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An experiential learning process for the advancement of previously disadvantaged employees in an industrial context

by

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submitted in fulfilment of the requirements for the degree

Philosophiae Doctor

in the

Department of Didactics
Faculty of Education
University of Pretoria
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October 1999

Dedication

Socrates taught for forty years, Plato for fifty, Aristotle for forty, and Jesus for only three; yet those three years infinitely transcend in influence the combined teaching over one hundred and thirty years by Socrates, Plato, and Aristotle, the three greatest men of all antiquity.

Sceptics praise the clearness of His judgements, the depth of His ethics, the justness of His decisions, the weight of His words, the faultless beauty of His glorious life – its balance, its pure nobility and its serene power.

(Earle Albert Rowell)



Declaration

I declare that

An experiential learning process for the advancement of previously disadvantaged employees in an industrial context

is my own work and that the sources that I have used or quoted have been indicated and acknowledged by means of complete reference.

A handwritten signature in black ink, appearing to read 'J. Cilliers', written over a horizontal line.

Willem Johannes Cilliers

29 October 1999

Acknowledgements

- **My supervisor, Prof. Dr Johannes Cronjé, whom I have always respected for his academic integrity and sometimes unorthodox way of working, which has made the authoring of this research project a challenging experience that has enhanced my personal growth.**
- **My children, Ruan (7) and Jaundré (4) – for your continual support and exceptional and sometimes unspoken presence and patience while I was working.**
- **My employer, Eskom – an organisation that believes in the investment and development of human capital and is the leader in people development.**
- **Solly Moloko (Eskom, Executive Director Human Resources), who allowed me to do this study.**
- **Johann Schutte, Elsabie Marais and Casper du Preez (Eskom Corporate HRD) – for the continuous assistance, inquiring minds and input into this research project.**
- **Elsa Nell – for improving and modifying my graphics and giving colour to my work, for help and encouragement in finalising the master document and for working long hours in printing the research report.**
- **Marion Boers (language editor) – for accomplishing the almost impossible task of putting this research project into an acceptable format.**

- Anita van den Berg and Christine Nieman (Eskom Language Services) – for dotting the i's and crossing the t's in editing various other documents used during this research project.
- Sougnét van Niekerk (Megawatt Park Information Centre) – for a prompt, professional and amicable service and assistance with the information needed and in securing inter-library loans – *diens uit die boonste rakke*.
- The HR practitioners at Simmerpan, especially Jo-Ann Uys (Ouma) for showing curiosity and a critical eye in the quality checks, Lidia van Niekerk for helping with the corrections, and Chris Swanepoel, Riekie Klopper and Lydia Campbell, who had to listen to my ideas from time to time.
- Dolf Steyn, friend and former masters fellow student – for your continual interest in my study and the help with the statistics.
- Friends and family – for your support during this time.
- Steve and Tokkie Smith – for being there, especially in the last few months.
- My mother – for believing in me.
- The Almighty and Heavenly Father, without whom I could not have done anything – for determination, courage, motivation and commitment – "Thy word is a lamp unto my feet, and a light unto my path" (Psalm 119: 105).

Abstract

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Title: An experiential learning process for the advancement of previously disadvantaged employees in an industrial context

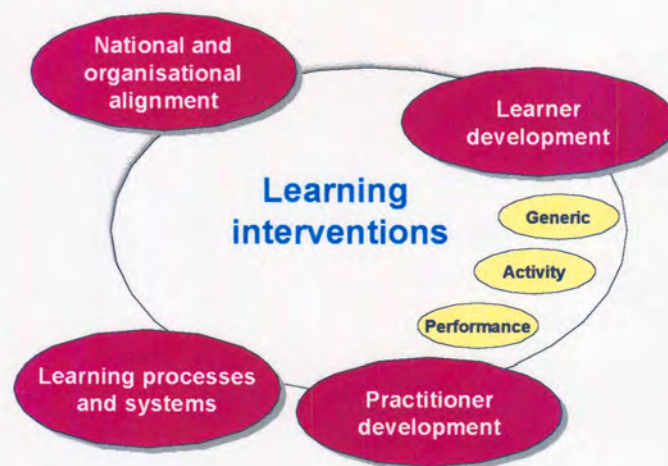
This thesis reports on the development of an experiential learning process for the advancement of employees in an industrial context. Strategic human resource development and learning interventions are the key to changing an organisation, external stakeholders and the people employed by it through planned learning so that they may acquire the knowledge and skills needed in the future organisation. However, practitioners are too often excluded from strategic decision-making and are left to make their own decisions as to the direction in which they want to move. It is implied that the practitioner's main responsibility is to manage a training and development function strategically rather than to lead efforts to formulate and implement a consolidated plan to guide the direction of learning in an organisation.

Departmental and sectional planning are important, but not as important as organisational planning for learning. Any training and development interventions that take place or are planned should in principle encourage planned learning that supports business objectives and outcomes. These business plans for organisational learning should be focused on the learner and the learning processes to support that lifelong learning culture, in line with national requirements and organisational alignment.

The training and development interventions and models currently in use do not comply with national, organisational, legal and environmental demands as

required by industry. This study explores various training and development approaches to focus on the following areas for development:

As the nucleus of this research, the *learning interventions* integrate the four focus areas mentioned by the researcher into the workplace by exposing the learner to generic, activity and performance learning processes. This section looks at possible ways to accommodate and align the transformation of existing learning interventions to match the drive for unit standards, outcomes-based training and accreditation in line with the National Qualifications Framework (NQF) and the South African Qualifications Authority (SAQA).



- The *national and organisational alignment* focuses on requirements at a national level to provide a culture of lifelong learning in an organisation. This section includes the transformation needed to comply with the legislative requirements at national, organisational and employee level.
- *Learner development* focuses on the learning interventions by exploring the different learning pathways accommodating the different skills and competency levels required.
- In *practitioner development* the researcher explores the requirements and development needs for practitioners to integrate

the processes, available learning pathways and the skills development required to guide the learners through the learning interventions and transformation.

- The *learning process and systems* briefly explores the influence of transformation on the delivery of learning interventions, transformation necessary to adapt to the imperative management and information systems essential to accommodate the changes, and the project support required for implementation in an organisation.

Key words

Advancement

Alignment

Assessment

Competencies

Experiential learning

Learning environment

Learning interventions

Learning process

Outcomes-based

Transformation

Opsomming

Kandidaat: Willem Johannes Cilliers
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Titel: 'n Ervaringsleerproses vir die bevordering van voorheen agtergeblewe werknemers in 'n nywerheidskonteks

Hierdie proefskrif doen verslag oor die ontwikkeling van 'n ervaringsleerproses vir die bevordering van werknemers in 'n nywerheidskonteks. Strategiese menslikehulpbronontwikkeling en leertussentredes is die sleutel tot die verandering van 'n organisasie. Eksterne belanghebbendes en die mense wat deur die organisasie in diens geneem is, moet deur beplande leer die kennis en vaardighede verwerf wat in die toekomstige organisasie nodig word. Praktisyns word egter te dikwels uitgesluit uit strategiese besluitneming en moet self besluit oor die rigting waarin hulle met die opleiding wil beweeg. Die implikasie is dat die praktisyn se belangrikste verantwoordelikheid is om 'n opleidings- en ontwikkelingsfunksie te bestuur eerder as om leiding te gee aan pogings om 'n gekonsolideerde plan te formuleer en te implementeer om die rigting van leer in 'n organisasie aan te dui.

Departementele en seksiebeplanning is belangrik, maar nie so belangrik soos organisasiebeplanning vir leer nie. Enige opleidings- en ontwikkelings-tussentredes wat plaasvind of beplan word, moet in beginsel beplande leer ter ondersteuning van besigheidsdoelwitte en -resultate aanmoedig. Hierdie besigheidspanne vir organisatoriese leer moet gerig wees op die leerder en die leerprosesse om steun te verleen aan daardie lewenslange leerkultuur, in ooreenstemming met nasionale vereistes en die gerigtheid van die organisasie.

Die opleidings- en ontwikkelingstussentredes en -modelle wat tans gebruik word, voldoen nie aan nasionale, organisasie-, regs- en omgewingseise wat deur die bedryf gestel word nie. Hierdie studie verken verskeie opleidings- en ontwikkelingsbenaderings vir 'n fokus op die volgende ontwikkelingsterreine:

As kern van hierdie navorsing integreer die *leertussentredes* die vier fokus terreine wat deur die navorser genoem is, in die werkplek deur die leerder bloot te stel aan generiese, aktiwiteits- en prestasieleerprosesse. Hierdie afdeling kyk na moontlike maniere om die transformasie van bestaande leertussentredes so te akkommodeer en te rig dat dit pas by die dryfkrag na eenheidstandaarde, resultaatgebaseerde opleiding en akkreditering in ooreenstemming met die Nasionale Kwalifikasieraamwerk (NKR) en Suid-Afrikaanse Kwalifikasieowerheid (SAKO).



- Die *nasionale en organisasiegerigtheid* fokus op vereistes op nasionale vlak om 'n kultuur van lewenslange leer in 'n organisasie daar te stel. Hierdie afdeling behels ook dat die transformasie moet voldoen aan die regsvereistes op nasionale, organisasie- en werknemervlak.
- By die *ontwikkeling van die leerder* val die klem op die leertussentredes deur verkenning van die onderskeie leerroetes

waarin die verskillende vaardighede en bevoegdheidsvlakke wat vereis word, voorkom.

- By die ontwikkeling van die praktisyn verken die navorser die vereistes wat aan die praktisyns gestel word en hulle ontwikkelingsbehoefte om met die prosesse, beskikbare leerroetes en vereiste vaardighedsontwikkeling te integreer om die leerders deur die leertussentredes en transformasie te lei.
- Die leerproses en -stelsels verken kortliks die uitwerking van transformasie van die lewering van leertussentredes; transformasie om aan te pas by die bestuurs- en inligtingstelsels wat noodsaaklik is om die veranderinge te akkommodeer; en die projekondersteuning wat nodig is vir implementering in 'n organisasie.

