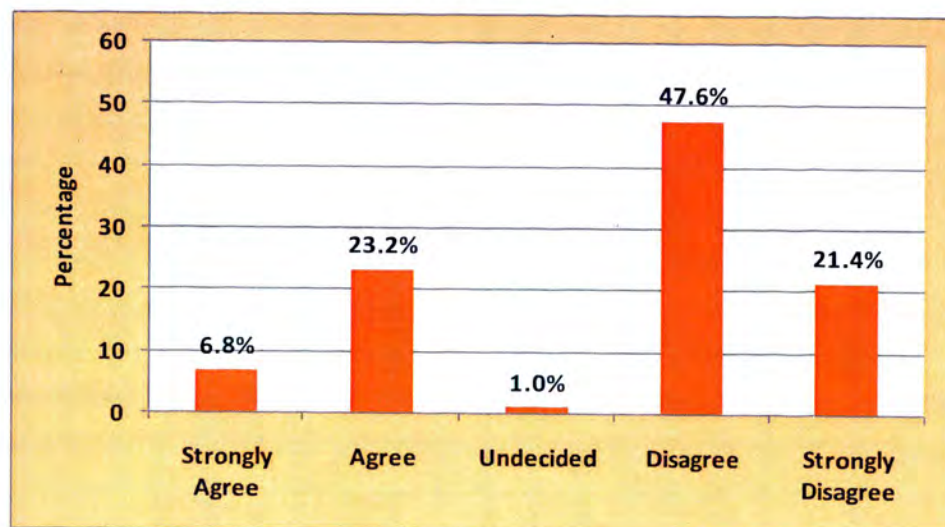
Figure 23: Time gaps between training of various levels.



The debates that evolve around learning and training typically end with discussions on transfer, that is, how much of the acquired knowledge and skills has been transferred to the actual workplace. Figure 23 above attempts to discover that.

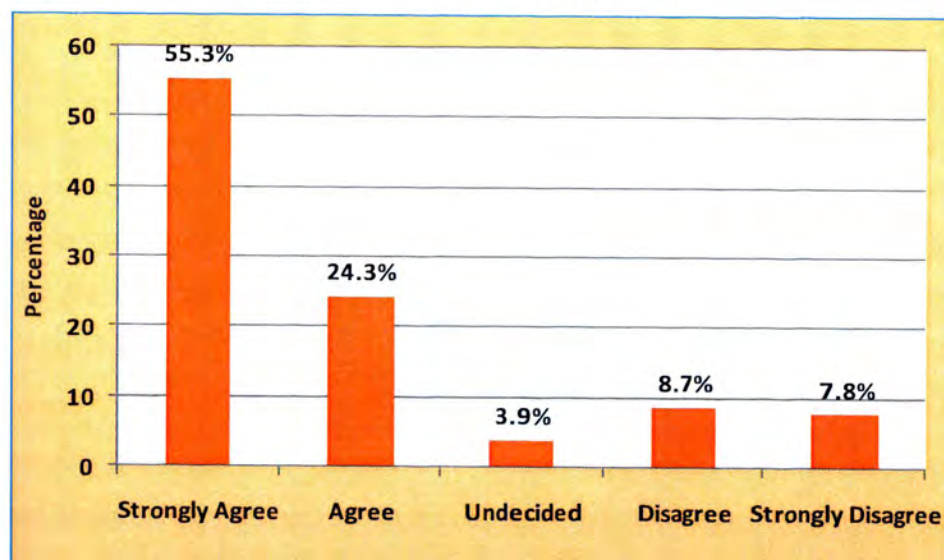
About 90 (87.4%) of the respondents showed that there is training loss due to the time gaps between the training of the various levels, with 10 (9.7%) disagreeing with the statement. Only 3 (2.9%) of the respondents were undecided. This phenomenon seems to be common in in-service training using the cascade model.

Figure 24: Availability of training resources



Resource availability deals with the usefulness of human, financial and physical output and Figure 24 shows that 71 (69%) of the respondents against 31(30%) challenged the view that training resources are available for ABET educators at the centres. Only 1 (1%) respondent was undecided. This picture shows that the highest level of trainers receive the broadest base of information and have access to complete sets of related materials.

Figure 25: Misinterpretation of crucial information.



In principle the cascade model appears to be a practical and a user-friendly approach to in-service training for large scale programmes, more often than not, the intended results are usually attained. (Figure 25) shows that 82 (79%) of the respondents attest to the fact that the

cascading of information results in misinterpretation of crucial information. Seventeen respondents (17%) disagreed with the statement and 2.9% of the respondents did not answer this question whereas 3.9% were undecided. The response is counter indicative with the use of cascade model. When the trainee is not able to demonstrate on the job what s/he has learned, the transfer tends to retrace the route of the course to where the training started, where needs were identified and learning strategies adopted.

Figure 26: Practicality of in-service training programmes

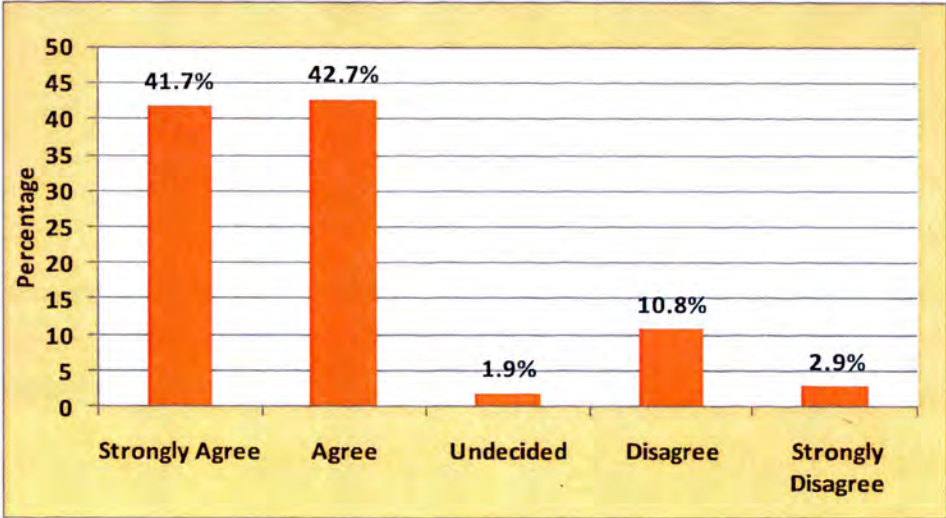
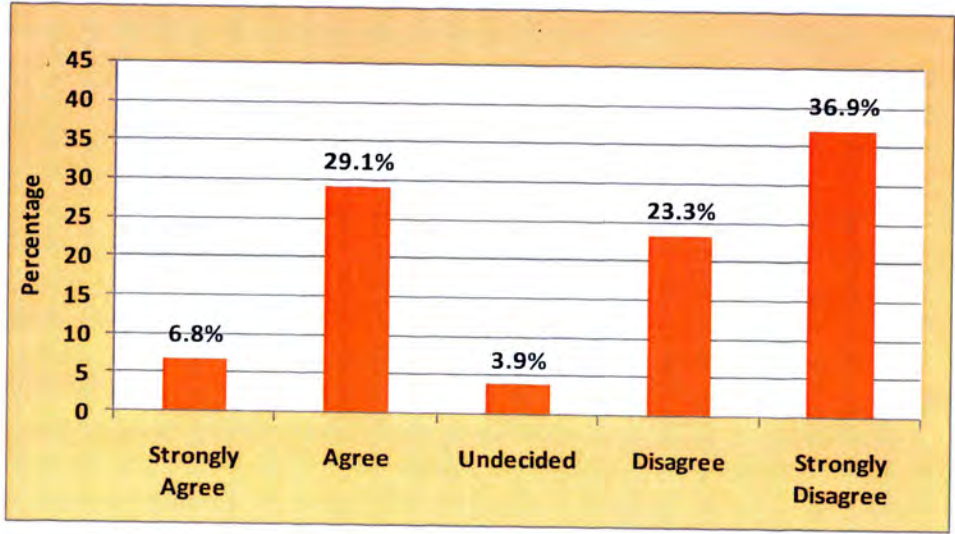


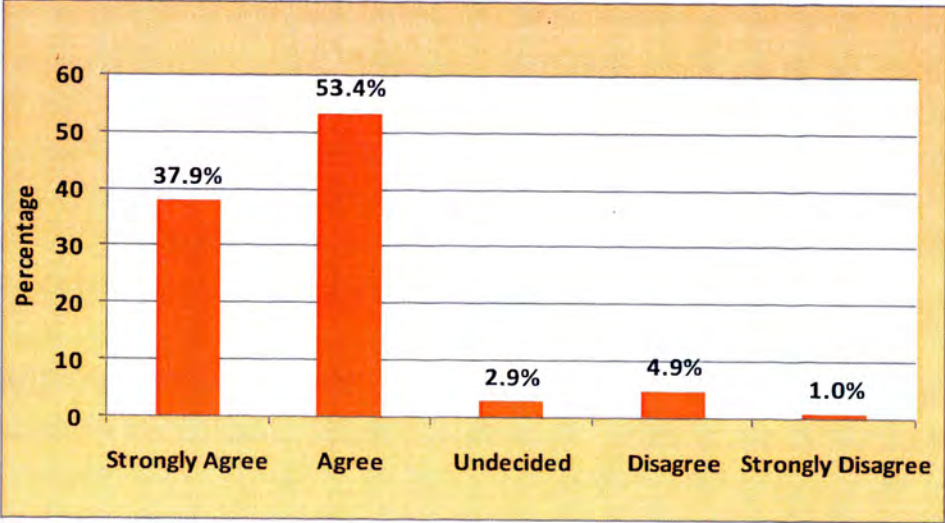
Figure 26 above indicates that 14 respondents (13.6%) strongly disagreed whilst 87 respondents (84.4%) agreed that the transfer of learning in ABET workshops takes place because in-service training programmes are practical. Two respondents (1.9%) were undecided. The response endorses the use of the cascade model and the contention by Knowles’ theory of andragogy that adults bring numerous life and work experiences, needs and learning styles to their learning which is shaped by their perspectives on learning, education and professional development. To achieve this, in-service trainers should encourage the trainees to use a notebook as a learning journal. Periodically ask the trainees specific questions to answer in their journals about how they will apply their new knowledge and skills when they get to their centres, what challenges they may face and how they will overcome those challenges. In-service trainers should suggest that trainees keep track of problems and questions they need to resolve and resources they will need to put new skills into practice.

Figure 27: Confidence of ABET educators



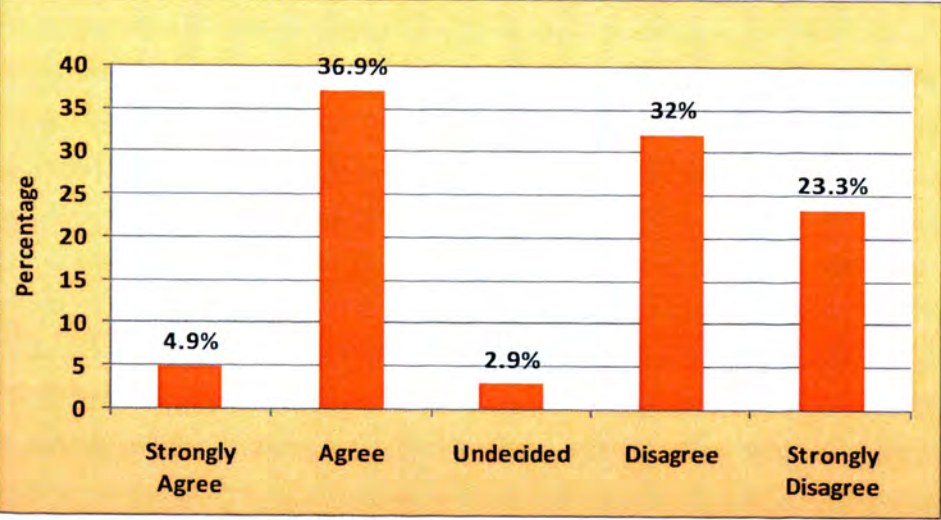
There is variation in the rigour of whether the trainees actually transfer what they have learnt from the in-service training to their workplace. Figure 27 shows that 62 respondents (60.2 %) did not agree that they were confident about transmitting or cascading what they had learned from ABET workshops while 37 (35.9%) agreed with the statement and 3.9% were undecided. The response supports the view about the ineffectiveness of the cascade model of training. The interview data also showed that when trained ABET educators had to cascade what they had learnt from the in-service training to their colleagues, they were uncomfortable and would have preferred to conduct their training in their mother tongue. Training is only successful when participants have learnt and learning happens when participants can recall the skills and abilities that were taught and put them to work on the job.

Figure 28: Clearly formulated objectives



Ninety four respondents (91.3%) believed that transfer of learning took place because training objectives were clearly formulated, 6 (5.9%) of the respondents disagreed while 3 (2.9%) were undecided as indicated in Figure 28 above. The response evidence is in favour of using the cascade model. The in-service training objectives should give opportunities for practice and self-learning and the theory that is presented in the in-service training should give rise to practice and the relationship between these two should always be clear.

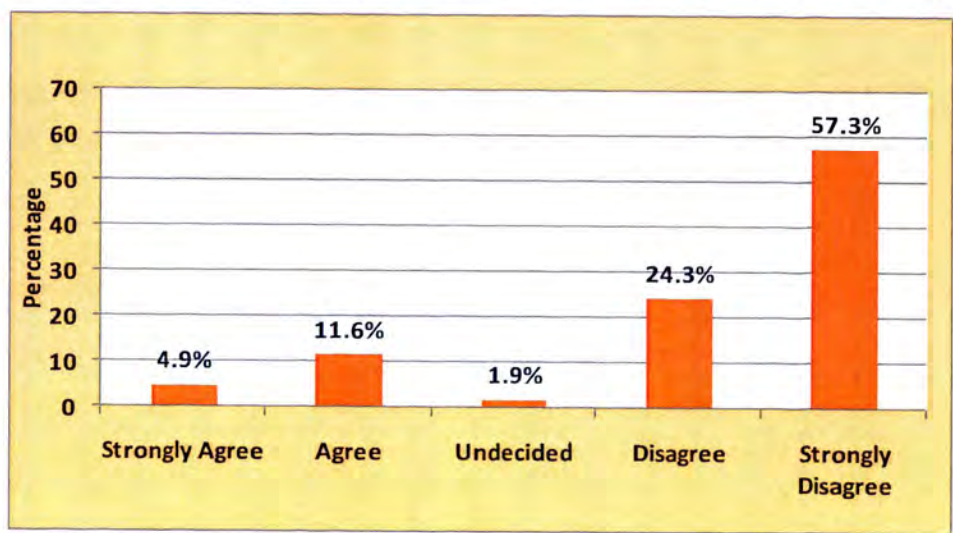
Figure 29: Ability of trainees to use new skills when they get to their centres



Well-trained trainees are not hesitant to use new skills that they learnt from the in-service training when they get to their centres and 57 respondents (55.3%) indicated that transfer of

learning did not take place because trainees were not comfortable to use new skills when they get to their centres, whilst 43 (41.8%) showed that transfer of learning took place because trainees were comfortable to use new skills when they get to the centres (Figure 29). This depicts the cascade model of training as inconsistent in the sense that in some centres trainees are comfortable when using new skills whereas in others they are not. Effective monitoring and review processes are highly effective in helping trainees with multiple barriers develop their skills for training their colleagues at the centres.

Figure 30: Immediate cascading of lessons learned in in-service training

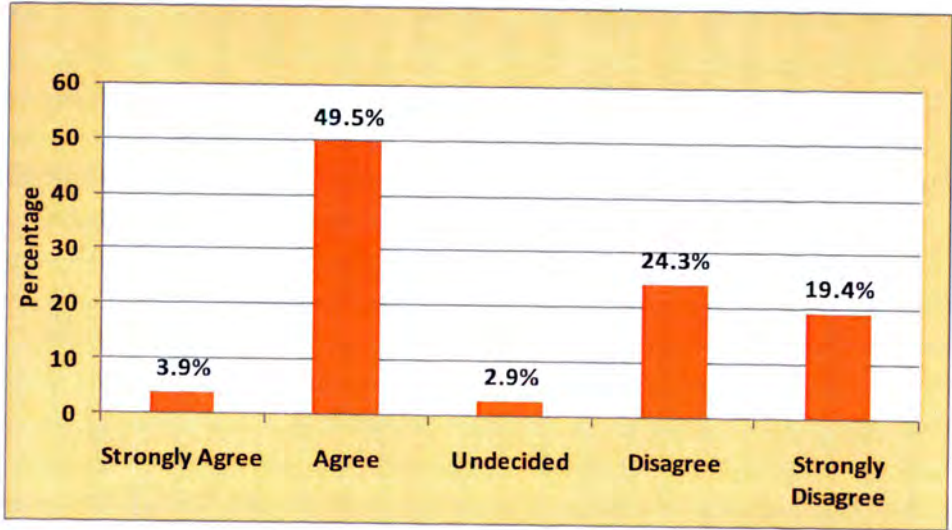


By training ABET educators, the Department of Education attempts to provide experiences that will help them perform effectively on their work and Figure 30 above indicates that 84 respondents (81.6%) disagreed that the lessons learned in in-service training programmes are cascaded immediately to the ABET educators at the centres, 17 (16.5%) of the respondents agree whilst 2 (1.9%) of the respondents were undecided.

The responses of ABET educators portray a much bleaker picture about the effectiveness of the cascade model. In Figure 30, 81.6% of ABET educators indicated that the lessons learnt in the in-service training programmes are not cascaded immediately after training to the centres. In Figure 23 respondents showed that there is loss of training information due to time gaps between the training of various levels, in Figure 25, 79% of the respondents attest that the cascading of information often results in misinterpretation of crucial information and 69% of the respondents in Figure 24 indicated that the training resources are unavailable for ABET

educators at the centres. The above responses indicate a measure of dissatisfaction among trainees concerning the state of in-service training provided and in this case the cascade model achieves little success.

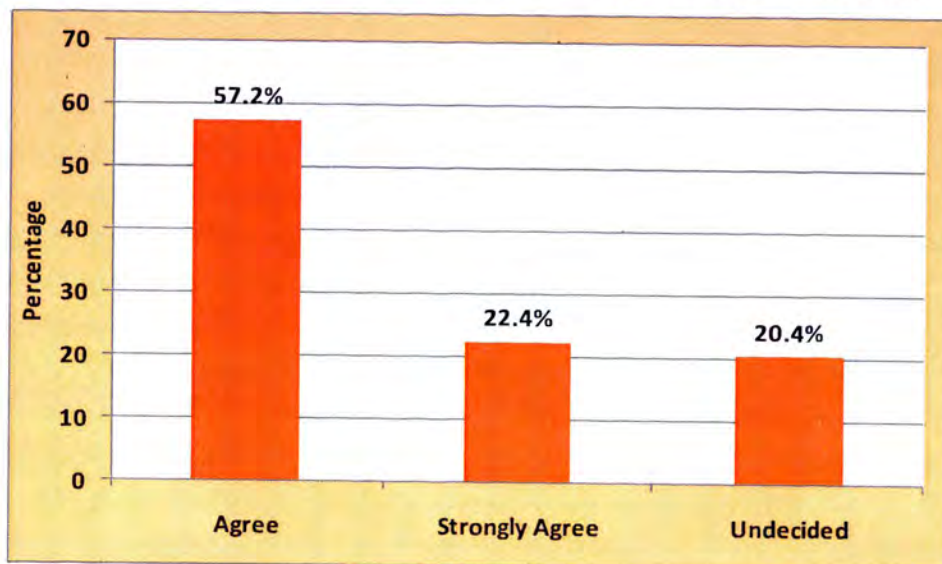
Figure 31: Post-training monitoring



The post-monitoring of trainee progress against the expectations set in the in-service training involves specialists (in-service trainers) and the trainees. The best practice of post-training monitoring is for in-service trainers to review how the trainees progress, that is, whether trainees have cascaded what they were expected to cascade to their fellow colleagues.

Fifty-five respondents (53.4%) agreed that the transfer of training is effective because there is post-training monitoring whilst 45 (43.7%) disagreed with this statement and 3 (2.9%) were undecided (Figure 31). This indicates that procedures to monitor the effectiveness of the in-service trainees vary. In the majority of APOs the monitoring systems are rigorous and well managed. Before in-service trainers conduct a monitoring activity, they must explain to the in-service trainees what they are doing and why. Monitoring should be done throughout the course to assess both task and maintenance functions of the group, as well as practical details.

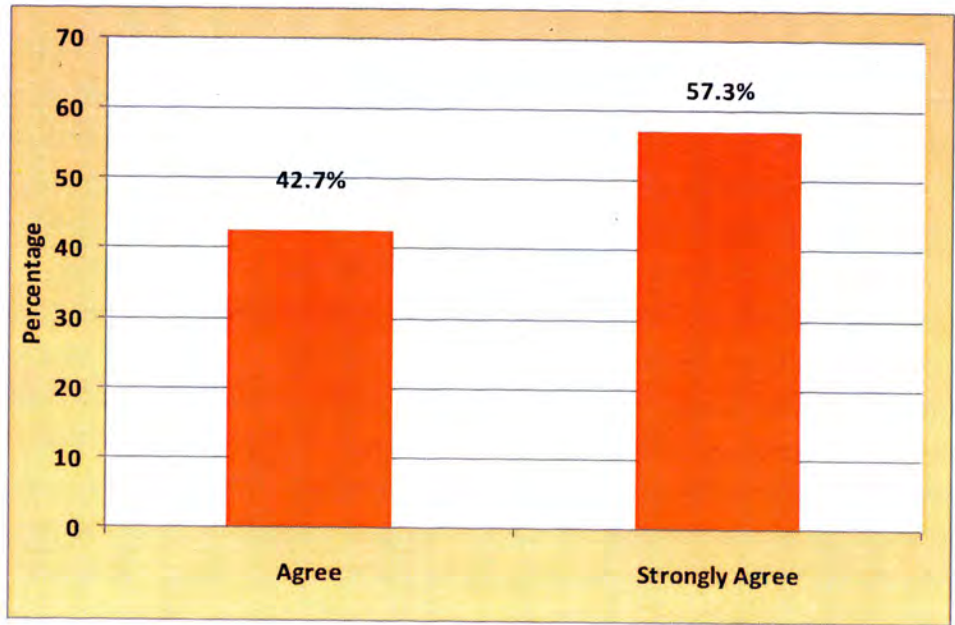
Figure 32: Consideration of consultation-based technical assistance.



Consultation-based technical assistance is a process of connecting groups to expertise and resources that address needs and provide support over phases of an in-service training effort. When ABET educators engage in this process, they are strengthening their own capacities to learn, practice and subsequently implement effective in-service training strategies. Consultation-based technical assistance is processes to help ABET educators create conditions for being effective in their workplaces. This process provides support to ABET educators over time as they plan, transfer what they have learnt, evaluate and sustain efforts for making a difference in the ABET sector.

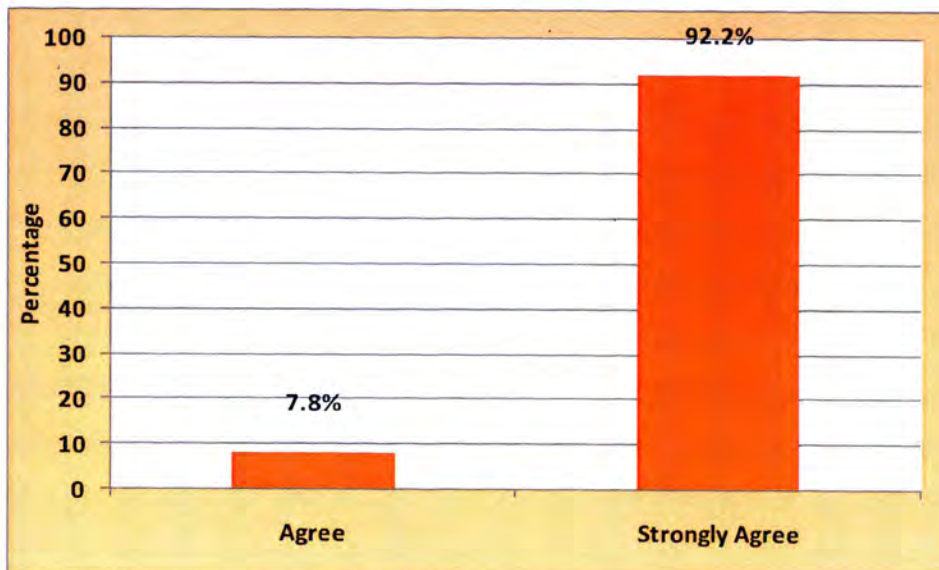
In Figure 32, a significant majority of 82 respondents (79.6%) believed that consultation based technical assistance that addresses support for the transfer of knowledge should be considered. Groups that build and support core skills and knowledge via technical assistance can strengthen member capacity and become more effective at producing desired changes.

Figure 33: Specification of a clear method of participants' evaluation.



In-service trainers can have an impact on the transfer of learning by evaluating performance. It is important to discuss with in-service trainers the reasons why evaluation is important, emphasizing that the goal is to provide them with feedback so they know how they are doing. In-service trainers should assure trainees that they will provide ongoing guidance as well as formal periodic evaluations. It may be appropriate to include these periodic evaluations on the trainees' action plan. If you cannot evaluate the participants' performance because you lack the technical expertise, identify someone who can. Notably, an overwhelming majority of respondents (100%) believed that a clear method of participants' evaluation should be specified.