Sleutel terme

Bevordering

Gerigtheid

Skatting

Vaardighede

Ervaringsleerproses

Leeromgewing

Leerleertussentredes

Leerproses

Resultaatgebaseerde

Transformasie



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List of abbreviations

ABET	Adult basic education and training
BU	Business unit
EAITB	Eskom and Allied Industries Training Board
ECSA	Engineering Council of South Africa
ETB	Education and Training Board
ETD	Education, training and development
ETQA	Education and Training Quality Assurer
HR	Human Resources
HRD	Human Resources Development
ILP	Integrated learning programme
KPI	Key performance indicators
MIS	Management information systems
NQF	National Qualifications Framework
NSA	National Skills Authority
NSB	National Skills Body
RPL	Recognition for prior learning
SAQA	South African Qualifications Authority
SETA	Sector Education and Training Authority
SETO	Sectoral Education and Training Organisation
SGB	Standard Generating Body

Definition of terms

A and B band employees	Based on the Patterson grading system, this is the lowest level worker employed by Eskom.
Action research	An emergent enquiry process in which behavioural and social science knowledge is integrated with existing organisational knowledge to produce new usable knowledge.
Adult learner / learner	Individuals beyond adolescence engaged in learning.
Assessment	A method of evaluating employees by conducting job simulations to observe job-related behaviours.
Career anchor	Distinctive pattern of self-perceived talents, motives and values that guides career decision-making throughout a person's life.
Career development	An ongoing effort on the part of both individuals and organisations to expand career opportunities and negotiated career goals.
Career path	A sequence of job changes that an employee may pursue in order to attain a given target position.
Career planning	A combined effort between an organisation and an individual to meet organisational and individual goals by managing the flow of individuals through positions over time.
Communication	The transfer of information from one person to another.
Culture	A pattern of basic assumptions proved valid over time and taught to new group members as correct reactions to certain problems and opportunities.
Demographic diversity	Individual differences based on characteristics

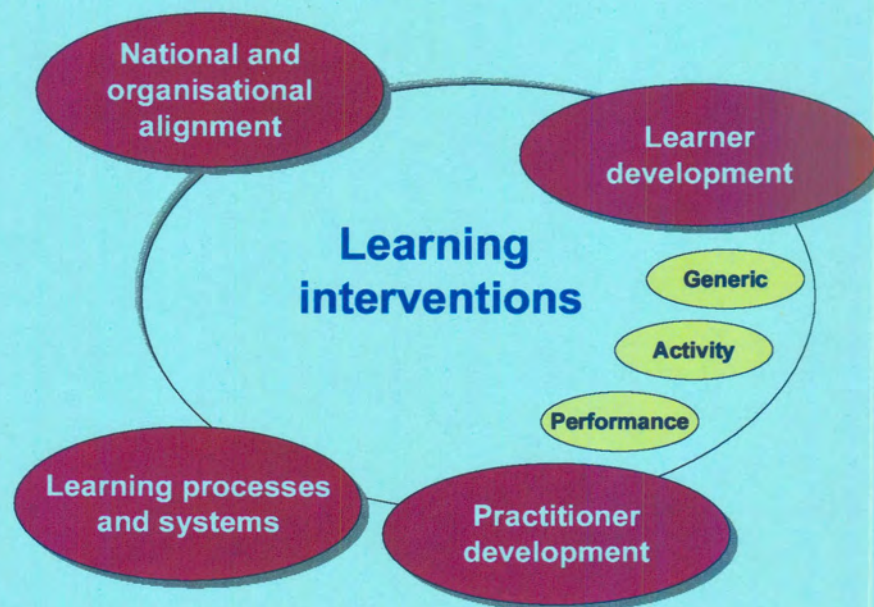


Effectiveness	The ability to define goals and objectives and then to accomplish them. Efficiency, in contrast, pertains to the ratio of output to input.
E-mail	Electronic mail or e-mail is the postal system of the Internet and Intranet.
Eskom	South Africa's national electricity supplier, established in 1923 and owned by the Government.
Eskom Transmission Group	Eskom consists of 10 groups, with the Transmission Group classified as one of the three core business groups. Transmission operates as a process-driven organisation.
Experiential learning	Learning based on or from experience, such as interaction, involvement or process learning.
Human resources development (HRD)	The integrated use of training and development, organisational development, and career development to improve individual, group and organisational effectiveness.
Higher education	Any learning programme of a level higher than Grade 12 or its equivalent.
Information technology	Technologies dealing with computers, communications, user interfaces, storage, software, artificial intelligence, robotics and manufacturing.
Interpersonal skills	Human or people skills: the ability to lead, motivate and communicate effectively with others.
Intervention	Method or technique for achieving change, which is targeted at individual, group or organisational level.
Leadership	The behaviour of an individual when he or she is directing the activities of a group towards a

	shared goal.
Learning	The process whereby new skills, knowledge, abilities and attitudes are created through the transformation of experience.
Mentoring	A formal or informal, one-to-one relationship that usually develops between an older and more experienced employee and a younger, less experienced one in order to advise, counsel or help the younger employee.
Organisation	A term that includes the purpose and functional roles of the employees, the co-ordination of the interactions between the employees' roles and the nature of the different types of work to be performed.
Outcome-based education	A comprehensive approach to organising and operating an education system that is focused on and defined by the successful demonstrations of learning sought from each learner.
Outcomes-based education	Experts in the educational system refer to outcome-based education. However, legislative documents in South Africa refer to outcomes-based education. In this study the researcher will refer to outcomes-based education.
Outcomes	Learning results that are clearly demonstrated at or after the end of an instructional experience.
Practitioner / ETD practitioner	An employee who acts as a part-time or full-time lecturer, specialist or world-class leader in performing a combination of ETD/HRD roles as described by the researcher in Chapter 4 and produces outputs as a skills builder, skills contributor, knowledge contributor or workplace leader.



Chapter 1 Overview



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

1 OVERVIEW

One of the focus areas of the Skills Development Act is to provide a "skills development strategy which is flexible, accessible, decentralised, demand-led and based on a partnership between the public and private sectors" (South Africa, 1997: 2a).

1.1 INTRODUCTION

This thesis reports on the development of an integrated experiential learning process for the advancement of previously disadvantaged employees in an industrial context. The *Green Paper on Skills Development Strategy* (South Africa, 1997:6c) proposes a new "approach to skills development which complements the formal education system. It links skill information to the requirements of a growing economy and extends education and training to people both within and outside formal employment. It is primarily concerned with industry-based training, improving the intermediate level skills base of the country and labour market training for target groups". In order to provide a holistic approach to skills development and experiential training, attention needs to be given to an integrated approach to the design, development and implementation of a total outcomes-based training and development system within a process-driven industry.

Eskom supplies well over 90% of the electricity consumed in South Africa. It is also Africa's largest utility and accounts for more than half of the electricity generated on the entire African continent. Its 25 power stations are mainly coal-fired, but include Africa's only nuclear power station, the world's largest dry-cooled power station and two hydro-electric and two pumped storage schemes (Eskom, 1998e). Eskom also has unique expertise in burning coal with an extremely low calorific value. Eskom is an independent, self-financing

undertaking. It has no shareholders and is funded entirely from debt and retained earnings (Eskom, 1996).

Eskom employs 56 000 workers and develops its employees in terms of competence, skills and self-confidence. In 1994 Eskom committed itself to changing its staff profile so that 50% of management, professional and supervisory staff would be black South Africans by the year 2000; three years later the figure already stood at 35% (Eskom, 1998e). All employees are encouraged to develop their potential through internal and external training and development programmes. Lifelong learning programmes include literacy and numeracy training. Eskom has spent approximately R400 million per year on the training and development of its employees (Eskom, 1998e). The organisation is also responding to the unfolding economic and political frameworks in South Africa by creating a workplace that is representative of the population and required work skills through implementation of the *Skills Development Act* (South Africa, 1998b) and development of its human resources.

1.2 RESEARCH PROBLEM

The current training and development processes in use within Eskom and industry do not comply with the requirements of national and organisational alignment, learner development, practitioner development, and learning process and systems expected from a holistic training and development approach. Reasonable developmental requirements in Eskom and industry relate to the following:

National and organisational alignment

- Legislation requires other processes to be used and implemented; current processes are not aligned with national and legal requirements (South Africa, 1995a; South

Africa, 1997a; South Africa, 1998a).

- Learning is not co-ordinated and effective in meeting current industry needs in the light of the changes in and demands of industry and legal bodies (South Africa, 1995a; South Africa, 1997a; South Africa, 1997b; South Africa, 1997c; South Africa, 1997d).
- This problem should be addressed within the context of the requirements of industry and education (Eskom, 1997a; Eskom, 1997b; Eskom, 1998a).

Learner development

- Learning does not complement or fulfil the current needs of learners in that it is not outcomes-based and no recognition is received for prior learning (South Africa, 1997a; South Africa, 1998a; South Africa, b).

Practitioner development

- Practitioner development is not aligned with national development of the ETD / HRD practitioner roles (Eskom, 1997a; Eskom 1997b; Eskom 1998b).

Learning processes and systems

- Learning is fragmented and not integrated with other systems (South Africa, 1995a).
- There are no methods of assessment leading to a declaration of competency and no formal link exists between remuneration and skills demonstrated and applied in the workplace (South Africa, 1995a).

Learning interventions

- Organisational development processes do not support a culture of lifelong learning (South Africa, 1997a).
- The framework in which current training and development are functioning is discipline-orientated, functional, hierarchical, silo-effect-driven and not effective and it does not focus on the other support functions within a human resources environment (Eskom, 1997b).

Essentially the problem concerns the development and implementation of an experiential learning process for the advancement of employees in industry, with the appropriate learnerships to support legislation. This process must be in line with the *Skills Development Act* (South Africa, 1998b) and the *Higher Education Bill* (South Africa, 1997b) in order to provide the trainees with a training and development programme applicable to their discipline and established on an outcomes-based approach. However, to support this, the *Skills Development Act* (South Africa, 1998b) and the *Higher Education Bill* (South Africa, 1997b) require a new approach to outcomes-based human resources development.

1.2.1 Aim of the research

The aim of the research is to focus on the experiential learning process and to devise a framework to enhance the development of skills and competencies for the advancement of employees in industry. Industry currently lacks a holistic training and development process to accommodate the enhancement of the required competencies (South Africa, 1997a; Eskom, 1997b).

1.2.2 Objectives of the research

The objectives of this study focus on the integration of the following into the learning interventions (Figure 1.1):

- National and organisational alignment
- learner development
- practitioner development
- learning processes and systems

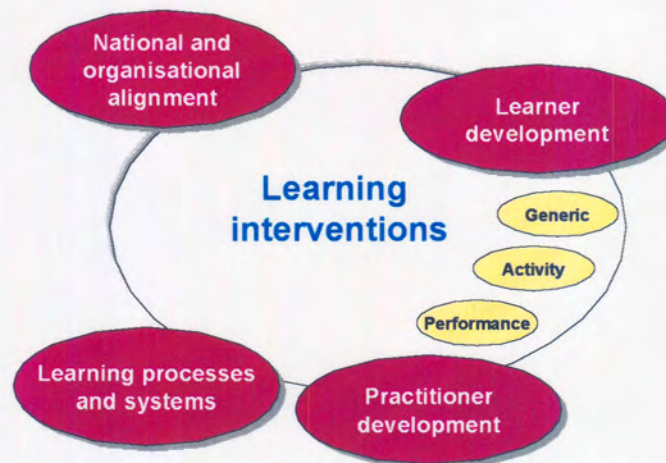


Figure 1.1 – The focus areas for this research project

Table 1.1 indicates the actions undertaken in each focus area to support the learning interventions.