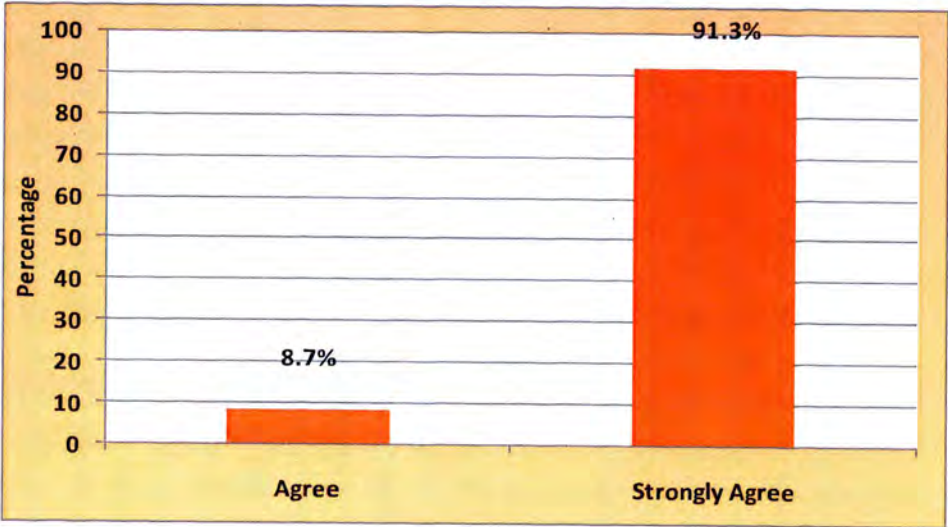
Figure 34: Understanding adult learning.



Adult learning theories often talk of the importance of motivation in learning. The majority of in-service trainers still use considerably outdated training methods that are heavy on imparting knowledge and do not emphasize training in-service trainees on independent and creative thinking methods as well as right attitudes towards learning. For in-service trainers to be effective in their roles, they need to have basic conceptual grasps of what adult learning involves.

It is widely accepted that the in-service training with a solid grounding in adult learning principles can support the transfer of learning and the transfer of training, whereas a poorly designed training program can have the opposite effect. Holton (2003:62) identified the importance of training design, indicating that training “may be taught with low transfer design so that learners have little chance of turning knowledge into workplace experience”. The in-service trainers need to understand that adults bring to the training centres an accumulated amount of experience that impact on their learning (section 2.3). It is worth noting that negative experiences can cause the development of mental habits, biases and presumptions that close the minds of the trainees to fresh ideas and new perceptions. All the respondents (100%) perceived that in-service trainers should understand adult learning. Unlike children, adults are self directed and they want to know how learning will take place, what learning will occur and why learning is important.

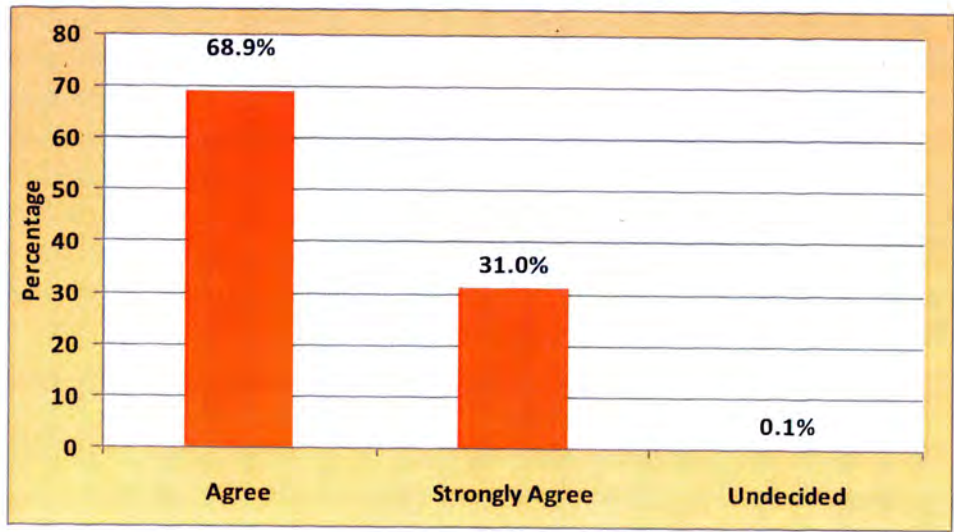
Figure 35: Using work related situations when training ABET educators



In order to provide clear in-service objectives that relate to work practices, it is important for in-service trainers to understand the day-to-day operations of the ABET sector. This requires knowledge of the teaching and learning processes within the ABET centres and an understanding of the procedures most requiring change. If the objective of in-service training is the transfer of knowledge and skills to the trainees workplace, the trainer must be familiar with ABET operational procedure.

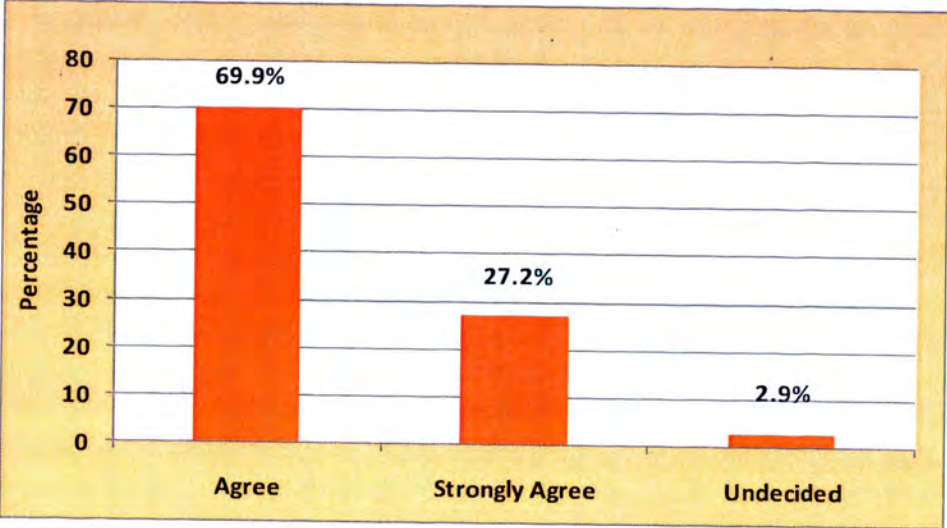
Interestingly, all the respondents (100%) believed that in-service trainers should use work-related situations when training ABET educators. Throughout the training, in-service trainers should make every effort to help trainees draw upon what they already know and connect what they are learning in the in-service training to what they need to do on the job. The design of the in-service training should include activities and exercises to promote the transfer of learning. It is imperative for in-service trainers to design activities that engage trainees as participants and tap their existing knowledge and skills. Similarly, transfer of knowledge and skills from the in-service training to the workplace is most likely to happen when the educational situation closely resembles the work situation. Therefore using realistic exercises that address the challenges being faced by ABET educators at their centres is very crucial.

Figure 36: Experiential method of conducting in-service training



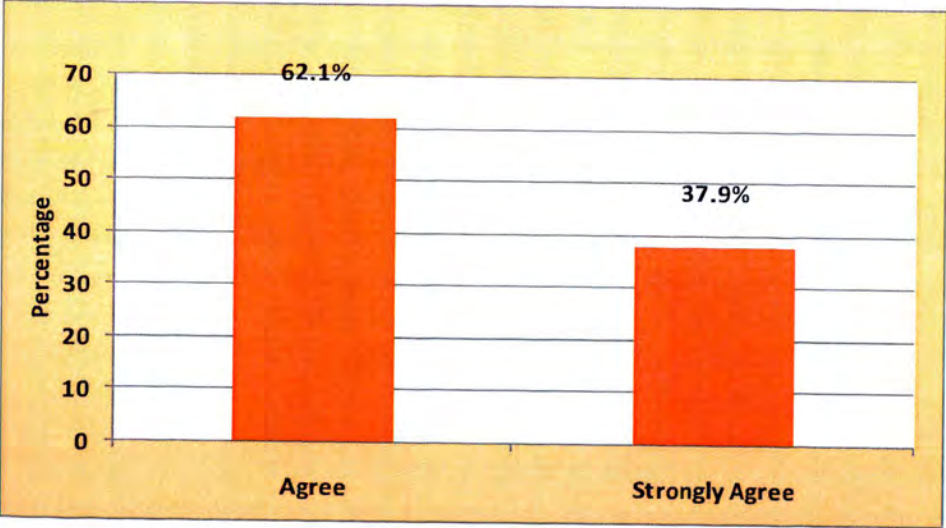
The method of conducting in-service training should be based on a constructivist approach through collaboration and communication. Experiential learning occurs as a result of a learner transforming his or her experience into learning. In this case in-service trainers should consider brainstorming with the trainees at the beginning of the training to focus on problems at their centres and then use those problems as the basis for activities throughout the training. The in-service trainers should schedule training topics in short segments integrated with practice exercises and activities. An overwhelming majority (99.9%) agreed according to Figure 36 that the method of conducting in-service training should be experiential rather than transmissive whilst only 0.1% was undecided.

Figure 37: Reflective method of conducting in-service training



In-service trainers should provide frequent opportunities for trainees to reflect on what they are learning and plan how they will use their new knowledge and skills on the job. In-service training activities within the cascade model should be reflective. The majority of the respondents, i.e., 100 (97.1%) maintained that in-service training should be reflective, rather than transmissive and 3 respondents, 2.9% were undecided. By attaching a reflective activity to the in-service training, ABET educators might be able to increase the probability that new knowledge and skills are incorporated into the participant’s practice.

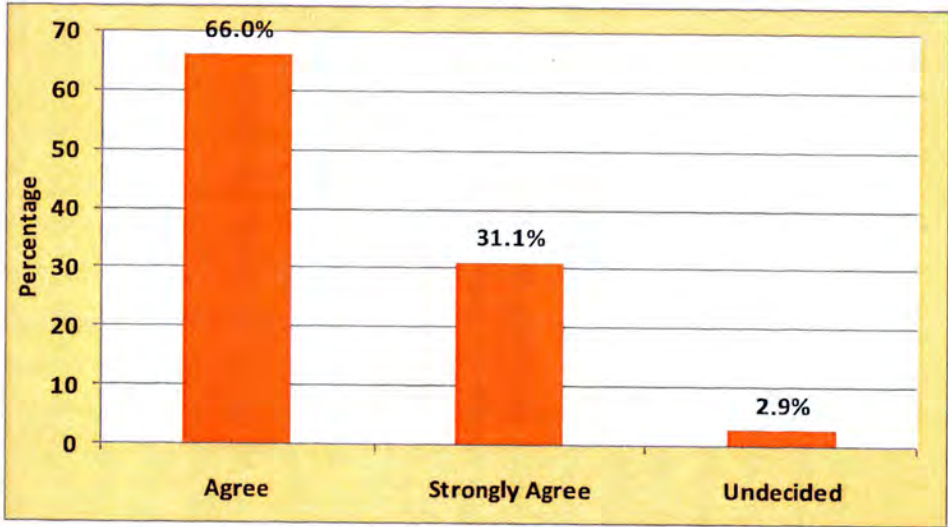
Figure 38: Molding each training experience to the orientation of adults



For effective cascading of knowledge and skills, in-service training must also consider trainee potential as well as individual adult learning styles and recognize adult’s prior learning. In section 2.3 of this research document, Knowles et al., and (2005:159) indicate that adults develops readiness to learn those things that they need to know and which enable them to cope with real life situation. Where in-service training seeks to train people, training should be approached on a flexible and individual, rather than on an authoritarian and purely technical basis.

All respondents (100%) as shown in Figure 38 agreed that in-service training must try to mould each training experience to the orientation of adults in each training. The context of training is important as it sets motivation, expectation and attitude for transfer. For effective cascading of knowledge and skills, each in-service training session must be designed afresh, based on past experience as well as the training needs, situation and background of the in-service trainees.

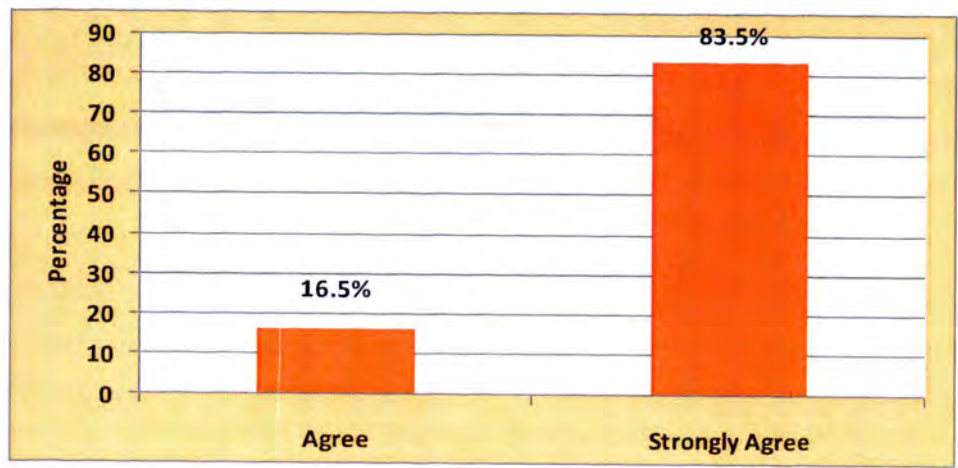
Figure 39: Context-sensitive training strategies



For the cascade model to be effective, the in-service training itself must be appropriate for the person and the situation. In order to provide the most appropriate training at all levels of the cascade, in-service training strategies are informed by continuing examination of the training and learning context and are sensitive to emerging contextual features. A more context-sensitive training strategy is trainee centred.

In Figure 39 a significant majority, 100 respondents (97.1%) agreed that the training strategies should be context-sensitive against an undecided 3 (2.9%). This seems to support the view that much of what we know and believe, our values and our feelings depend on the context – biographical, historical and cultural – in which they are embedded.

Figure 40: Post-monitoring recommended



Several views have been advanced about why the cascade model of training is weaker than it should be. The most significant barrier is the lack of support or reinforcement to support in-service trainees in applying training in their work situation. All respondents (100%) in Figure 40 agreed that trainers should monitor the in-service training of ABET educators at the centres. Follow-up training is meant to close the gaps left by the initial training and it is used for consolidation purposes. The frequency table below shows the responses of ABET educators.

Table 5: The monitoring of in-service training at the centre

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	17	16.5	16.5	16.5
Strongly Agree	86	83.5	83.5	100.0
Total	103	100.0	100.0	

The district/circuit co-ordinators should evaluate the impact of ABET educators in-service training organized by the Department of Education

Evaluation of the impact of in-service training

In-service training is not an end in itself; it should have an impact on the day-to-day duties of the participants of the in-service training. All respondents agreed that the district co-ordinators should evaluate the impact of the ABET educators in-service training organized by the Department of Education. It is generally acknowledged that a high percentage of activities to train people are not subsequently followed by a specific evaluation of what participants have learnt. When conducting an evaluation of the in-service training, in-service trainers need to consider several factors which occur before, during and after training and which influence transfer of learning (Baldwin and Ford, 1988). Before training, individual characteristics and trainees' motivation to attend may affect learning transfer. During training, discussions to encourage trainees' enthusiasm or willingness to apply new skills may affect transfer of learning and after training the work environment can encourage or discourage (e.g., ridicule from peers), or actually prohibit the application of new skills and knowledge on the job.

Table 6: Evaluation of the impact of in-service training

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	14	13.6	13.6	13.6
Strongly Agree	89	86.4	86.4	100.0
Total	103	100.0	100.0	

4.3 Analysis of Qualitative Results

4.3.1 Questionnaire

Qualitative results were obtained from the second part of the ABET educators questionnaire (Section A) where respondents were required to answer an open ended question on the in-service training programmes they were trained in between 2007 and 2009. Adult Education methodology, assessment, curriculum matters and induction were mentioned. Another open-

ended questionnaire was on ABET educators' comments in relation to their experiences of the cascade model of training. Ninety-five out of the 103 ABET educators did not attempt to answer this question. This reaction can imply that ABET educators' morale in most cases is low due to the fact that their working environment is regarded as inferior and they are not motivated to attend the workshops as alluded by the Provincial trainer (See Section 4.3.2.8). Some of those who answered commented as follows:

ABET educator 1:

Trainers must be well prepared.

ABET educator 2:

In-service training should serve all ABET educators not the selected few.

ABET educator 3:

Our colleague who was chosen to go for training resigned immediately when she came back from the training.

ABET educator 4:

Time allocated for training is limited and we need time and support from our colleagues to present what we have learnt from the workshops.

ABET educator 5:

We spent hours and hours in training sessions and often come back unsure of what to tell our colleagues and what to do in the classroom.

ABET educator 6:

We are allocated only three hours a day for three days in a week and the tight deadlines for the formal assessment tasks at the centres and this makes it difficult for us to share what was workshopped to us at the training to our colleagues

ABET educator 7:

Our trainer was just lecturing to us and we were just listening to him. I do not think he was interested whether we understood or not. The emphasis was on curriculum, assessment etc.

ABET educator 8:

APO managers must frequently visit the centres and follow-up on the training offered.

In-service training evaluations must be done and weaknesses need to be rectified.

It can be inferred that the experience of most ABET educators who responded were negative. Some of the responses mentioned were: limited time allocation spent at the centres, resignation of colleagues when they come back from the in-service training, when they come back from in-service training they are unsure of what to tell colleagues, the use of lecturing by in-service trainers in training and lack of follow-up by in-service trainers. The responses may be indicative of the fact that the in-service training did not meet the expectations of the trainees. These responses impede the effectiveness of the cascade model.

The issue of time for cascading what was learnt from the in-service training to the ABET centres seems to be a matter of great concern. This concern emanates from the fact that ABET educators work for only three hours a day and they are expected to cascade what they have learnt at the in-service training for three to five days in three hours. Attrition of ABET educators was also highlighted. Low level of in-service trainer credibility is also highlighted as a factor that impedes the effectiveness of the cascade model. It is worth noting that lecture method alone is not sufficient for training ABET educators. Considering ABET educators' educational, backgrounds with most of them trained to teach children, ABET educators need to be equipped with essential skills through practice and demonstrations.

4.3.2 Interviews

Semi-structured interviews with Provincial trainer and APO ABET specialists were conducted in order to determine the following aspects: The effectiveness of the cascade training model, factors impeding the cascade model and intervention mechanism.

4.3.2.1 Workshops for ABET educators between 2007 and 2009

The Provincial trainer indicated the following aspects:

- *Induction*
- *Curriculum matters*
- *Adult Education Methodology/Outcomes-Based Education*
- *Assessment*

ABET APO Specialists indicated that between 2007 and 2009 they trained ABET educators on:

- *Induction,*
- *Adult Education Methodology/Outcomes- Based Education*
- *Assessment*
- *Specific skills training like Adult learning workshop which was conducted in 2008 because it was established that most ABET educators could not handle teaching ABET learners.*

Newly appointed and existing ABET educators and ABET centre managers were workshopped on the above-mentioned programmes between 2007 and 2009.

4.3.2.2 Assessment of needs before training

A training needs assessment is used to determine whether training is necessary. A comprehensive assessment of needs should make use of a variety of methods to determine actual training needs. The following have been indicated by the Provincial ABET trainer and ABET APO Specialists as ways of assessing ABET educators' needs:

- *By sending the templates where ABET educators list all their training needs.*
- *The use of Performance Development Management Systems (PDMS) files to assess ABETS educators' needs.*
- *Monitoring gives indication of needs*
- *Class visits.*
- *Through interviews.*

The Provincial trainer said the following:

*Yes what we do, when we do monitoring in the centres,
we conduct needs analysis. We identify gaps and*

compile monthly reports (with challenges as one of the aspects) and submit them to DCES teacher development.

The APO Specialist commented as follows:

Another group of ABET educators who could not handle teaching ABET educators are those who were qualified to teach in the mainstream but could not find employment in schools after completion of their Bachelor degrees, and because they are trained to teach children, not adults they ended up treating them (adults) as if they were children.

It can be inferred from the above comments that assessment of ABET educators' needs is conducted properly. The responses given by the Provincial trainer and ABET APO specialists demonstrate an insight into what needs assessment entails. It is interesting to note that although in-service trainers conduct needs assessment before planning in-service training, the training materials are packaged from the National Department of Education and the in-service trainers are expected to cascade it to ABET educators. In this case the needs assessment exercise undertaken by both the trainers seems to be futile.

4.3.2.3 The content of in-service training

The Provincial trainer and the ABET APO Specialists agreed indicating that when they workshop ABET educators on curriculum issues they use relevant Unit Standards.

4.3.2.4 Training strategies

The training strategies cover a wide variety of techniques and methods from which the selection must be made and it is essential that strategies selected should suit the objectives and content of the in-service training. For effective cascading of information, the in-service trainers should know the training strategies to keep the trainees focused on the tasks while remaining responsive to their needs and concerns. The Provincial trainer and APO ABET

Specialist indicated that the strategies they use are found in the Unit Standards relevant for ABET namely:

Lecture method

Case study

Group work

As outlined in chapter two, there is no single strategy which suits all in-service training situations and therefore it is the prerogative of the in-service trainers to develop strategies which suit the unique circumstances of the trainees.

4.3.2.5 Variety of activities to keep in-service trainees engaged

The Provincial trainer and APO ABET specialists agreed that they used a variety of activities to keep ABET educators (trainees) engaged. They indicated that ABET educators are given a chance to report about what they have learnt during training at plenary session presentations. This means that in-service trainers used reflective feedback during training to encourage in-service trainees’ involvement. They clarify upon trainees contributions and give direction where needed. Supportive engagement strategies by in-service trainers are crucial for the cascade model to be effective. In-service trainers should know that it is important to keep the trainees engaged by allowing active participation and using a variety of delivery methods. Transfer of learning is more likely to occur when the training material contains some personal meaning for trainees.

4.3.2.6 Provision of support during training

Both provincial trainer and APO ABET educators indicated that some training was scheduled for five days. They indicated that this was enough for their training, but others were scheduled for two days:

In-service training sessions are usually organized for one to two to five days. So yes, there is sufficient time to cascade all the aspects of in-service training to ABET educators.

4.3.2.7 Achievement of training objectives

Evaluation at this stage looks at the extent to which in-service training objectives have been achieved. Evaluation of training objectives can take place during the in-service training using interactive sessions and practical application and after the training by observing the trainees' new knowledge and skills in context. This is in line with level 2 of Kirkpatrick's evaluation model: did the participant learn what was intended? Were the in-service training objectives achieved?

The Provincial trainer and APO ABET specialists indicated that the in-service training objectives are achieved. They commented as follows:

ABET educators submitting portfolios of evidence (PoE) and becoming competent.

4.3.2.8 Factors that impede the effectiveness of the cascade model of training

The reasons for this impediment has been attributed to several factors, like, ABET educators desire to leave for better paying professions; general dissatisfaction and demotivation due to lack of fringe benefits, lack of clear career-pathing amongst others. These are factors that can affect training outcomes (trainee reactions, learning, behaviour and performance).

The Provincial trainer indicated the following factors:

Lack of application of learning that was learnt from the training.

ABET educators see these workshops as irrelevant and time wasting.

Some ABET educators regard teaching in ABET centres as their stepping stone whilst they are waiting for opportunity to present itself in the mainstream' employment.

The morale of ABET educators in most cases is low due to the fact that their working environment is regarded as inferior so they are not motivated to attend workshops.

The fact that we are training new faces every year hampers the Department of Education's good intentions.

Motivation to learn is indicated as a significant impediment of the effectiveness of the cascade model. Section 1.5 of chapter 1 indicated that literacy educators are one of the least supported groups of educators worldwide. It alluded that literacy educators receive little, if any, regular remuneration, lack job security, and enjoy few training opportunities and little ongoing professional support. The responses highlights the disconnect that exists between the training environment and the work place. It can be inferred that although the trainees leave the training with some level of intention to transfer what they have learnt from the in-service training to their centres, various environmental factors may begin to undermine this motivation almost immediately. This in turn minimizes the effectiveness of the cascade model. Lack of transfer of learning from the in-service training to the ABET centres has the potential of impeding the in-service training. Evidence regarding lack of transfer of learning emerged from the following comments:

The APO ABET specialists indicated the following factors as impeding the effectiveness of the cascade model:

ABET specialist 1:

Lack of confidence of some ABET educators who are expected to train their colleagues at the centres.

Educators do not bother to ask or contribute in training and the fact that trainees have limited communication with us after they return back to their workplace after training, does not allow for much development both at individual and at the centre level.

Pressures of work and limited time at the centres prevent ABET educators to train their fellow colleagues at their centres. They only work for three hours.

ABET specialist 2:

These ABET educators when they attend training they are absent minded or they don't comprehend, we really can't say.

When we do monitoring we encounter such problems such that they are shy, they want to use their mother tongue which sometimes makes it difficult for others to understand or learn effectively what was presented in the training.

When these educators return to their work places they may disseminate what they think is important.

ABET specialist 3:

ABET educators are generally poorly motivated, do little than the absolute minimum and are often absent from the centres.

Sometimes peer group acceptance and credibility of the ABET educator attending the in-service training sometimes affect the extent of the dissemination of what was learned.