<i>Focus area</i>	<i>Actions</i>
<i>National and organisational alignment</i>	<ul style="list-style-type: none">• The implications of the legal requirements for an organisation and the training process were determined.
<i>Learner development</i>	<ul style="list-style-type: none">• An outcomes-based training and development interventions process was provided to support career and learning pathways for groups of previously disadvantaged employees in specific disciplines within the parameters of the National Qualifications Framework (NQF).• The current status of training in South Africa was evaluated.• ABET within Eskom was audited.• A selection of literacy training service-providers in South Africa were evaluated.
<i>Practitioner development</i>	<ul style="list-style-type: none">• The development necessary for the practitioners involved in training and development was provided.
<i>Learning processes and systems</i>	<ul style="list-style-type: none">• The intent of the learning environment at an organisational level was determined.• Such a process was benchmarked for later implementation in industry.

Table 1.1 – Focus area actions

In addition, the learning interventions included the following actions:

- *Designing and developing* a process-orientated, outcomes-based training and development process to address *generic, activity and performance* training and development of competencies and skills in industry.
- Determining the *suitability* of such an outcomes-based training and development process in Eskom.
- Establishing the *foundations* of the integrated learning process.
- Developing the *fundamentals* of the learning process.

1.2.3 Research question

The following research question was formulated:

How can national and organisational alignment, learner development, practitioner development, and learning processes and systems be integrated into an experiential learning process for the design of learning interventions?

In order for the researcher to answer this question, further subsidiary research questions needed to be asked:

Focus area	Subsidiary research questions
National and organisational alignment	<ul style="list-style-type: none">• How <i>closely</i> is the learning environment aligned with the national and organisational policy requirements?
Learner development	<ul style="list-style-type: none">• How <i>efficient</i> is the delivery of training

interventions?

Practitioner development

- How does practitioner development influence the *quality of learning*?

Learning processes and systems

- How *can* learning processes and systems assist the advancement of employees?

In order to answer the subsidiary questions, the following information had to be incorporated into each one:

- What is the current status in terms of national and organisational alignment, learner development, practitioner development, and learning processes and systems?
- What is wrong with the current practices regarding national and organisational alignment, learner development, practitioner development, and learning processes and systems?
- What should the ideal process look like in order to address the research problems?
- What learning interventions need to be implemented to address the research problems?

1.2.4 Previous research

In order to put this research into the context of research conducted in South Africa, a review of the NEXUS database was undertaken. The information obtained from this search, conducted in November / December 1997, was as follows:

<i>Topic</i>	<i>Author</i>	<i>Qualification</i>
An evaluative study of a university course for professional adult educators using an experiential learning methodology.	Saddington, A. (1985)	MPhil (<i>completed</i>)
An illuminative evaluation of the mini co-operative experiential approach to learning based on a case study at a school.	Naidoo, D. R. (1997)	MA (<i>current</i>)
Development of a lower-level advancement process as part of an overall organisational manpower plan.	Van Graan, A. (1990)	M Com Industrial Psychology (<i>completed</i>)
Locus of control and achievement of unskilled coloured Eskom employees to participate in training and advancement programmes.	De Wet, M. A. (1992)	MA Social Science (<i>completed</i>)
The role of sense of coherence in human relations training through experiential learning.	Rabichund, S. (1997)	MA (<i>current</i>)

Table 1.2 - Summary of the results of the NEXUS database search

1.3 MOTIVATION FOR THE STUDY

In South Africa, owing to labour inequalities, unemployment and the history of education, training and development, previously disadvantaged employees seldom had access to information, training and development interventions enabling them to establish, develop and compete on career paths in an organisation. Development initiatives have been inadequate and sometimes inaccessible to a large number of marginalised employees. In an effort to redress these inequalities, integrated learning processes and systems are fulfilling a crucial role. Unfortunately, national and organisational alignment, learner development, practitioner development, and learning processes and systems indicate that the current processes and systems fail to adequately address the need for learning and process system support for learners.

1.4 RESEARCH METHODOLOGY

The research methodology adopted for this research is *action research* undertaken on a specific, focused target population to investigate the merits of the current and the improved approach to this experiential learning process for training and development in industry. The research methods are discussed in detail in Chapter 3.

1.4.1 Type of research: action research

Action research can be seen as pedagogical, scientifically grounded, innovative research by means of communication between all role-players with regard to practices in a specific educational situation (Landman, 1988).

Furthermore, action research can be seen as:

- the application of principles of group dynamics in the implementation of research innovations (Sax, 1979);

- designed to develop new skills or approaches to solving problems, for direct application in the classroom (Amabile & Stubbs, 1982);
- a type of research that is normally undertaken by practitioners, i.e. it calls for the researcher's involvement in the action process;
- research concerned with the immediate application of the results in a specific situation (Verma & Beard, 1981).

The following are the advantages of this type of research (Cohen & Manion, 1998; Mouton and Marais, 1996):

- Everybody can learn from this research.
- All those involved are committed to the research project.
- Problems are solved in the learning process.
- Research results lead to concrete, immediate and practical implementation strategies and actions.

Through "systematic, controlled action research, higher education teachers can become more professional, more interested in pedagogical aspects of higher education and more motivated to integrate their research and teaching interests in a holistic way. This in turn can lead to greater job satisfaction, better academic programmes, improvement of student learning and practitioners' insights and contributions to the advancement of knowledge in higher education" (Zuber-Skerritt, 1982:15).

1.4.2 Subjects of the research

The subjects of the study were drawn from a convenient sample of previously disadvantaged employees and identified practitioners in industry:

- A and B-band workers (workers of the lowest skills level employed by Eskom) from the Eskom Transmission Group.

- Eskom human resources development practitioners, who assisted with this research project on a part-time and full-time basis and in a specialist capacity.

Eskom was used as the focus group to fulfil and integrate the three dimensions as described in Figure 4.1 in accommodating the national and organisational, transformational and social implications of the study.

1.4.3 Data collection methods and instruments

The data collection methods and instruments used in this research serve to triangulate the data in order (Cohen & Manion, 1998; Mouton and Marais, 1996):

- to gain a more holistic picture of the results;
- to bring out different perspectives of the results;
- to increase the reliability of the study.

The data collection methods and instruments used in the research are set out in Table 5.1 and discussed further in Chapter 3 and in Chapter 5. They include:

- surveys to determine the perceptions of the learners, practitioners and service-providers;
- a journal kept by the researcher to capture events in the cycles of the action research spiral;
- interviews with various employees at different levels in the organisation;
- electronic mail as a medium of communication;
- the use of the Eskom Human Resources database to obtain employee information; and

- the use of practical training programmes and plans.

However, this study is primarily a qualitative study. The primary data collection methods and instruments are those listed in Table 5.1. In order to triangulate the data (Mouton & Marais, 1996; Cohen & Manion, 1998), quantitative measures were taken from the results obtained from the Eskom Human Resources database and record-keeping system with regard to employee progress during the advancement programme.

1.4.4 Data collection plan

The data collection included various levels of data capturing to enable the triangulation of the data used in this research (Mouton & Marais, 1996).

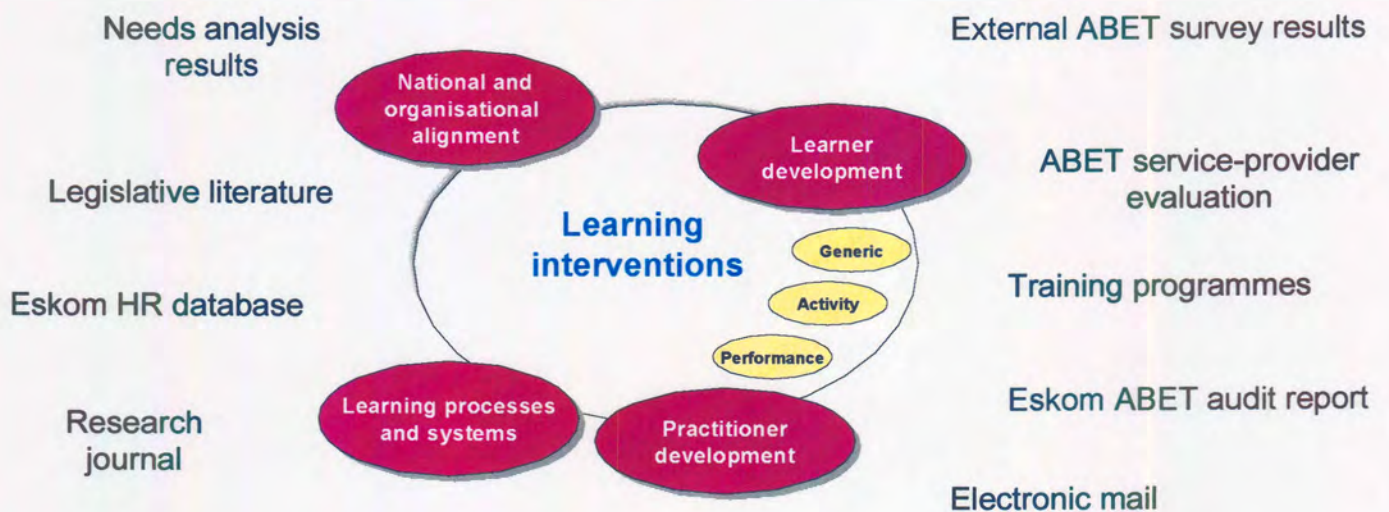


Figure 1.2 – Range of data collection

The range of the data collection used in this research project as indicated in Figure 1.2, Table 5.1 and Table 5.3.