ABET specialist 4:

In some isolated rural communities, there is little exposure to English. Our ABET educators speak English as their second language, they have no command of the language even though some of them have ABET certificate and National Professional Diploma in Education (NPDE).

Workshops focus on helping ABET educators to learn new techniques that they are going to practice at the centres without helping them build on their training skills (that is, how to train others).

Pressures of work and limited time at the centres prevent ABET educators to train their fellow colleagues at their centres. They only work for three hours.

Training unmotivated ABET educators and expect them to train other unmotivated educators at the centres is really not fair.

It is worth-noting that most ABET educators work three hours daily and they are remunerated on an hourly basis and their salaries and their working conditions still compare very badly with those of their counterparts in the mainstream.

ABET educators are leaving the ABET centres at a very alarming rate after being trained.

Workshops focus on helping ABET educators to learn new techniques that they are going to practice at the centres without helping them build on their training skills (that is, how to train others).

From these assertions, it is evident that at the present time the cascading is producing considerable frustration among the ABET educators, in-service trainers and ABET learners. The above mentioned concerns clearly indicate that the transfer of learning from the in-service training to the ABET centres is very poor. Various drawbacks were identified: misinterpretation of crucial information and the lack of knowledge, understanding, insufficient time, language usage, lack of motivation, dissemination of information and confidence of the trainers at the centre level. This clearly indicates that without proper monitoring there will be no feedback as to whether ABET educators at the centres are given the correct information stipulated by the in-service trainers. Researchers consider motivation to be a crucial part of the learning transfer and the training transfer process (Baldwin and Ford, 1988; Newstrom, 1992).

With regard to problems inherent to the use of the cascade model, Bax (2002), in section 2.2.2.2 from the literature, cites the following as problems: lack of confidence on the part of educators when they have to cascade what they have learnt from the workshop, insufficient knowledge of educators who conduct the workshops at the centres and lastly, power dynamics, that is when fellow educators have to conduct training, the colleagues do not find it useful as he or she is seen as their equal and therefore not qualified and knowledgeable to train them. With regard to confidence of the trainees and insufficient knowledge of educators who conduct the workshops, Section 2.3 of the literature indicates that in-service trainers should be aware that adult learners in this case ABET educators, bring numerous life and work experiences, needs, personalities and learning styles to their learning, education and professional development. They may transfer their previous learning to new situation which increases their self-worth and confidence. In Section 4.3.2.8 the Provincial trainer indicated that ABET educators' morale in most cases is low due to the fact that their working environment is regarded as inferior and they are not motivated to attend the workshops. One APO ABET specialist in Section 4.3.2.8 indicated that lack of confidence of trainees may be attributed to the fact that trainees do not bother to ask questions or make comments during training. Another APO ABET specialist alluded that when trained ABET educators had to cascade what was presented to them, they want to use their mother tongue. This has the potential of impeding the effectiveness of the cascade model of training.

Evaluation at this stage looks at the impact of in-service training experience on trainees or team performance at work. Key to Kirkpatrick's level 4 of evaluation is the need to have agreed objectives prior to the learning experience so that when evaluation takes place there are measures to use. Did the learning transfer to the job? How has the in-service training improved individual performance?

Both ABET APO specialists and ABET educators (trainees) indicated that ABET educators are leaving the ABET centres at a very alarming rate after being trained. Kirkpatrick level 4 evaluation assesses the impact of training on organisational effectiveness and whether or not it is cost effective in organisational terms. How has the in-service training activity affected the ABET sector in terms of improved performance – for example, better ABET learners' results, fewer complaints, increased ABET educators' morale, ABET educators' professional image?

Despite this disillusionment by the trainers about the cascade model of training as indicated in the literature and empirical investigation, it is still the dominant model used in most in-service training in South Africa.

4.3.2.9 Filtering Down of the Content to ABET Educators

The provincial trainer indicated that:

ABET educators need facilitation skills.

By duplicating or photocopying the same training manuals that we were trained with so that we do not add or omit any information that was presented to us by our trainers and we encourage trainees (those who participated in training) to share what they have learned with their colleagues.

The response failed to address the issue of ensuring that what was cascaded in the training session would filter down to ABET educators at the centres without distortion. Duplicating training manuals is not adequate for successful filtering down of content to the centres. Giving relevant examples of how new learning can be applied to trainees' job and incorporating a variety of classroom activities and assessment methods that support transfer of learning in training can be used by in-service trainers.

In response to the question how APO ABET Specialists ensure that what was cascaded at the training session would filter down to other ABET educators at the centres, APO ABET specialist indicated that:

ABET Specialist 1:

For ABET educators to cascade training to their colleagues, time is quite limited because ABET educators work for three hours a day, that is from three to six, others from four to seven. In this case, they organize one hour a day for three days to make sure that all aspects of the in-service training they attended is successfully cascaded to their colleagues.

ABET Specialist 2:

We have to do a lot of work with the skill of helping ABET educators to train their colleagues at the centres (train the trainer course), although these ABET educators have been trained in other courses like assessor and moderator, little has been done to monitor whether what was learned has been practised in the centres.

The response signifies lack of commitment on the part of in-service trainers. If the responsibility of ABET Specialist is to make follow-up after training and they do not, then the good intentions of the cascade model are not as good as they are supposed to be.

4.3.2.10 Monitoring

For knowledge and skills to be cascaded effectively from the in-service training to the ABET centres, the effective role of the Department of Education to support and monitor in-service trainees after training is crucial. Contrary to the above statement, the following comments confirm that post-training monitoring is inadequate especially in rural ABET centres.

The Provincial trainer indicated that they do monitoring most frequently.

After training, we team-up with APO ABET specialists and visit centres according to APOs, we make it a point that we spend a week in that particular APO so as to reach as many centres as possible.

The APO ABET Specialists mentioned that:

Considering the various duties that we are allocated to do in one year and the deadlines that we are expected to meet, makes it impractical to visit all the centres

especially the most rural and far centres that falls under our APO.

The fact that we are understaffed makes it difficult for us to find adequate time to visit the centres for support or to make follow-ups for our trainees. But we are doing our best.

The emerging pattern is that post-training monitoring is irregular and that not all ABET centres undergo follow-up check-ups especially those in rural areas. The above assertions indicate that in-service training should be co-ordinated so that the training outcomes of one group are reconciled with the training outcomes of other groups.

4.3.2.11 General comments

On the question: Provide any other suggestions on how the future in-service training of ABET educators should be conducted, the Provincial trainer commented:

- *Future in-service training should be planned in advance to avoid under spending and other budgetary implications.*
- *By constant monitoring mechanism which we do for the whole year.*

The above assertions suggest that the provincial trainer relied on monitoring mechanism drawn at the beginning of the year and the importance of planning in advance. Other comments and suggestions on how the future in-service training of ABET educators should be conducted were made by the APO ABET specialists as follows:

ABET specialist 1:

- *Training must be practical and relevant to the job situation. Serious follow-up meetings with the trainees, time-time visitation to the centres need to be top priority of the Directorate to ensure that training programmes are implemented at the centres.*

APO specialist 2:

- *Our educators need both teaching and learning resources specific to their own needs in their own centres. We need to do on-site support regularly.*

APO specialist 3:

- *Adequate time should be allowed for ABET educators to try new ideas and follow-up can be undertaken.*

APO specialist 4:

- *Resource back-up and regular guidance from our side is very essential.*
- *More research should be done to find out what ABET educators' needs are.*

APO specialist 5:

To train Analyses of the responses yield an interesting picture and show a degree of similarities between APO ABET Specialists and ABET educators. From the questionnaire and interviews some respondents alluded that the time allocation of in-service training sessions at the centres was insufficient. In Section 4.3.1 ABET educators alluded to the fact that they are allocated only three hours a day for three days in a week and the tight schedules for the formal assessment tasks at the centres makes it difficult for them to share what was workshopped to them to their colleagues. This statement was alluded by ABET APO Specialist 1 and ABET APO Specialist 5 (Refer to Section 4.3.2.8).

- *ABET educators who are working in an environment which does not offer long term job security and expect them to transfer what they have learned from the in-service training to their centres, seems to be a futile exercise.*

Given the context of ABET educators' conditions of service; it is important that in-service trainers understand how organizational barriers can inhibit transfer of learning to the centres. Post-training support is believed to influence the degree of application of learning after

training. The focus should be on establishing contextually appropriate systems to make ABET centres and classrooms as supportive as possible for educators returning from training. Motivation to transfer what was learnt from the in-service training is another key factor that inhibits the effectiveness of the cascade model.

4.4 Conclusion

The presentation of the findings as well as their interpretation of data has been outlined in chapter four. The results of both qualitative and quantitative data were analyzed. The challenges of the cascade model that were found were: trainer confidence, limitations and shortcomings faced by in-service trainers in cascading training to the ABET educators, distortion of information, dissemination, less training resources at the centre level of the cascade, time gaps between training, minimal support during and after training.

When the responses of the in-service trainers (Provincial trainer and APO ABET Specialists) are compared with those of ABET educators, the reasons for the impediments of the cascade model of training can be attributed to: lack of application of learning of what was learnt from the training, ABET educators seeing workshops as irrelevant, ABET employment being used as a stepping-stone, unmotivated ABET educators and training of new faces every year (Refer to Section 4.3.2.8). Other impediments indicated by APO ABET Specialists were lack of confidence of ABET educators to cascade training to their colleagues, limited working hours of ABET educators; Absenteeism of ABET educators when they have to cascade what they have learnt from the in-service training; ABET educators who are unable to express themselves in English, ABET educators leaving the centres at the alarming rate after being trained. The negative nature of the responses of the Provincial trainer and the APO ABET Specialists correspond with the nature of responses of the ABET educators. These responses circumvent the good intentions of the cascade model of training.

Lastly, the success of the cascade model depends on the positive reaction of trainees (ABET educators) towards in-service training provided. ABET educators indicated in Figure 15 that the training objectives were linked to the in-service training outcomes. The interviews with in-service trainers alluded that this was achieved by means of the submission of Portfolios of evidence by the in-service trainees after training. A considerable number of ABET educators, 84.4%, in Figure 26 agreed that the transfer of learning from the in-service training to the

ABET centres takes place because in-service training programmes are practical. In Figure 28, an overwhelming majority of the respondents indicated that transfer of learning took place because the in-service training objectives were clearly formulated. This is in harmony with Nadler and Nadler's Critical events model, who indicated that once the training needs of the trainees have been determined, the training objectives are formulated. In other words there is a likelihood that when specific training needs of ABET educators are assessed before training and training objectives clearly formulated, the cascading of information is likely to be effective. The above responses fall within the ambit of the effectiveness of the cascade training model. The next chapter presents an overview of the study, summary, major findings and recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents this study's summary of findings, conclusion and recommendations. This research examined the effectiveness of the cascade model of training on the in-service training of ABET educators in the North West Province. The reasons for the ineffectiveness of the cascade model were identified and intervention mechanisms to achieve positive results in the cascade model of training were suggested. The views of the ABET educators were sought to provide inputs because they are the beneficiaries of the in-service training through the cascade model of training. This chapter highlights the findings from the three research questions, three objectives and the implementation of research methodologies before it presents the study's main findings thereby putting the cascade model in its proper perspective. It winds up by making an overview of the implications of this study to further research, policy and practice among others.

5.2 Summary of Main Findings

This section consists of a brief summary of each research question investigated. Data for the research questions came from the questionnaire of ABET educators (Appendix A) and interviews conducted with the ABET provincial trainer (Appendix B) and ABET APO specialists (Appendix C).

5.2.1 Major findings pertaining to research question 1: How effective is the cascade model of training

The following were identified:

- ABET educators' involvement in the planning of their in-service training is crucial for effective cascading of the knowledge and skills to the centres. However, most ABET educators indicated that they were not involved in the planning of their in-service training. ABET educators need to be involved in the planning of their training programme.

- The design of in-service training objectives must be linked to the in-service training outcomes. The design of the in-service training objectives was said to be linked to the in-service training outcomes.
- The content of the in-service training must be in line with the ABET educators' training needs. Successful training begins with needs assessment to determine which employees need to be trained and what they need to be trained to do.
- In-service trainers should have the necessary skills to present the materials in a way that encourages ABET educators' learning and they should know the training content. Most educators indicated that in-service trainers have the necessary skills to present the materials in such a way which encourages their learning. For in-service training to achieve meaningful and successful results, the trainers need to be knowledgeable enough to be able to impart their theory during their presentation, most ABET educators indicated that their in-service trainers knew the training content.
- Thirty-nine out of the 103 respondents seem not to be provided with the necessary support during training to enable them to deal with discussions that arose.
- For effective cascading of information from the in-service training to the centres, post-training monitoring should be conducted.

5.2.2 Major findings pertaining to research question 2. What are the factors that impede the effectiveness of the cascade model?

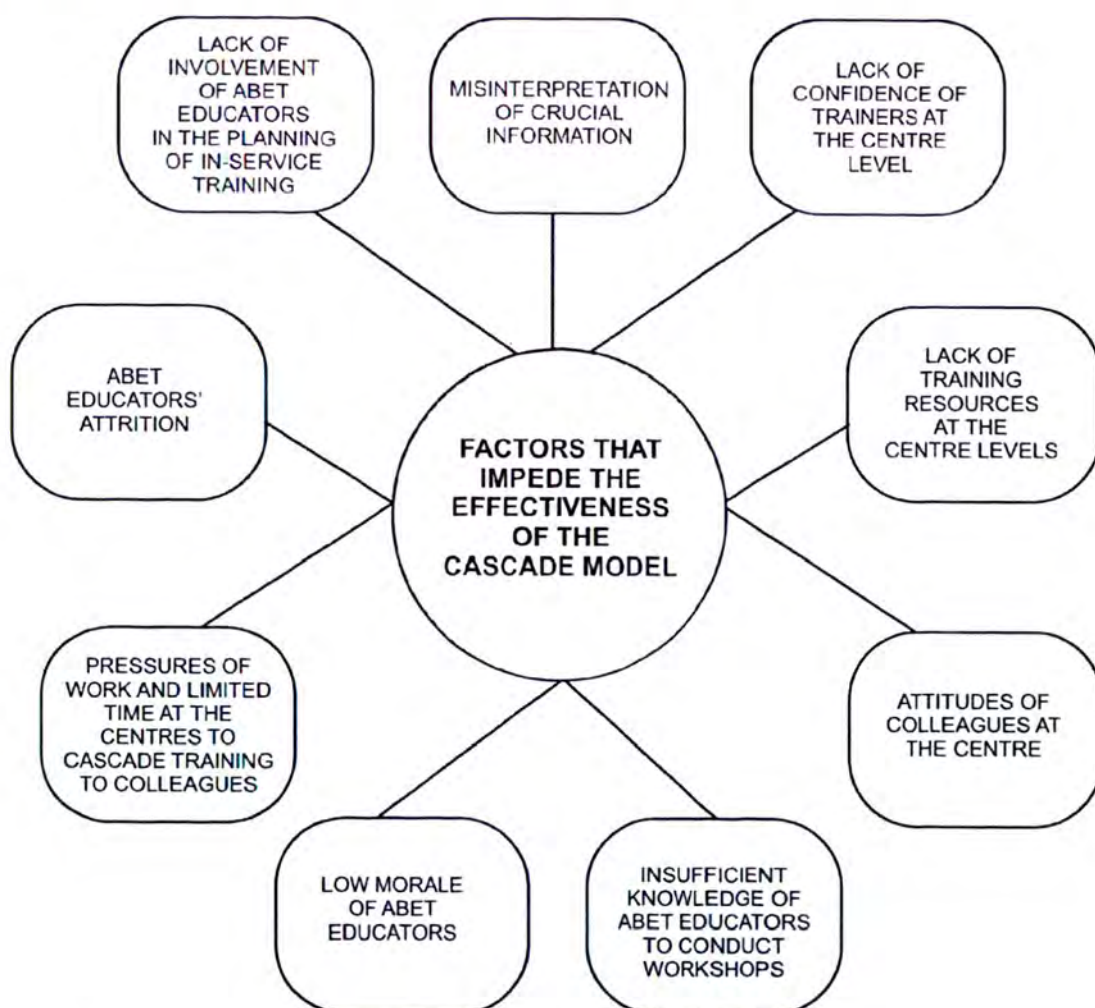
The following were identified as factors that impede the effectiveness of the cascade model of training:

- Time gaps between the training of various levels was indicated as a factor that impedes the effectiveness of the cascade model. Figure 30 indicated that lessons learnt in the in-service training were not cascaded immediately to the ABET educators at the centres. The majority of ABET educators indicated that there is a training loss due to the time gaps between the training of the various levels. This is evidenced by the following contradiction: in Figure 18 the respondents (ABET educators) indicated that in-service trainers knew the training content but Figure 21 indicate that 45.6% of respondents contend that ABET educators have insufficient knowledge to conduct workshops at the centres. In the same vein, four out of five respondents indicated that the cascading of information results in misinterpretation of crucial information

(Figure 25). The unavailability of resources for training ABET educators at the centre levels was said to be another factor that impedes the effectiveness of the cascade model. Figure 24 indicates that 69% of ABET educators seem to affirm the fact that resources for training were not available at the centres.

- Many ABET educators are not confident when they have to cascade what they have learnt from the ABET workshops (Figure 27) and that trainees are uncomfortable with using new skills when they get to the centres (Figure 29). These were found to be other factors that impede the effectiveness of the cascade model of training.

Figure 41: Factors that impede the effectiveness of the cascade model.



Source: The researcher's own design

Figure 41 shows a summary of the factors from the research findings that may impede the effectiveness of the cascade model of training.

5.2.3 Major findings pertaining to research question 3: What intervention mechanisms can be used to achieve positive results in the cascade model of training?

The following were identified:

- ABET educators should be involved in the planning of their in-service training. A cross-section of stakeholders must be involved in the preparation of training material. In-service trainers need to understand adults are more committed to learning activities to which they contributed to the planning and designing phase (Brookfield, 1994:102). For effective in-service training, opportunity for mutual planning must be created by in-service trainers.
- In-service training activities should be based on a careful assessment of the actual and perceived needs of participants, the respective competence needs of the trainees affected by change need to be addressed.
- The design of the in-service training objectives should be linked to the in-service training outcomes. Figure 15 indicated that in-service training objectives were linked to outcomes.
- Trainers need to understand adult learning and try to mould the training experiences to the orientation of adults in each training session. In-service trainers need to realize that they are training adults, each training session should be needs oriented. The notion that the experience of adult learners is of great importance is also applicable in the in-service training of ABET educators. Knowles (1984:10) indicates that all the learner can bring to the learning environment is their experience. In-service trainers need to understand that adults derive their self-identity from their life experiences.
- Trainers should make sure that training and development strategies are experiential, context sensitive, collaborative and reflective (Figure 36, Figure 39 and Figure 37). It is crucial to ensure that ABET educators integrate what they have learnt in the in-service training into their experience instead of being passive transmitters of knowledge. In-service trainers should use a variety of techniques and training aids, to encourage an awareness of learning style, and a broadening of the trainees' range of styles.
- In-service training should use work-related situations in training (Figure 35). The in-service trainers must be familiar with ABET operational procedures.

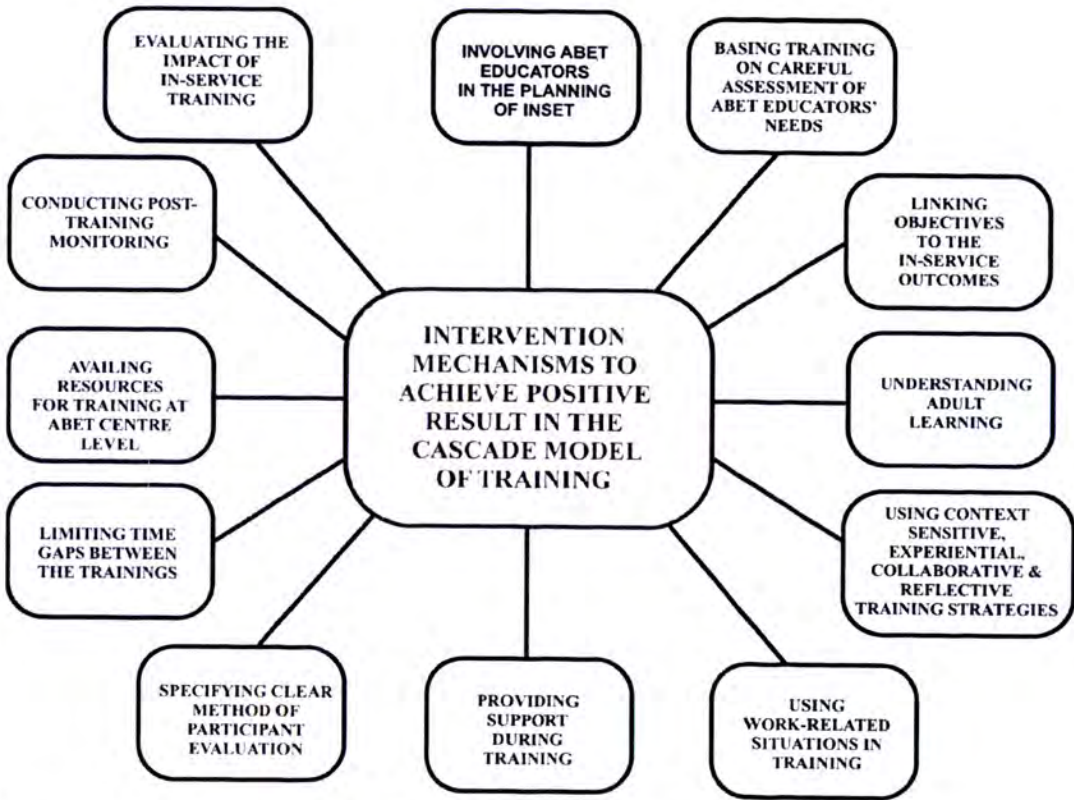
- In-service trainers must provide support during training (Figure 19). For instance, in Section 4.3.2.8 the ABET APO trainers indicated that one of the factors that impede the effectiveness of the cascade model is that ABET educators are always absent-minded and do not comprehend during training. In the literature Section 2.3 Kolb's invaluable framework for designing learning experiences for adults is articulated. The in-service trainers should develop a broader range of learning styles, so that they encourage trainees to become more effective learners from life's events, and so that they can utilize fully the cycle of learning as espoused by Kolb.
- A clear method of participant evaluation must be specified (Figure 33). Kirkpatrick's Level 2 evaluation should be done during and after the in-service training event to determine if trainees gained the knowledge, skills and attitudes. Here the in-service training goal is to determine what the trainees have learnt during the in-service training. Because the in-service trainer should have specific learning objectives, one hopes to find clear learning outcomes. Learning outcomes can include changes in knowledge, skills and attitudes (See Section 2.10). Some in-service training programmes emphasize knowledge, some emphasize skills, some emphasize attitudes, and some will emphasize multiple learning outcomes. The evaluation should focus on measuring what was covered in the training event.
- Gaps between in-service training of different levels should be limited (Figure 33). The links in the cascade should be well structured and kept as short as possible to avoid distorted messages from reaching users (ABET educators) at the end of the cascade.
- Resources for training should be available at the centre levels (Figure 24).
- Post-training monitoring should be conducted (Figure 31 and Figure 40).
- The impact of in-service training should be evaluated (Table 6).

5.3 Recommendations

5.3.1 Recommendations from the Research

In summary, the major recommendations for the effectiveness of the cascade model of in-service training of ABET educators in this research are as follows:

Figure 42: Summary of possible intervention mechanisms to achieve possible intervention mechanisms to achieve positive results in the use of the cascade model.



Source: The researcher’s view

Figure 42 is the Diagrammatic representations in summary of intervention mechanisms that could be introduced towards achieving positive results in the use of the cascade model of training drawn from the findings of the study.

Recommendation 1

Involving ABET educators in the planning of in-service training

Motivation

ABET educators’ involvement in the planning of training is crucial for effective cascading of skills and knowledge to the ABET centres. From the discussion in this study, it is clear that all stakeholders (in-service trainers and trainees) in the ABET sector need to work harmoniously in the planning for in-service training to bear good results. A committee

involving all stakeholders (Provincial trainer, APO ABET trainers, ABET educators and centre managers) should be formed to ensure transferability of what was learned in in-service training offered at the centres. The involvement of ABET educators in their training will promote common vision of in-service training.

Recommendation 2

Basing training on careful assessment of ABET educators' needs

Motivation

An in-service training programme should undertake a needs assessment. Assessment of needs is not an easy task and it is likely to fail if it is based on naïve assumptions of the in-service training organizers. It is worth noting that the effectiveness of any in-service training requires expeditious data collection and analysis. Prior to the in-service training, designing and implementation of an in-service training programme, a training plan should be formulated. The basis of who must be trained, what must be trained, when training will occur, and where the training will take place are accomplished in this plan. When constructing the in-service training plan for the ABET educators the trainers should first ask themselves what must the ABET educators know, how are they going to acquire that knowledge, how will they (in-service trainers) know when they (ABET educators) have acquired that knowledge. This exercise has certainly an aura of administrivia, but if it is neglected, it can impede the effectiveness of the cascade model of training. In-service trainers should ensure that the in-service training is well designed to meet the needs of in-service trainees.

A successful in-service training should have clear objectives, based on careful identification of ABET educators needs, have the support of the in-service trainers to monitor and make follow-ups after in-service training. Well structured and well formulated objectives will facilitate the effectiveness of the cascade model of training.