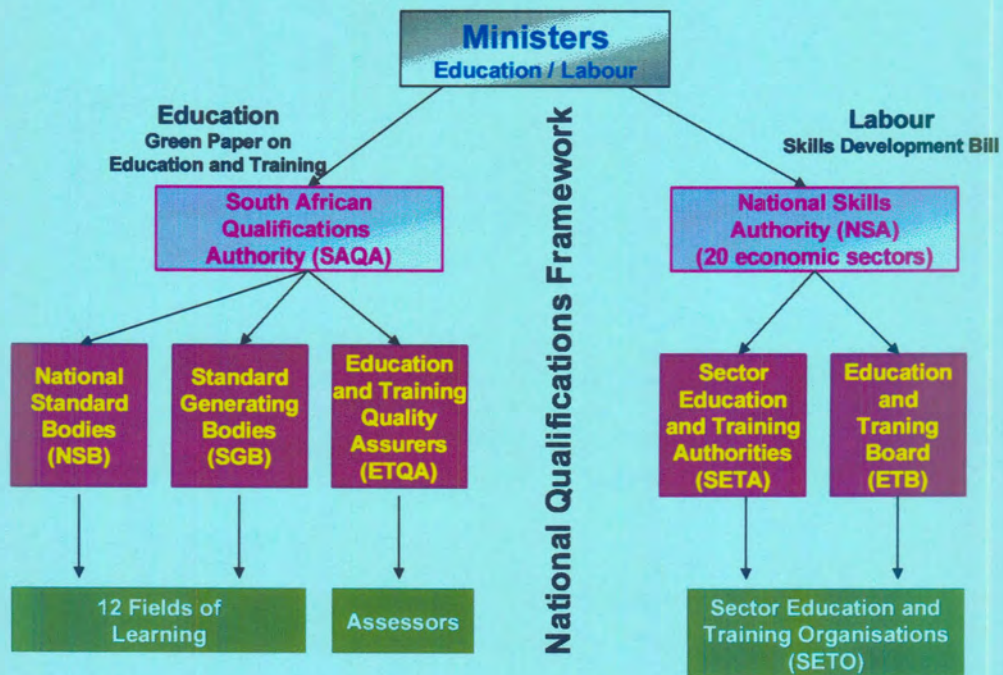
1.5 STRUCTURE OF THE RESEARCH REPORT

Chapter 1	Overview – introduction and overview of the research problem.
Chapter 2	Literature review – review of current literature available on development processes. Identification and analysis of international processes and trends.
Chapter 3	Research methods – research methodology used for this research project (action research).
Chapter 4	<p>National and organisational alignment – alignment of the training and development learning process at the national, organisational and social levels.</p> <p>Learner development – brief overview of the development of the learner.</p> <p>Practitioner development – the development of a practitioner framework.</p> <p>Learning processes and systems – the development of a learning process framework for the integration of learning interventions and management of information systems.</p> <p>Learning interventions – learning interventions in the training and development process in context.</p>
Chapter 5	Implementation and findings – the implementation and findings of the learning intervention processes with a selected target population.
Chapter 6	Summary, conclusions and recommendations
	<p>References</p> <p>Appendices</p> <p>Index</p>



Chapter 2

Literature review



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

2 LITERATURE REVIEW

Various authors express specific concerns relating to the inadequacy of solid research on the development of theory on *training and development* interventions and the uneven amount of attention practitioners and students give to training events (Camp, Blanchard & Huszycz, 1986)

2.1 INTRODUCTION

The purpose of this chapter is to review the literature relating to the development of a training and development process suitable for use in industry. The learning process model should include the theoretical and practical depth of the literature in relation to the development of such a practical experiential learning process for industry. In addition, the literature research focuses on the learning interventions as the overarching and integrating factor in the following areas:

- National and organisational alignment requirements – to align with national and international trends;
- Learner development – to focus on the development of the learner as a whole;
- Practitioner development – to identify the skills and competencies required in the ideal practitioner to provide acceptable training and development; and
- Learning processes and systems – to support the training and development process.

Training and development continue to be essential elements for dealing with change and the required consistent improvement in performance resulting from the current changes in the national arena and organisational views of

excellence. With the new emerging organisational reality, where change, competition, competence, an outcomes-based workforce, demographics and cultural changes in business are more prominent, training and development are becoming more important methods for equipping an organisation with the flexibility, adaptability and durability required for survival.

However, various authors (Campbell, 1971; Camp, Blanchard & Huszczo, 1986; Lathan, 1988; Goldstein & Associates, 1989) express dissatisfaction with the theoretical foundation of and conflict among the practitioners on the development of training. Camp, Blanchard & Huszczo (1986) express specific concerns relating to the lack of solid research on the development of theory on *training and development* interventions and the uneven amount of attention practitioners and students give to training events.

Furthermore, the disproportionate amount of attention and time allocated to the training and development processes and environment integral and essential to the use of the learning environment is cause for concern. Attention has been focused primarily on the development of subprocesses explaining the steps involved in training activities, such as training needs assessment, identifying instructional methods and evaluation processes (Annett, 1968; Nadler, 1984; Bushnel, 1990; Erickson, 1990; Brinkerhoff, 1991; Hequet, 1996; Phillips, 1996).

In addition, the accelerated pace of change in technology, for example using multimedia applications and the Internet to provide sufficient learning interventions, does not allow for attention to be given to the development of theory relating to models and systems. Many authors and researchers have called for more focused research on the development of process models in the learning environment as a whole (Camp, Blanchard & Huszczo, 1986; Latham, 1988; Goldstein & Associates, 1989; Patrick, 1992).

2.2 NATIONAL AND ORGANISATIONAL ALIGNMENT

In order to address this issue, the literature review focuses on the subsidiary research question: *How closely is the learning environment aligned with national and organisational policy requirements?*

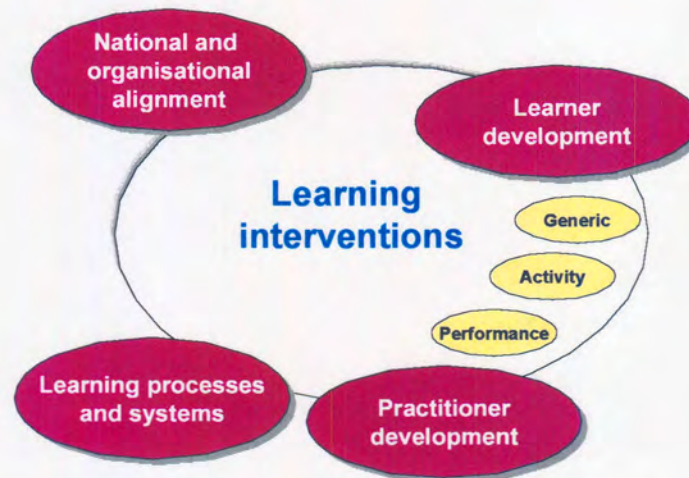


Figure 2.1 – Alignment and legal requirements

Answering this requires focus on the following (Figure 2.1 and Figure 2.2):

- National and organisational alignment;
- legal requirements;
- organisational alignment; and
- learning organisations and organisational learning.

The focus on the above items will demarcate the boundaries within which the research in relation to national and organisational alignment took place. The focus areas are all inter-linked and dependent on one another and cannot be treated as separate issues.

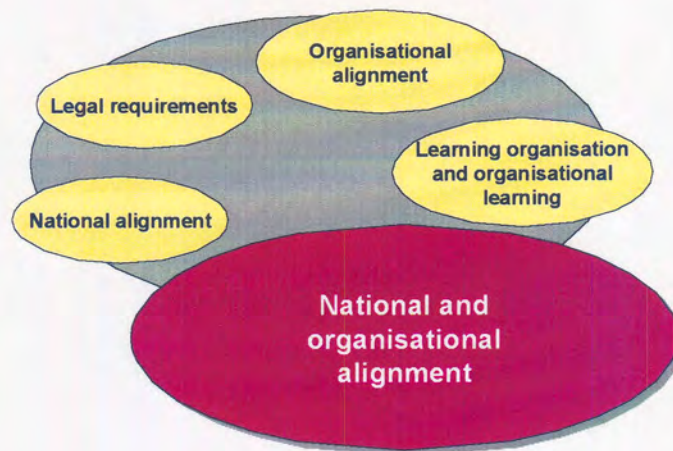


Figure 2.2 – Focus in relation to national and organisational alignment

2.2.1 International and national alignment

The international and national alignment focuses on the following:

- Education in South Africa; and
- Systems of educational reform.

As practitioners, we need to understand that what occurs over the next few years is a segment of a much broader chronology (Sadler, 1996). In the light of this broader perspective, the training and development function will require re-engineering. A rapidly growing global economy generating new organisational realities will require rethinking and changing of the critical mindsets that impact on the training and development efforts to re-engineer the training function. This mindset implies a mutual perception by the individual and the organisation of the business practices of the organisation. The international alignment generates new organisational realities (Sadler, 1996):



<i>Traditional organisational perspective</i>	<i>The new organisational realities</i>
Competitive business on an internal basis.	Business generates intense international competition.
Education, training and career advancement segmented and exact.	A complete rethinking and restructuring of education, training and development required.
Gradual involvement with technology in the workplace, with a modest amount of stress on people.	Application of new technologies impacts dramatically on organisations, people, products and services.
Managers control financial resources in a bureaucratic, inflexible environment.	Skilled leaders with expanded competencies are needed to drive change on the basis of new technologies and personal values.
Short-term return on equity measured against quality of outputs.	New workplace increases expectations in relation to productivity, performance and return on investment.
Workers rewarded and trained as required by manager's perception.	Needs of the new worker and learner are challenged by increased competition, new technologies and personal values.

Table 2.1 – Traditional organisational perspective versus new organisational realities (Sadler, 1996)

Often a practitioner, as a professional, can get caught in a prominent training function activity trap where a lot may be going on, but little is taking place.

World standards for systems, products and services are now required to document the quality of training and development interventions. Leaders must be developed to meet the changing, emerging and increasingly complex conditions of the international training and development environment (Schein, 1978). These leaders and professionals need to shift from a narrow and restricted mindset to a global organisational mindset. In addition, to be successful internationally, organisations must gain a competitive edge through the use of strategic training and the development of workforce management (Sadler, 1996; Rothwell & Kazanas, 1994a).

2.2.2 South African education – a historical perspective

Efforts to solve some of the educational problems within South Africa were initiated with a view to creating a workable education system for South Africa at a local level. The initiatives also encourage creativity, professional initiative and proactive leadership at local levels (Coombe, 1996; Lauglo, 1996). The greatest disparity in education in South Africa exists between the different types of schools in the newly established nine provincial governments, with the main question being whether to centralise or to decentralise (Lauglo, 1996). There is a strong community desire to be actively involved in the education system at the local level. The imbalances in the provision of education cannot be redressed overnight, just as it will take time to eliminate the backlogs and bring all educational facilities up to the same level (Coombe, 1996).

2.2.2.1 Systems of educational reform

The following education systems were reviewed to establish what reform has occurred:

- South Africa
- Canada

- Chile
- England and Wales
- India
- Scotland
- United States of America
- Zimbabwe

• **Education in South Africa**

South Africa's first national education system came into being with the establishment of the Union of South Africa in 1910. Control of education was shared between the new Union government and the provincial administrators (Buckland & De Wee, 1996). It is evident from Table 2.2 that the education system in South Africa has been transformed a number of times to accommodate the changes in the country.