Recommendation 3

Linking objectives to the in-service outcomes

Motivation

The chosen objectives of a particular in-service training programme are dependent upon who is undergoing the training. The in-service training objectives for a particular in-service training must be set according to the specific profile of the trainees concerned.

Recommendation 4

Understanding adult learning

Motivation

Adult learners' particular learning needs are important considerations when designing in-service training. When training ABET educators, trainers should bear in mind that they are not training children and that understanding adult learning needs is the most crucial part in in-service training. The in-service trainers should have the necessary skills to present the materials in a way which encourages the ABET educators' learning and they should know the training content.

Recommendation 5

Using context-sensitive, experiential, collaborative and reflective methods when conducting training.

Motivation

In-service should try as much as possible to involve in-service trainees in ways which would ensure that the in-service training has a close bearing on their teaching. They should try to mould each training experience to the orientation of adults in each training. It is worth noting that it is not possible for in-service trainers to prepare trainees for all the contexts in which they work. They should attempt to involve them as far as possible in the process of their own training by allowing them to voice their views concerning their working situations.

This research recommends that in-service trainers should devote more time to experiential learning and practice. In this case matching training methods to the in-service trainees' experience is crucial for the effectiveness of the cascade model of training. The researcher recommends that role plays instead of lecture methods must be used in training. In-service trainers should encourage ABET educators to integrate new ideas (what they are learning in the training) into their own experience in a creative and constructive way, instead of merely receiving ideas.

Recommendation 6

Using work-related situations in training.

Motivation

In-service trainers must use as many relevant real life examples as possible. The in-service trainer must tailor examples to the work situations of these ABET educators. This can be achieved when in-service trainers encourage trainees to discuss among themselves about situations where they might apply the learning and the difficulties they may encounter. When planning the actual content to present in-service training, in-service trainers should include a wide variety of strategies in their training. The training strategies should be potentially effective, easily learned by ABET educators and easily blended into regular teaching and likely to show transfer of in-service training to the ABET centres. It is imperative to note that in-service training is only part of a solution to meet the ABET educators' needs identified in needs assessment process. Trainers must first understand what ABET educators presently do in the ABET centres and how in-service training will change the nature of their work afterwards.

Recommendation 7

Providing support during training.

Motivation

Methods also should take into consideration in-service participants' learning styles, possibly through using learning style assessment inventories (Kolb, 1984). While integrating

individual learning style approaches into group training can be difficult, different learning styles can be accommodated through a variety of methods. Applying learning style methods to learning on the job appears to be a promising approach.

Although in-service trainers seldom consider this educational function part of their in-service training role, they should recognize that everyone does not learn in the same manner (or in the manner by which the trainer learns). Recognizing learning style differences between trainees and between trainers and trainees can help to facilitate the learning and transfer process. Effective in-service trainers are able to recognize learning differences and to develop training approaches that emphasize a variety of methods. In this way, they can tap into predominant learning styles and help trainees to use their different learning patterns at their worksites.

Recommendation 8

Specifying clear methods of participants' evaluation.

Motivation

When in-service trainers evaluate trainees, they must review with them the standard for the desired performance that is outlined in in-service training guidelines. Participants' evaluation should take place throughout the training process, not as a last step. In order to obtain in-service participants' reaction to their new training experience, questionnaires need to be conducted. Questionnaire should include such aspects as contents, in-service trainers' training styles and in-service trainers' support during and after training. All the evaluation data should be used to analyze the strengths and weaknesses of the various aspects of the training processes for confirmation of effectiveness and further revisions.

Recommendation 9

Limiting time gaps between the training of various cascade levels.

Motivation

The use of the cascade model of training, especially in respect of training events of immense magnitude, requires careful consideration. At the top the main principles are imparted. As the

level descends, more elaboration, concrete examples and more participation are provided for, so that the objective of reaching the people is fulfilled. It is recommended that there should be fewer tiers (at least three as a minimum) in the training system so that no information is lost as it is passed on. Also the delivery should be done according to the needs of trainees and the availability in the environment.

Recommendation 10

Availing Resources for Training.

Motivation

Required materials for training should be provided by the North West ABET Directorate. Resources must be defused through the system as widely as possible; they should not be concentrated only at the top. The centre managers in collaboration with both the Provincial trainer and ABET specialists need to ensure that resource (material) requirements which will enable the achievement of objectives of in-service training are available at the centres.

Recommendation 11

Conducting post-training monitoring

Motivation

Follow-up after in-service training is a critical aspect of the training. Trained ABET educators (trainers in the centres) require support and mentoring. Periodic visitation (post-training visits) to the centres and revision of the in-service training would be required to ensure optimal transfer of learning to the centres. Provincial ABET Specialists are best suited to play this role. However, if time constraints do not allow for this, then APO managers or one staff from the Provincial Department of Education could be considered to fill this gap. If a need arise in the future for external support then, one staff from MiET could be called, this way, the goals of the in-service training would be achieved effectively.

Recommendation 12

Evaluate the impact of in-service training

Motivation

Inadequate support is viewed as the second most critical factor which currently is serving as a major obstacle of the cascade model of training. Some ABET educators do not pass what they have learnt from the in-service training workshop to their colleagues on time. One way of facilitating the effectiveness of cascading what was learnt from the in-service training back to their workplace is by use of action planning during their training. If trainers do not make follow-up immediately after the in-service training, what was learnt from the training may fade in the memory of trainees. For the cascade model to be effective, Provincial and ABET APO specialists should make it their priority to monitor and have regular and on-going supervision of in-service trainees after training.

There is an increasing number of reports of ABET educators leaving the ABET centres. One APO specialist contends that “Appointments of ABET educators are usually based on renewable eleven months contracts depending on the number of ABET learners returning back to the centres”. Specific clarification of conditions of service of ABET educators and guidance related to this issue from Department of Education personnel would be extremely helpful. It is further recommended that the Department of Education should clarify the condition of service of ABET educators. In this case it is recommended that ABET employment be formalized or be a fixed term of three to five year contract.

5.4 Recommendations for further Study

Further research is recommended on the following aspects with the view to improving the in-service training of the ABET educators:

- ABET educators’ attrition and the effectiveness of the cascade model.
- ABET educators’ conditions of service and transfer of learning.
- The cost-effectiveness of the cascade model and the quality of in-service training of ABET educators.

5.5 Conclusion

In the light of this research, the challenges related to the effectiveness of the cascade model of in-service training of ABET educators were identified and discussed. The planning and organization of in-service training at the centre levels of the cascade were found to be lacking. The competences of in-service trainers at the centre level were found to be of questionable quality while the transfer of learning to the centres was found to be poor. As a result of these findings, it emerged that there was a need for more structured in-service training of ABET educators if the cascade model of training was to be effective.

Finally, it became apparent that the unique context of individual centres and APO should be taken into consideration by the Directorate of ABET when in-service training was designed for ABET educators. This research therefore, acknowledged that transfer problems in in-service training exist due to the time gaps between the training of various levels lack of motivation among ABET educators, dilution of training and misinterpretation of crucial information. Lack of transfer of learning is being regarded as a challenge facing most training programmes in in-service training of ABET educators. This research also offers comprehensive alternatives to the barriers of learning implicit in the cascade model.

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APPENDIX A: QUESTIONNAIRE FOR ABET EDUCATORS

THE EFFECTIVENESS OF THE CASCADE MODEL

Answer each question by marking the appropriate number in the box with an "X" or fill in the information asked for.

Record

SECTION A: BIOGRAPHICAL INFORMATION

1. Which Area Project Office (APO) do you mainly work in?

Mafikeng	1
Zeerust	2
Lichtenburg	3
Rekopantswe	4
Kgetlheng	5

V1

2. Gender?

Male	1
Female	2

V2

3. What is your present age?

20 years or younger	1
21 - 30 years	2
31 - 40 years	3
41 - 50 years	4
51 - 60 years	5
Over 60 years	6

V3

4. What is your position with respect to ABET sector at the present time?

ABET Educator	
Centre Manager	

V4

5. How long have you served in the ABET sector?

Less than 1 year	1
1 - 2 years	2
3 - 5 years	3
6 - 10 years	4
More than 10 years	5

V5

For
office
use
only

6. What is your highest level of formal education to date?

Matric	1
Diploma	2
BA Ed	3
Bed	4
Others (Specify):	5

For
office
use
only

V6

SECTION B: YOUR EXPERIENCE WITH THE CASCADE

7. Please give details of in-service activities (eg. courses, workshops) you have attended in the last three years:

V7

Title of course (eg. English)	Duration (eg. 2 days)
(1)	
(2)	
(3)	
(4)	
(5)	

Show, by marking the appropriate box with an "X", the extent to which you personally agree or disagree with each of the following statements.
Use the scale:

- (5) Strongly Agree (SA)
(4) Agree (A)
(3) : Undecided (U)
(2) : Disagree (D)
(1) : Strongly Disagree (SD)

	Statements	SA	A	U	D	SD
8.	As an ABET educator I was involved in the planning of the training programme.	5	4	3	2	1
9.	The design of in-service training objectives was linked to the in-service training outcomes.	5	4	3	2	1
10.	I found that the content of in-service training was in line with my training needs	5	4	3	2	1
11.	The in-service trainers have the necessary skills to present the material in such a way which encouraged my learning.	5	4	3	2	1
12.	The in-service trainers knew the training content.	5	4	3	2	1

V8

V9

V10

V11

V12

	Statements	SA	A	U	D	SD	
13.	There was time to provide support to ABET educators during training to deal with discussions which developed.	5	4	3	2	1	V13
14.	There was variety of training activities to keep ABET educators engaged during the in-service training.	5	4	3	2	1	V14

SECTION C: THE EFFECTIVENESS OF THE CASCADE MODEL OF TRAINING

Show, by marking the appropriate box with an “X”, the extent to which you personally agree or disagree with each of the following statements.
Use the scale:

- (5) Strongly Agree (SA)
(4) Agree (A)
(3) : Undecided (U)
(2) : Disagree (D)
(1) : Strongly Disagree (SD)

	Statements	SA	A	U	D	SD	
15.	When fellow educators are to cascade information, colleagues find it useful as they are seen as equals	5	4	3	2	1	V15
16.	There is a training loss due to the time gaps between the training of the various levels.	5	4	3	2	1	V16
17.	Resources for training are available for ABET educators at the centre levels.	5	4	3	2	1	V17
18.	The cascading of information results in misinterpretation of crucial information.	5	4	3	2	1	V18
19.	Transfer of learning in ABET workshops take place because in-service training programmes are practical.	5	4	3	2	1	V19
20.	ABET educators are confident when they have to cascade what they have learned from ABET workshops.	5	4	3	2	1	V20

	Statements	SA	A	U	D	SD	
21.	Transfer of learning takes place because training objectives are clearly formulated.	5	4	3	2	1	V21
22.	Transfer of learning takes place because trainees are comfortable with using new skills when they get to their centres.	5	4	3	2	1	V22
23.	Lessons learned in in-service training programmes are cascaded immediately to the ABET educators at the centres.	5	4	3	2	1	V23
24.	Transfer of training is effective because there is post-training monitoring.	5	4	3	2	1	V24

SECTION D: INTERVENTION MECHANISM

Show, by marking the appropriate box with an “X”, the extent to which you personally agree or disagree with each of the following statements.
Use the scale:

- (5) Strongly Agree (SA)
(4) Agree (A)
(3) : Undecided (U)
(2) : Disagree (D)
(1) : Strongly Disagree (SD)

	Statements	SA	A	U	D	SD	
25.	Consultation based technical assistance that addresses support relative to the transfer of knowledge should be considered.	5	4	3	2	1	V25
26.	A clear method of participants' evaluation should be specified.	5	4	3	2	1	V26
27.	In-service trainers should understand adult learning.	5	4	3	2	1	V27

	Statements	SA	A	U	D	SD	
28.	In-service trainers should use work related situations when training ABET educators.	5	4	3	2	1	V28
29.	The method of conducting in-service training should be experiential rather than transmissive.	5	4	3	2	1	V29
30.	The method of conducting in-service training should be reflective rather than transmissive.	5	4	3	2	1	V30
31.	In-service trainers must try to mould each training experiences to the orientation of adults in each training session.	5	4	3	2	1	V31
32.	Training strategies should be context-sensitive.	5	4	3	2	1	V32
33.	The district /circuit co-ordinators should monitor the in -service training of ABET educators at the centres.	5	4	3	2	1	V33
34.	The district/circuit co-ordinators should evaluate the impact of ABET educators in-service training organized by the Department of Education.	5	4	3	2	1	V34

SECTION E: GENERAL COMMENTS ON THE CASCADE

35. Any other comments in relation to your experiences of the cascade model of training:

V35

Thank you for your participation.

APPENDIX B: INTERVIEW WITH ABET APO SPECIALIST

This interview has been designed for completion following the cascading of ABET educator in-service training. The aim of this exercise is to obtain data concerning the effectiveness of the cascade model of training on the in-service training of ABET educators in the North West Province.

1. In which aspects did you train (workshop) ABET educators between 2007 and 2009?
2. How did you assess the needs of ABET educators when planning for their in-service training?
3. Was the content of in-service training in line with the training needs of ABET educators? Elaborate.
4. Which training strategy/strategies did you use when you were training ABET educators? Why?
5. Was there variety of activities to keep in-service trainees engaged (for instance, trainer led sessions, individual work)? Please elaborate.
6. Was there sufficient time to provide support to in-service trainees during training time and/ or to deal with queries or discussions which developed? Please comment.
7. Were in-service training aims and objectives achieved? Please comment.
8. What are the challenges of using the cascade model of training when you are training ABET educators?
9. Are you confident that your in-service trainees (ABET educators) transfer what they have learnt from the in-service training to their workplaces? Elaborate.
10. As all ABET educators cannot attend the in-service training at the same time, how do you ensure that what was cascaded in the training session would filter down to other ABET educators at the centres without any distortion?
11. How does your Directorate support ABET educators after they have attended the in-service training?
12. How often do you do monitoring after cascading in-service training to ABET educators?

13. Please provide other suggestions and comments not already noted on how the future in-service training of ABET educators using the cascade model should be conducted?

THANK YOU FOR YOUR ANTICIPATED RESPONSE.

APPENDIX C: INTERVIEW WITH PROVINCIAL TRAINER

This interview has been designed for completion following the cascading of ABET educator in-service training. The aim of this exercise is to obtain data concerning the effectiveness of the cascade model of training on the in-service training of ABET educators in the North West Province.

1. In which aspects did you train (workshop) ABET educators between 2007 and 2009?
2. How did you assess the needs of ABET educators when planning for their in-service training?
3. Was the content of in-service training in line with the training needs of ABET educators? Elaborate.
4. Which training strategy/strategies did you use when you were training ABET educators? Why?
5. Was there variety of activities to keep in-service trainees engaged (for instance, trainer led sessions, individual work)? Please elaborate.
6. Was there sufficient time to provide support to in-service trainees during training time and/ or to deal with queries or discussions which developed? Please comment.
7. Were in-service training aims and objectives achieved? Please comment.
8. What are the challenges of using the cascade model of training when you are training ABET educators?
9. Are you confident that your in-service trainees (ABET educators) transfer what they have learnt from the in-service training to their workplaces? Elaborate.
10. As all ABET educators cannot attend the in-service training at the same time, how do you ensure that what was cascaded in the training session would filter down to other ABET educators at the centres without any distortion?
11. How does your Directorate support ABET educators after they have attended the in-service training?
12. How often do you do monitoring after cascading in-service training to ABET educators?

13. Please provide other suggestions and comments not already noted on how the future in-service training of ABET educators using the cascade model should be conducted?

THANK YOU FOR YOUR ANTICIPATED RESPONSE.

APPENDIX D: PILOT QUESTIONNAIRES FOR ABET EDUCATORS

RESEARCHER: MPHO DICHABA
NORTH-WEST UNIVERSITY
MAFIKENG CAMPUS
SOUTH AFRICA

This thesis forms part of a Doctoral study entitled:

**THE EFFECTIVENESS OF THE CASCADE MODEL OF IN-SERVICE TRAINING ON
ADULT BASIC EDUCATION AND TRAINING EDUCATORS IN THE NORTH WEST
PROVINCE**

- The aim of the questionnaire is to obtain data concerning the effectiveness of the cascade model of INSET on ABET educators in the North West Province
- The data will be used to develop possible guidelines for the cascade model to achieve positive results in the INSET of ABET educators in the North West Province
- You are therefore requested to assist in this exercise by answering questions and responding to statements in the attached questionnaire

THANK YOU FOR YOUR ANTICIPATED RESPONSE

QUESTIONNAIRE FOR ABET EDUCATORS

SECTION A: BIOGRAPHIC DATA

Your personal view: Show by ticking (x) the extent to which you agree with the following statements in the boxes marked.

1. Which APO do you principally work in?

Mafikeng	
Zeerust	
Lichtenburg	
Delareyville	

2. Gender

Male	
Female	

3. What is your present age?

16-20 years	
21-30 years	
31-40 years	
41-50 years	
41-60 years	
Over 60 years	

4. What is your position with respect to ABET sector at the present time?

ABET Educator	
Centre Manager	
Other (Specify)	

6. How long have you served in the ABET sector?

Less than 1 year	
1-2 Years	
3-5 years	
6-10 years	
More than 10 years	

7. What is your highest level of formal education to date?

Matric	
Diploma	
B.A Ed	
B. Ed	
Others (Specify)	

SECTION B: TRAINEE SATISFACTION

8. Have you gained knowledge in ABET sector as a result of in-service training?

Yes	
No	

9. Have you gained skills in the ABET sector as a result of in-service training?

Yes	
No	

10. Have you gained confidence in ABET sector as a result of in-service training?

Yes	
No	

11. Please indicate your level of competence in addressing ABET issues as a result of in-service training?

Fully competent Somewhat competent Not competent

(1)	(2)	(3)
-----	-----	-----

Please tick one of the 0-4 options for the following questions, where 0 indicates 'not satisfied' and 4 'very satisfied'

12. To what extent did the ABET educator in-service training you attended fulfill the stated aims and objectives?

0 1 2 3 4

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13. To what extent did the in-service training meet your expectation?

0 1 2 3 4

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14. Briefly outline what your expectations for the in-service training programme you attended were?

.....

.....

.....

15. How would you rate the training course materials in terms of relevance (presentation, videos, etc)?

0 1 2 3 4

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16. How would you rate the training activities?

0 1 2 3 4

--	--	--	--	--

17. How would you rate the overall timing and pacing?

0 1 2 3 4

--	--	--	--	--

18. Please comment briefly on the aspect of materials, activities, timing or pacing?

.....

.....

.....

SECTION C: THE EFFECTIVENESS OF THE CASCADE MODEL OF TRAINING

19. How effective were in-service trainer(s)?

0 1 2 3 4

--	--	--	--	--

20. What could the in-service trainers do to improve your rating?

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21. What has the ABET in-service training enabled you to do, that you were unable to do before (you may or may not yet have had an opportunity to apply this learning)

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22. Briefly note any aspects of the in-service training which you found most effective?

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23. Briefly note any aspects of in-service training cascaded to you which you found least effective?

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24. In what circumstances do you feel you will be able to apply the training and with what benefits?

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25. Any other general comments about how the in-service training has impacted upon your skills, learning, competence or confidence?

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SECTION D: FACTORS THAT IMPEDES THE EFFECTIVENESS OF THE CASCADE MODEL OF TRAINING

Your personal view: Show by ticking (x) the extent to which you agree with the following statements in the boxes marked.

Scale: SA-Strongly Agree, A-Agree, U-Undecided, D- Disagree and SD- Strongly Disagree

		SA	A	U	D	SD
26.	There is lack of confidence on the part of educators when they have to cascade what they have learned from ABET workshop.					
27.	ABET educators have insufficient knowledge to conduct a workshop at their ABET centres.					
28.	When fellow educators are to cascade information, colleagues do not find it useful as they are seen as their equal and therefore not qualified or knowledgeable to train them.					
29.	There is a considerable training loss due to the time gaps between the training of the various levels.					
30.	Fewer resources for training are available for ABET educators at the centre levels.					
31.	The cascading of information results in misinterpretation of crucial information.					

		SA	A	U	D	SD
32.	Transfer of learning in ABET workshops fails because in-service training programmes are impractical.					
33.	Transfer of learning fails because training objectives are not clearly formulated.					
34.	Transfer of learning fails because trainees are uncomfortable with using new competencies.					
35.	Training fails because lessons learned in in-service training programmes are not cascaded immediately to the ABET educators at the centres.					
36.	Transfer of training fails because there is lack of post-training monitoring and support from the Department of Education.					
37.	Transfer of training fails because there is lack support from the Department of Education.					

SECTION E: INTERVENTION MECHANISM TO ACHIEVE POSITIVE RESULTS IN THE CASCADE MODEL OF TRAINING

		SA	A	U	D	SD
38.	In-service training activities must be based on a careful assessment of the actual needs of the ABET educators.					
39.	The design of in-service training objectives must be specified and linked to the in-service training outcomes.					
40.	Consultation based technical assistance that addresses support relative to the transfer of knowledge and skills should be considered					
41.	A clear method of participants evaluation must be specified					
42.	The method of conducting in-service training must be experiential and reflective rather than transmissive.					
43.	ABET educators must be involved in the preparation of training materials.					
44.	The district coordinators must sufficiently monitor the in - service training of ABET educators at centres.					
45.	The district coordinators should extensively evaluate the impact of ABET educators in-service training organized by the Department of Education.					



NORTH-WEST UNIVERSITY
YUNIBESITHI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
MAFIKENG CAMPUS

Faculty of Education

School of Postgraduate Studies

TO WHOM IT MAY CONCERN

**REQUEST FOR PERMISSION TO ADMINISTER QUESTIONNAIRE AND
INTERVIEWS FOR D.ED IN EDUCATION**

I wish to confirm that **Ms Mpho Dichaba** Student No: **16382544** is currently registered for D.ED in Adult Education at the North West University; (Mafikeng Campus.)

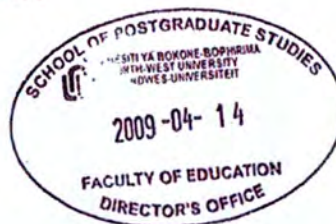
Ms Dichaba needs to collect data for her research from APOs and ABET Centres in the Ngaka Modiri Molema District. I therefore request that she be given the necessary assistance in this regard.

Thank you in anticipation of your cooperation and assistance.

A handwritten signature in black ink, appearing to read 'MW Lumadi'.

.....
PROF MW Lumadi

Director: School of Postgraduate Studies



ATTENTION: Mr A Seakamela

The Deputy Director General

North West Department of Education

Private bag x2044

Mmabatho

2735

**SUBJECT: REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN NGAKA
MODIRI MOLEMA DISTRICT**

Dear Sir

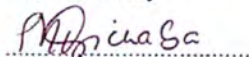
I am registered with North West University (Mafikeng Campus) as a Doctoral student. My supervisor is Dr Mokoena. The title of my thesis is as follows: **The effectiveness of the cascade model of training in the in-service training of the abet educators in the North West province.** I wish to collect data in the Ngaka Modiri Molema District .

My fieldwork plan is as follows:

- A sample of ABET officers will be interviewed.
- A questionnaire survey will be conducted with a sample of ABET educators.

I believe my request will reach your most favourable response and wish to thank you in anticipation.

Yours faithfully



Mpho Dichaba

For enquiries: (012) 429 6153

082 841 7533



education

Lefapha la Thuto
Onderwys Departement
Department of Education
NORTH WEST PROVINCE

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OFFICE OF THE CHIEF OPERATIONS OFFICER:
BRANCH: DISTRICT AND PROFESSIONAL OPERATIONAL SERVICES

Enquiries: Ms M.J. Mogosi

15 October 2009

To: Ms Mpho Dichaba
Doctoral Student: North West University
Mafikeng Campus

From: Mr M.A. Seakamela
Chief Operations Officer
Districts and Professional Operational Services

**SUBJECT: REQUEST FOR PERMISSION TO CONDUCT RESEARCH: THE
EFFECTIVENESS OF THE CASCADE MODEL OF TRAINING IN THE
IN-SERVICE TRAINING OF THE ABET EDUCATORS IN THE
NORTH WEST PROVINCE**

Please be informed that permission has been granted for you to collect data in the Ngaka Modiri Molema District. Approval is therefore granted under the following conditions:

- That consultation with the focus group identified is done
- That the necessary information related to the evaluation process is shared with the department
- That any publication of information pertaining to the department should be done with the permission from the department
- That learning and teaching process is not compromised
- That the department be favoured with the outcomes of the research

Your input in contributing to the betterment of education will be appreciated

Regards

M.A. Seakamela

Mr M.A. Seakamela
Chief Operations Officer
District and Professional Operational Services

"TOGETHER, DOING MORE, BETTER"

APPENDIX H



NORTH-WEST UNIVERSITY
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Tel: (018) 389-2381

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Web: <http://www.nwu.ac.za>

E-mail: livingstone.makondo@nwu.ac.za

Date: 7 June 2010

TO WHOM IT MAY CONCERN

RE: EDITING CONFIRMATION

I hereby confirm that I did language editing for Mpho M. Dichaba's thesis titled:

The effectiveness of the cascade model in the in-service training of adult basic education and training (ABET) educators in the North West Province.

Yours

Livingstone Makondo (Dr)

Senior Academic Development Advisor