<i>Year</i>	<i>Era</i>	<i>Actions evident</i>
1910	National system	Compromises between national and provincial governments.
1910 – 1948	Pre-apartheid education	A series of official investigations.
1948 – 1994	Apartheid education	Official investigations and counter-official proposals.
1994 – 1995	Post-apartheid	Official proposals and interim constitution.

Table 2.2 – Actions evident in the different educational eras (Buckland & De Wee, 1996)

As shown in Table 2.2, the various educational eras were shaped by different initiatives, with a wide range of proposals, recommendations and shifts of power from and to government and local or regional authorities. During the apartheid years, the focus shifted to arguments for and against the provision of racially specific education. The interim constitution in 1994 essentially revived the 1910 compromise giving control of education to the provinces (Buckland & De Wee, 1996). Education authorities recently

displayed renewed interest in local involvement in education by government through local taxation and educational levies. The view is also held that local control could facilitate more equitable and cost-effective use of expensive resources.

- **Education in Canada**

According to the constitutional division of powers in Canada, education is a provincial responsibility. Both Ontario and Quebec delegate the authority to school boards and to a lesser extent to other bodies. The stakeholders in education participate to determine the educational direction of Canada, but with no authority to the students and with little input on their part in the educational system (Smith, 1996).

- **Education in Chile**

The Chilean education system moved from a highly centralised and state-regulated system in the 1980s to one that is decentralised and more locally controlled. Decentralisation in Chile has been a continuous process marked by two distinct periods, each reflecting the interests of the government of that time (Hoffman, 1996).

- **Education in England and Wales**

The education system in England and Wales has been subject to a radical reform programme following the 1988 Education Reform Act, and cannot be described as either centralised or decentralised. Responsibilities are being transferred mainly to individual institutions or to central government. Government policies are implemented through new non-departmental public bodies referred to as quangos (quasi-autonomous non-governmental organisations). The reform legislation entails a delicate balance between the national education department and the concerns of the local education authorities (Welton, 1996).

- **Education in India**

India is the seventh largest country in the world in terms of area, and the second largest in population. After independence in 1956, the 25 states underwent major administrative reorganisation at the recommendation of the States Reorganisation Commission. The states vary in demographics, climate, population and size and therefore present a complex picture in terms of diversity and conglomerates (Singh, 1996) in their educational systems.

- **Education in Scotland**

Scotland's education authorities introduced a new approach to bring about the decentralisation of education services in the country. Legislation required new unitary district authorities to be established from April 1996 and to produce new decentralisation schemes for their areas by not later than April 1997. The focus was on bringing the service closer to the communities it served. Locals participate in deciding how the services are to be delivered and the efficiency of delivery. Councils, which are closer to those they serve, are able more accurately to reflect the needs and aspirations of communities (Mulgrew, 1996).

- **Education in the United States of America**

Federal involvement in education in the USA is minimal compared with that in many other nations. America's form of federalism precludes direct participation in and control of the 50 state systems of public education by the national government. Any impact from the national government results primarily from decisions of the United States Supreme Court and the lower courts in the federal system. In addition, Acts passed by the US Congress and programmes resulting from these Acts may impact on the education system. Legislation passed in 1980 created the present configuration and emphasised that responsibility for public education lay with the states, local schools and other mechanisms initiated by the states concerned (Franklin, 1996).

• **Education in Zimbabwe**

Prior to independence, the focus in Zimbabwe was mainly on the education of whites. After independence Zimbabwe was divided into ten provinces, with a resident minister at the head of each province. Currently, the education system is operated by two main bodies at provincial level: the provincial council and the provincial development committee. These two bodies serve the rural district councils, providing developmental initiatives and generating and implementing policy (Rukanda & Chikombah, 1996).

2.2.3 Legal requirements

This section focuses on how legal requirements in the following have influenced national and organisational alignment:

- White Paper on Education and Training (1995) (South Africa, 1995b)
- Higher Education Bill (South Africa, 1997b)
- White Paper on a Programme for the Transformation of Higher Education (1997) (South Africa, 1997d)
- Green Paper on Further Education and Training (South Africa, 1998a)
- Skills Development Bill (South Africa, 1997a)
- Green Paper on Skills Development Strategy (1997) (South Africa, 1997c)
- White Paper on Science and Technology (1997) (South Africa, 1997e)
- South African Qualifications Authority Act (South Africa, 1995a)
- National Qualifications Framework (South Africa, 1995a; South Africa, 1995b)
- Unit standards (South Africa, 1995a; South Africa, 1995b)

2.2.3.1 Introduction

The challenge is to "redress past inequalities and to transform the higher education system to serve a new social order, to meet pressing national needs and to respond to new realities and opportunities" (South Africa, 1997d: 2). The main focus of the alignment and legal requirements is to lay the foundations for a learning environment that can stimulate, direct and create the energies necessary to meet the challenges of reconstruction and development in South Africa. The natural flow for the establishment of legislative requirements includes the following progression:

- Commission or workgroup to investigate current environment.
- Green Paper to propose solutions
- White Paper for final presentation to and acceptance by legislative bodies
- Bill as an accepted law passed through government
- Act as published in the *Government Gazette*

The ministries of education and labour are co-operating to provide the guidelines and framework to promote and establish the proposed new approach to education, training and skills development in South Africa (Figure 2.3) (South Africa, 1997d; South Africa, 1998b).

As shown in Figure 2.3, close co-operation between education and the labour market is essential for the development of the qualifications authority and to enable a qualifications framework that will support the integration of learning interventions into a theoretical and practical environment.

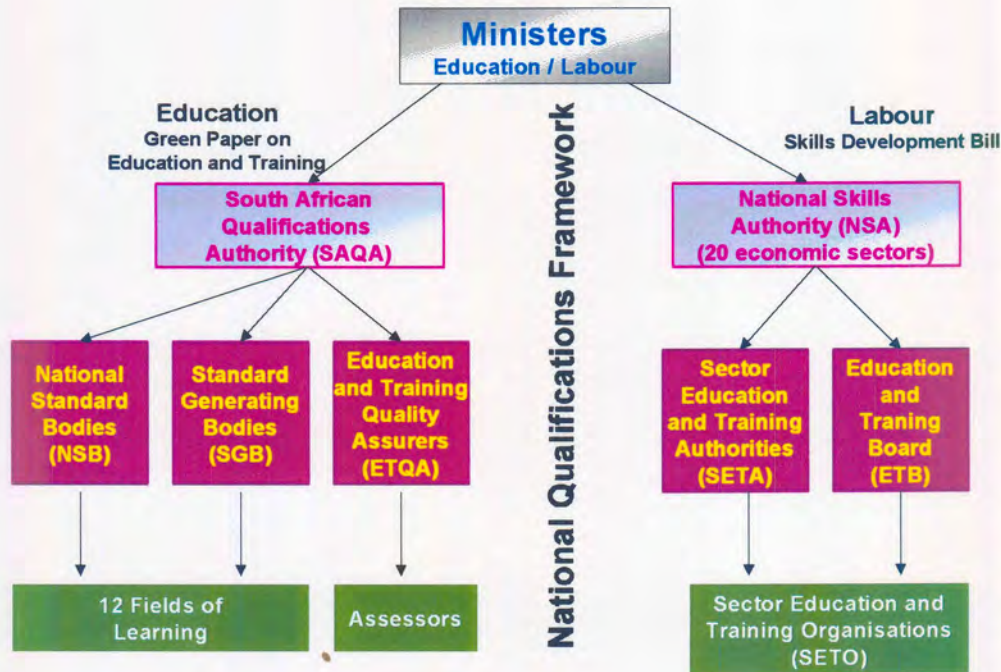


Figure 2.3 – Close co-operation between the ministries of education and labour (South Africa, 1995b; South Africa, 1997d)

An inter-departmental working group has been established to develop common interests in an integrated approach to education and training and a national qualifications framework to clarify education and labour's respective competencies with regard to training (South Africa, 1995d). The integrator between the two ministries will be the National Qualifications Framework, under which all qualifications and learning interventions will be registered and accredited if they comply with the guidelines and requirements of the SAQA Act (South Africa, 1995a).

2.2.3.2 White Paper on Education and Training (Department of Education, 1995)

The *White Paper on Education and Training* (South Africa, 1995a) addresses the reorganisation of the national education system, the dismantling of the old education system and the establishment of new national and provincial education departments. In addition, the White Paper addresses the acceptance of legislative competence and executive authority by provincial

governments. Training is a vital part of learning programmes administered in schools, teacher training institutions, colleges, technikons and universities (South Africa, 1995b). The White Paper also calls for an integrated human resources development strategy and an integrated approach to education and training.

- **Integrated human resources development**

Education and training are essential and integral elements of an integrated human resources development strategy. Such an approach implies a new way of learning that closes the gap between theory and practice and between knowledge and skills. Modern economies and societies require the elimination of artificial hierarchies in the organisation and certification of learning. The new approach requires learners with a strong foundation of general education and the desire and ability to continue to learn, to adapt and to develop new knowledge, skills and technologies. This in fact supports the learner in moving between occupations and taking responsibility for personal performance and development (South Africa, 1995a; South Africa, 1995b).

- **Establishment of a national qualifications framework**

However, an integrated approach to education and training requires the establishment of a national qualifications framework based on a system of credits for learning outcomes achieved. Recognition for prior learning forms part of the emerging consensus on the importance of lifelong learning as the organising principle of a national human resources development strategy, which is not owned by the Minister of Education alone. The Ministers of Education and Labour have formed an inter-ministerial working group to develop common interests in an integrated approach to education and training and a National Qualifications Framework (NQF) to clarify respective competencies with regard to training. The common concerns include the development of international practice in the design and assessment of

development of international practice in the design and assessment of learning programmes related to industry and in educational institutions. This will allow the NQF to be developed in an evolutionary, participatory and consensual way, within clear policy guidelines (South Africa, 1995a).

2.2.3.3 Higher Education Bill (Department of Education, 1997)

The purpose of the *Higher Education Bill* (South Africa, 1997b) is to provide for the establishment of a single, co-ordinated and integrated higher education system for South Africa, but encouraging distinct diversity within the system. There should be optimisation and maximum utilisation of all resources involved in higher education. In addition, the Bill provides the framework for programme-based education with the necessary qualifications framework for certification purposes and assessment to support the Act. The Bill defines higher education as "any learning programme of a level higher than grade 12 or its equivalent" (South Africa, 1997b: 5).

2.2.3.4 A programme for the transformation of higher education (Department of Education, 1997)

The challenge faced by the education department to redress the past inequalities and initiate transformation will require the outlining of a comprehensive set of initiatives to establish the single co-ordinated system that is required, and without the co-operation of the key stakeholders within South Africa this will not become a reality. In the current environment in South Africa, the process of social transformation must be supported to enable it to become people-driven and to lead to a better quality of life for all. The 1997 *White Paper on a Programme for the Transformation of Higher Education* (South Africa, 1997d) describes what is needed to achieve an improvement in quality of life:

- To comply with the learning needs and aspirations of individuals through the development of their intellectual abilities and potential for self-fulfilment;
- To comply with the development needs of the society and related markets for an outcomes-based competency approach towards the required skills;
- To comply with the socialisation needs of the population and to encourage the development and fulfilment of these needs; and
- A continued contribution to the creation, sharing and evaluation of knowledge.

Previously identified elements requiring reform evident from the *White Paper on a Programme for the Transformation of Higher Education* (South Africa, 1997d) include inequitable access and opportunities for learners and staff according to race, gender, class and demographics. This includes the mismatch between the output of higher education and the needs of a rapidly revitalising economy. A major issue for concern is the governance of higher education at a systems level that is characterised by fragmentation, inefficiency and ineffectiveness, with too little co-ordination, few common goals and negligible systematic planning. Despite these negative factors, some higher education institutions have developed internationally competitive research and teaching capacities (South Africa, 1997d).

However, the transformation of higher education is part of the broader process of social, economic and developmental transformation. The economic and technological changes will necessarily have an impact on the integration of competitiveness in the international arena and the delivery of a competent workforce able to compete successfully in the global economy at this level. In addition, higher education and organisational learning interventions need to be internally restructured to meet the challenge of globalisation and the breakdown of national and institutional boundaries. These economic, technological and social changes and requirements create a specific vision,

role and focus for higher education, training and development in the process of reconstruction and development:

- Human resource development
- High-level skills training and development
- Production, acquisition and application of new knowledge

For organisations to comply with these requirements and changes in the education, training and development arena, they need to focus on the following (South Africa, 1997d):

- Increased and broader participation to overcome the fragmentation, inequality and inefficiencies identified
- Responsiveness to the social interests and needs identified and expressed by the population for a restructuring of the higher education system and its institutions to meet the needs of an increasingly technologically orientated organisation
- Co-operation, partnerships and alliances in governance, an enabling institutional environment and culture sensitive to diversity and the promotion of reconciliation and respect for human life and development

2.2.3.5 Green Paper on Further Education and Training (Department of Education, 1998)

Further education and training comprises all the learning and training programmes from National Qualifications Framework (NQF) Level 2 to Level 4, or the equivalent of Grades 10 to 12 in the school system (South Africa, 1998a). This further education and training band is between the NQF's general education and training band and higher education and training band. Learners can engage at this level of education after completion of the compulsory phase of education at Grade 9 or Level 1 of the NQF. As mentioned in the *Green Paper on Further Education and Training* (South

Africa, 1998a), everyone has the right to basic education and to further education, and through reasonable measures this must be made easily available and accessible.

Further education and training is not compulsory education and has no age limit, but promotes lifelong learning and on-the-job training. It is intended that further education and training will have an open learning system, responsive to the needs of individuals and communities. This approach will include flexible, relevant, accessible and high quality programmes progressively available to learners. Further education and training also has the mission of fostering intermediate to high level skills, laying the foundation for higher education, facilitating the transition from school to work and developing learners through opportunities for lifelong learning by way of the articulation of learning programmes (South Africa, 1998a).

Further education and training is also the most complex and diverse phase of education and training, comprising 13 types of learning providers, categorised into four main sectors:

- Secondary schools
- Publicly funded colleges
- Private off-the-job providers
- Work-based education and training

The *Green Paper on Further Education and Training* suggests a framework for achieving success in the following focus areas (South Africa, 1998a):

- Co-operation and partnerships between the government and key stakeholders to design a development system that seeks to balance the roles of the market and government initiative, co-ordination and stimulus

- Co-ordination and strategic planning to produce a national vision, committed leadership and an enabling environment for conductive learning
- Enhanced articulation to provide learners with opportunities to change their direction of personal development and to achieve job enrichment
- Flexibility and responsiveness in relation to the other two bands of education and training for the formation and improvement of the skills base of the country based on the needs of learners
- Institutional diversity so as to recognise and concentrate on scarce resources and to address the development of these needs
- The provision of a framework of quality management and quality assurance as important dimensions of the new further education and training framework

The *Green Paper on Further Education and Training* (South Africa, 1998a) has extreme implications for organisations and provides a qualifications framework for the new educational approach.

- **Extreme implications**

The *Green Paper on Further Education and Training* (South Africa, 1998a) has extreme implications for organisations and the training and development environment in South Africa, especially regarding curriculum development, funding, governance and institutional and practitioner development. This will include a new curriculum and qualifications framework with the necessary responsive linkage between further education and training, higher education and the practical work situation as it relates to on-the-job training. Any new curricula should remove the existing barriers between academic and applied learning, theory and practice, knowledge and skills, and head and hand. This approach will be based on an integrated education and training system and will be programme-driven (South Africa, 1998a).

- **Qualifications structure**

The proposed qualifications structure will be based on a flexible combination of fundamental, core and elective learning components. The introduction of the new further education and training system will require new strategic planning and programme-based funding, which will be achieved only by well-managed and high quality institutions. The Green Paper acknowledges that institutional and practitioner development is integral to the establishment of a co-ordinated system (South Africa, 1998a).

2.2.3.6 Skills Development Bill (Department of Labour, 1997)

The objective of the *Skills Development Bill* (South Africa, 1997a) is to provide a flexible strategy that is accessible, decentralised and based on partnership between the government, the public sector and the private sector. There are five focused objectives in establishing these partnerships (South Africa, 1997a):

- To establish and improve training and learnerships
- To improve the competency levels of the workforce
- To produce nationally recognised qualifications based on demonstrated and visible evidence of applied competencies
- To provide a flexible skills development strategy
- To provide opportunities for self-development and sustainable self-employment

Skills development in South Africa has become essential and the redesign of the entire field of education, training and development with the integration of the various initiatives was long overdue (Figure 2.4) (South Africa, 1997a).

The methods of operation under the old Manpower Training Act and the National Training Board (NTB) were obsolete and the development of a total new training and development strategy was initiated in 1993 (National Training Board, 1994).

Figure 2.4 illustrates the changing approach to the development of skills that became evident with the passing of the new *Skills Development Bill* (South Africa, 1997a). This Bill promotes the formulation of a long-term national skills development strategy with the necessary assessment and evaluation mechanisms to monitor progress. In addition, the Bill advises on the future trends relating to skills needed and provides assistance with skills information and the alignment of training providers with the changing market conditions (South Africa, 1997a).



Figure 2.4 – Comparison of past and present skills development initiatives [Adapted from the *Eskom Practitioner Guide*, (Eskom, 1997a)]

2.2.3.7 Green Paper on the Skills Development Strategy (Department of Labour, 1997)

The underlying purpose of the *Skills Development Bill* (South Africa, 1997a) is not to prepare people to perform routine tasks, but to empower them to perform at a higher standard with the appropriate measurement standards in a specified and dynamic social environment. The term *skills* meaning applied competence (skill) can be seen as the overarching term for three kinds of competencies (South Africa, 1997f):

- Practical competence**
- Practical competence can be seen as demonstrated ability to perform a set of tasks
- Foundation competence**
- Foundation competence is a demonstrated understanding of what we or others are doing and why
- Reflexive competence**
- Reflexive competence is the demonstration of an ability to integrate or combine performance and an understanding/learning of performance with any changes as and when needed to accommodate an unforeseen state of affairs

The need for a skills development strategy is enhanced, as South Africa faces major economic and social changes and constraints. The poor skills profile in South Africa is a major problem and is likely to inhibit growth and development. The skills development strategy argues that skilled people are a fundamental part of any economic and employment growth strategy and that links between learning and the workplace are an essential condition for growth.

However, before the skills development strategy can be implemented, an overarching, integrated human resources development vision needs to be developed and implemented to address the following issues (South Africa, 1997f):

- A new *conceptual approach* based on a demand-led education and training system that is flexible and responsive to the economic and social needs of the country, which stimulate new skills demands - this approach should include the promotion of the economy, employment growth and social development, the achievement of nationally recognised qualifications and an ability to remain

successfully self-employed or employed and to support the improvement of living standards.

- The *establishment of a system of learnerships* as a mechanism to facilitate the linkage between structured learning and work experience in order to obtain a National Qualifications Framework (NQF) registered qualification, which indicates work readiness - this will close the present gap between theoretical education and skills training. The learnership system must in addition provide the bridge between the NQF and economic or social needs. Learnerships will encourage the integration of education and training, life-long learning, quality, and efficiency and sustainability.
- The *new learnership system* needs to be supported by a high quality assessment system, a strategic approach to identifying skills development needs in order to ensure that the needs of vulnerable groups are addressed by a high quality provider sector, and an efficient and effective employment service. The learnerships will promote the following components necessary to the acquisition of competencies: structured learning addressing the learners at fundamental, core and specialisation levels, work experience related to the structured learning, and preparation of the learner for competence assessment.

The skills development strategy will have the following benefits for employers, workers and vulnerable groups (South Africa, 1997f):

Employers

- Employers who are providing a training service will be supported and firms that do not wish to train will be made to contribute to the training effort of those that do train (levy system). The Sector Education and Training Organisations (SETOs) to which they are affiliated will support the organisations. The

SETOs will also help the firms to locate service-providers that can meet their demands.

Workers

- The bargaining influence of workers will increase in direct proportion to their skills. Skilled workers are more expensive and difficult to replace. The quality of the work life of workers with responsibility can be enhanced by the establishment of an associated career path and an individual training plan to promote skills development.

Vulnerable groups

- The level of unemployment in South Africa is high and the strategy offers assistance by expanding the number and range of learnerships equipped to meet the needs of the community as well as of industry.

Educators and practitioners will have the satisfaction of knowing that learners they assist are more likely to achieve the desired outcomes of their learning in terms of growth and prosperity (South Africa, 1997f).

2.2.3.8 White Paper on Science and Technology (Department of Arts, Culture, Science and Technology, 1997)

The development of innovative ideas, products, institutional arrangements and processes will enable the country to address its needs and aspirations towards the demands of a global competitive economy more effectively. The main vision of the White Paper on Science and Technology (South Africa, 1997e) is to establish a well co-ordinated and integrated system of technological and social innovation within which:

- resources are utilised for problem-solving in a multidisciplinary manner;

- stakeholders are involved in policy decision-making and resource allocation for science and technology activities; and
- combined partnerships are established and produced and there is creative interaction with the nation.

Some global trends will affect planning and resource allocation in South Africa (South Africa, 1997e):

- Increased co-ordination of innovation policies and strategies in response to the complex challenges generated by global social and economic changes
- Problem-solving, multi-disciplinary partnerships as an instrument for growth and development
- The knowledge-based transformation of many of the world's societies as a result of the increased availability of information through improved global communications
- The opposing pressures on the South African economy as it opens up to global markets

The need for transformation will give rise to a series of policy initiatives that have a clear and practical impact on what the White Paper refers to as national innovation. To support this drive, public investment in research and development needs to be redistributed away from activities within the government's own facilities and towards research and development in the private sector (South Africa, 1997e).

Research for innovation is an encompassing assumption that is based on the continuous production of new knowledge and its creative application in a number of environments. The promotion of research is crucial to innovation and therefore to both social and economic development. In addition, the support for research and development is evident in the following areas (South Africa, 1997e):

Applied research

- Proven record for the delivery of goods, services and conditions that improve the lives of individuals and societies.

Basic research

- The role of basic scientific research is knowledge generation and the maintenance of educational standards.

Social science research

- The political changes in South Africa provide unique opportunities for social renewal in respect of our value systems, the role of the individual in society and in relation to the government. New knowledge will assist the changes to consolidate democracy and the protection of human rights.

Research activities strengthen the national systems of innovation through a widespread production and delivery of knowledge and the training of new generations of academics and researchers.

2.2.3.9 South African Qualifications Authority (SAQA) (Department of Education, 1995)

The African National Congress (ANC) proposed the establishment of an independent body to oversee the effective implementation of a qualifications framework (African National Congress, 1994) to integrate the educational and vocational interventions in South Africa. The following functions were identified for the South African Qualifications Authority (SAQA) (African National Congress, 1994):

- Maintenance and quality assurance in the qualifications system
- Accreditation, examination and certification authorities for all levels of education and training

- Continued and appropriate research and development
- Co-ordination of all qualifications to an understandable level for the public and learners
- Establishment of mechanisms to oversee the regular review of standards
- Recognisable international and national qualifications

In order to establish the requirements at a legal level, the following will be discussed:

- National Standards Bodies
- Monitoring of standards by the Education and Training Qualifications Authorities
- Standard Generating Bodies

SAQA was formed through the integration of efforts by the education and labour ministries as indicated in Figure 2.5.

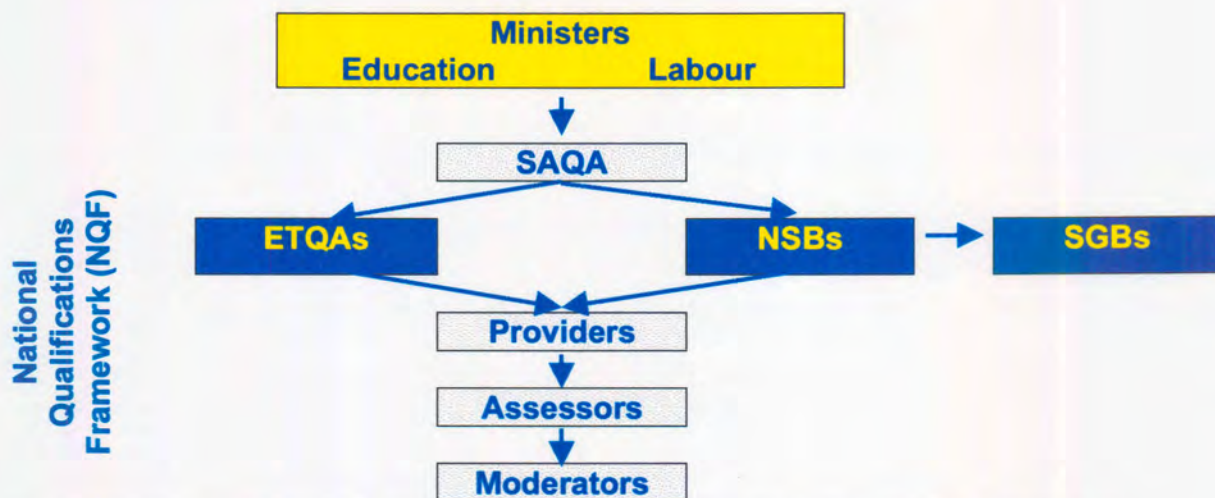


Figure 2.5 – The institution of SAQA [Adapted from the Eskom Practitioner Guide (Eskom, 1997a)]

As shown in Figure 2.5, SAQA's main focus will be to operationalise the National Qualifications Framework (NQF) to ensure the quality, progression

and portability of the system. This process has two distinct phases (South Africa, 1995a):

- In phase one standards will be registered
- In phase two the standards will be monitored

- **National Standards Bodies (NSBs)**

The registration of standards will require the standards to be written and presented in accordance with appropriate curricula and with modules at specific levels for public distribution (South Africa, 1995a). Guidelines must be provided for certification and other forms of formal qualification to ensure that the level of qualification matches the total number of credits achieved. Common rules and criteria for formal certification will be recognised and applied within the learning systems, including the recognition of South African qualifications internationally and locally.

In addition this registration of qualifications should include information about the level of qualifications and the assessment that is collated and co-ordinated in a standardised format. The registration of standards should also include guidelines for the establishment of National Standards Bodies (NSBs). The procedure for the registration of standards and modules will be determined by SAQA (African National Congress, 1994). The standards will be registered and gazetted for a limited period of three years, but may be confirmed for another period (e.g. five years). SAQA will establish one NSB for each of the twelve fields of learning.

The NSB will have the authority to recognise sub-fields of learning, in which the SGBs will work to register the standards. The main functions of the NSBs (Phillips, 1997a) will be to:

- define requirements for the moderation of ETQAs;
- ensure the SGBs meet the requirements of SAQA for the registration of unit standards and qualifications;
- recognise or establish SGBs;
- recommend the registration of qualifications with SAQA;
- recommend the sub-fields for guidance, recognition and establishment of SGBs; and
- monitor standards through the Education and Training Qualifications Authorities (ETQAs)

SAQA will ensure quality and coherence in the registration of standards by accrediting intermediary bodies to carry out this function on its behalf (African National Congress, 1994; Phillips, 1997a; South Africa, 1995a). At present these bodies are collectively referred to as Education and Training Qualifications Authorities (ETQAs) and this phase is referred to as primary accreditation.

The ETQAs could vary from provincial bodies for school-based learning to industrial sector bodies for areas of specialised learning. However, the registered ETQAs should demonstrate the capability to accredit providers, in order to ensure that quality and coherence are maintained. In addition, the ETQAs should have the infrastructure to carry out secondary accreditation, should be legitimately constituted according to establishment criteria and should be able to comply with the NQF requirements.

Frequent audits, within a five-year window, of the registered and accredited providers by specialised committees of SAQA will be made to ensure the secondary accreditation functions of registered ETQAs are being fulfilled and predetermined standards are being met. The primary focus of these audits and visits will be to establish that the learning outcomes meet the registered standards and the requirements

of the accreditation process. SAQA will accredit ETQA boards to oversee the implementation of the NQF system. Moderation to check the consistency of assessment will occur under the NQF. Moderation will assure the quality of judgements made by assessors and is crucial as part of a quality management system (Phillips, 1997a). In addition, the registration of assessors will form part of the quality management system to monitor the quality of assessment in the workplace, where most on-the-job training will occur.

- **Standard generating bodies (SGBs)**

The main focus of the standard generating bodies (SGBs) will be the preparation of draft unit standards and qualifications. Further functions of the SGBs will be (Phillips, 1997a) to:

- generate unit standards and qualifications according to the SAQA requirements
- recommend unit standards and qualifications to the NSBs
- update and review unit standards

The *South African Qualifications Authority Act* (South Africa, 1995a) supports a planned combination of learning outcomes with the defined purpose of providing learners with applied competence and a basis for further learning. This learning should add significant value to the learner, which in turn provides benefits for the community. The learning should comply with the objectives of the NQF, including the enhancement of learners' access to employment, mobility and progression and the provision of quality education and training that is cost-effective and internationally comparable.

SAQA has defined a qualification as comprising three components (South Africa, 1995a):



- Fundamental learning***
- Fundamental learning forms the grounding or the basis needed to undertake the education, training or further learning required in obtaining a qualification.
- Core learning***
- Core learning is compulsory and is contextually relevant to a particular qualification on a theoretical and practical basis.
- Elective learning***
- Electives are specialised additional credits selected at the specified level of the NQF, to ensure that the qualification is competency and outcomes-based in both theory and practice.

It will be through the combination of fundamental, core and elective learning that the detail and depth of learning programmes will be determined. SAQA has identified 12 organising fields of learning within the NQF, which are based on the integration of fundamental disciplines and areas of study with key occupational clusters (South Africa, 1995a). These 12 fields of learning are as follows:

- Agriculture and nature conservation
- Business, commerce and management studies
- Communication studies and language
- Culture and arts
- Education, training and development
- Health sciences and social services
- Human and social studies
- Law, military science and security
- Manufacturing, engineering and technology
- Physical planning and construction
- Physical, mathematical, computer and life sciences

- Services

- **National Qualifications Framework (NQF)**

The social and economic environments in South Africa are undergoing dramatic and rapid change as the country re-enters the international arena (Phillips, 1997a). To develop sound, high quality education and training systems, organisations need to provide high levels of skill and knowledge. The National Qualifications Framework (NQF) is designed to support the focus on and shift to quality. The objectives of the National Qualifications Framework (South Africa, 1995a) are to:

- accelerate education, training and employment opportunities;
- contribute to the personal development of learners;
- create an integrated framework for national learning achievements;
- enhance the quality of education and training; and
- facilitate elements within education, training and career paths.

The principles on which the National Qualifications Framework is to be based as discussed in the implementation plan for education and training (African National Congress, 1994) emphasise the future and functions of the national learning system as follows:

- Development of a national curriculum based on integrated academic and vocational skills
- Development of a national standards and qualification structure that will reflect the achievement of learning outcomes, defined at different levels from beginner to postgraduate, in terms of uniform national standards
- Integration of education and training systems at both formal and non-formal levels

- Development of methods and systems for learners to accumulate credits for learning towards a national qualification
- Participation by all stakeholders in the education and training system
- Recognition for prior learning
- The right to individual lifelong learning and the promotion of career paths

The purpose of the qualifications framework is to integrate all learning in South Africa into a uniform acceptable framework (Figure 2.6) in order to promote the culture of lifelong learning and to provide learners with a nationally and internationally recognised qualification (South Africa, 1995a).

NQF level	Band	Types of qualifications and certificates	
<i>Higher education and training certificates and degrees</i>			
8	Higher education and training	Doctorates; further research degrees	
7		Higher degrees; professional qualifications	
6		First degrees; higher diplomas	
5		Diplomas; occupational certificates	
<i>Further education and training certificates and degrees</i>			
4	Further education and training	School; college; training certificates; mix of units from all NGOs	
3		School; college; training certificates; mix of units from all NGOs	
2		School; college; training certificates; mix of units from all NGOs	
<i>1 = general education and training certificates = 4</i>			
1	General education and training	Senior phase	ABET level 4
		Intermediate phase	ABET level 3
			ABET level 2
		Foundation phase	ABET level 1
		Pre-school	

Figure 2.6 – Proposed structure for the NQF (South Africa, 1995a: 12)

As shown in Figure 2.6, a coherent framework of eight levels encompassing all types of learning and levels of achievement will be a major feature of the NQF. The NQF will:

- define clear learning pathways for development;
- define the purpose of qualifications and the relationship among qualifications;
- provide a system of credit accumulation for flexibility and progression within the system; and
- recognise skills, knowledge, attitudes and values of all learners.

2.2.3.10 Unit standards

Various techniques are used to analyse what is needed in the learning environment in order to incorporate these aspects into the unit standards for their sector or specific field of learning. The techniques used include the establishment of required outcomes together with the related assessment criteria for measuring the specific learning outcomes. National standards bodies (NSBs) and sector education and training organisations (SETOs) will be able to design and develop qualifications to satisfy their specific needs and still fit into the national framework for these qualifications (Phillips, 1997a).

Completed unit standards will be endorsed by the NSB, registered with SAQA and then published in the public environment. A unit standard can be seen as a "nationally registered set of specific learning outcomes with their associated assessment criteria and other technical information required by SAQA" (Phillips, 1997b). A unit standard describes the outcomes of learning and the standard of performance, which will be assessed against these standards. A unit standard will describe the result of learning and not the process of learning.

2.2.4 Organisational alignment

This section will focus on the following:

- Background to organisational alignment
- Profoundness of organisational alignment
- Theoretical foundations of alignment
- Organisational alignment in context

2.2.4.1 Background to organisational alignment

Organisational alignment is a concept often mentioned in organisational development models, but there is rarely any detailed explanation as to how and where it fits into the models. Organisational alignment refers to the extent to which an organisation's strategy, structure and culture create an environment that facilitates the achievement of its goals (Rothwell & Kazanas, 1994b). The concept of alignment lends itself to high-performance work systems by explaining how the interdependent elements of the organisation can achieve greater individual and organisational efficiency and effectiveness. Well-aligned organisations operate on well-designed practitioner models and performance enhancement.

- **Well-aligned organisations**

Well-aligned organisations apply effective leadership and training and development processes to create systematic agreement among strategic goals, tactical behaviours, behaviours, performance and reward systems and the organisational culture (Armstrong & Long, 1996). This agreement helps people to remove barriers to co-operation and performance and thereby increases the performance of individuals, processes and the organisation as a whole. In organisations practice often leads the development of theory and reflective practitioners frequently seek to develop convincing and effective models that will

help them understand and address organisational performance issues (Pearce & Robinson, 1994).

- **Practitioner-driven models**

Practitioner-driven models have solid foundations in experience, but often lack a theoretical basis to explain how, why and under what conditions they work. In order to develop better models, practitioners and learners must be able to test existing designs thoroughly. The practitioners need to develop a culture of basing their work on theoretical and proven models to enable them to identify the strengths, weaknesses and limitations of models in use to generate the information needed to refine and improve the practical application of those models (Pearce & Robinson, 1994).

- **Performance improvement**

Performance improvement models that rely on the concept of organisational alignment have lacked this necessary theoretical background. Organisational alignment is the degree to which an organisation's design, strategy and culture co-operate to achieve the same desired goals. Almost by definition, an organisation that is well aligned is efficient (Rothwell & Kazanas, 1994b; Pearce & Robinson, 1994).

2.2.4.2 What is organisational alignment?

The predecessor to alignment was congruence, a process model of the organisation developed by Nadler & Tushman (1989) as an open system composed of interdependent inputs, process components and outputs. The whole system functioned with greater or lesser effectiveness depending on the degree of congruence, consistency or fit between each pair of system components. The external environment was viewed as process input and strategy as the collective first-order input into the working elements of the

organisation. Nadler & Tushman described the function of the model as follows: "The aggregate model, or whole organisation, displays a relatively high or low degree of system congruence in the same way that each pair of components has a high or low degree of congruence" (Nadler & Tushman, 1989: 100).

- **Descriptive concept**

Organisational alignment is a descriptive concept referring to the extent to which the strategy, structure and culture of an organisation combine to create a synergistic whole that makes it possible to achieve the goals set out in the organisation's strategy. The definition is a combination of several other explicit and implied descriptions of alignment (Bennett, Fadil & Greenwood, 1994; Kiefer & Stroh, 1984; Merron, 1994; Nadler & Tushman, 1989; Tosti & Jackson, 1994) and reflects the use of the concept as found in training and development theory and practice.

- **Positive alignment**

Some development models suggest that linking activities and processes to organisational strategy can create positive alignment. Supporters of these models suggest that improved performance can be achieved by ensuring that the output of each organisational process assists in meeting the organisation's strategic goals (Robinson & Robinson, 1995; Rumbler & Brache, 1990; Swanson, 1994). Because performance at the organisational level is guided largely by strategy (Pearce & Robinson, 1994), the component activities and processes in the organisation should be designed to contribute to the achievement of strategic objectives.

- **Agreements**

Other models examining organisational alignment look at the agreement between an organisation's culture and its chosen strategy, goals and planned activities (Bennett, Fadil & Greenwood, 1994; Tosti & Jackson, 1994). In these models the goal of development activity is to increase the

agreement between the levels of organisational strategy and their corresponding levels of cultural belief and activity. This increased agreement leads to increased individual, team and organisational performance through general harmony between culture and strategy. As in other models, alignment revolves around a link between strategy and behaviour. Merron (1994) considers alignment to be a means to achieve the goal of organisational quality performance as "clarity and alignment among the five aspects of organisational life, purpose, objectives, strategy, structure and culture" are key to the proper direction of the organisation (Merron, 1994:52).

- **Characteristics and current models**

Kiefer & Stroh (1984) emphasise in their work the characteristics of an organisation capable of inspired performance: "... in most organisations, people have a fundamental agreement on organisational goals, and yet one still finds these organisations lacking alignment. Alignment deals with the more inspirational aspect of organisational purpose and vision, while agreement deals with the mechanics of goals and objectives. People who agree are saying no more than we share the same good ideas" (Kiefer & Stroh, 1984:175). As practitioner research and practices have advanced, they have left behind earlier work on alignment.

Current models that incorporate the concept of organisational alignment offer simplicity and common sense, but they do not explain why alignment works, how it can be measured or how it can be created or improved. Although these models may help organisations measure and improve performance in a general sense, their assumption that strong alignment is desirable has not been backed up with either theory or accurate research.

2.2.4.3 Theoretical foundations of alignment

Training and development is an applied field in an organisation. Theory often lacks related practice, as practitioners build informal models and make

innovations to improve performance, but either do not reflect on their practice or fail to offer explanations for their reasoning (Jacobs, 1989). The reflective practitioner is the greatest source of knowledge about organisational performance and improvement. As Argyris & Schon (1978) argue, thoughtful practice relies on both theory and experience evident in the learning interventions. The practitioner builds on experience to facilitate and select change and to select and implement tools that are appropriate for the learning and alignment situation.

Reflection on the effects of the training and development process or model used often suggests improvements or refinements to the process. With this approach, experience develops judgement and reflection develops knowledge. The action-reflection process can be very effective for developing knowledge in the field as a whole if it moves from the informal level of reflective thinking to the formal level of theory-building (Argyris & Schon, 1978; Jacobs, 1989).

Two difficulties have been identified with training and development practices implemented and applied in an organisation (Jacobs, 1989):

- The reflective practitioner is often isolated and narrow-minded, as practitioners do not share their learning experiences with other practitioners in the training and development environment. The result is that practitioners regularly reinvent the wheel, because they are unaware of existing solutions to their problems as they duplicate others' efforts.
- Reflective practitioners are often wrong in their approach to solving problem situations. Individual practitioners are limited to their own experiences and often lack a theoretical foundation to explain the root causes for success or failure in their work. They cannot always provide reasonable explanations for their methods of solving training and development problems and these solutions can seldom be generalised to other situations.

Theory is so important (Jacobs, 1989) because it takes the reflection on the solution of problems and the implementation of practice from an informal to a formal level by sharing it with the wider community. Theory should be useful to practitioners, allowing them to explain how something works or why it happens in the field of organisational training and development (Jacobs, 1989). With a well-founded explanation in place, practitioners are better able to predict and control the learning situation. As Jacobs (1989) puts it, "in its simplest form, a theory is an attempt to explain why some event or phenomenon occurs in our real world. Theory is more than a collection of facts or a summary of what is known about an event. It also represents an attempt to organise and integrate that knowledge into something useful. Theory allows us to understand the event, to predict the conditions under which the event will reoccur and to test hypotheses about the event." (Jacobs, 1989:31) A theory of organisational alignment is relevant to practice for two reasons (Jacobs, 1989):

- It serves to explain a complex phenomenon that has important implications for organisational performance. It identifies the factors involved in producing alignment, why the alignment is desirable, how it may be measured and how practitioners can increase its strength within organisations.
- It provides a basis on which further improvement and development in the technique can be built. By making explicit the relationships involved in the alignment of organisational strategy, culture and structure, future models can build on a common body of knowledge that offers stepping-stones to additional advantages in performance improvement technology.

A systems perspective grounds this theory and provides a proper paradigmatic frame within which to view it. Good theory building begins with practice. The researcher analyses broad observational and case study data to identify any patterns or themes that seem to emerge from the occurrence

under study. Giving clarity and explication to the patterns helps the researcher develop a theory that explains the circumstances in detail. Dubin lists the basic features of formal theories as (Dubin, 1969):

- a set of defined relationships between the elements of the theory, stated in principles of correlation or causation;
- a set of operational concepts or variables that comprise the basic elements of the theory;
- an explicit set of assumptions that apply to the theoretical situation; and
- constructs from which a testable hypothesis may arise.

These sets of conditions establish the basic knowledge by which researchers may test theory, which in turn guides future research and the generation of knowledge.

2.2.4.4 Organisational alignment in context

Organisational alignment is the extent to which there is systematic agreement among strategy, structure and culture within an organisation. This agreement creates an internal environment that facilitates achievement of the organisation's strategic goals by removing internal barriers to co-operation and performance that could otherwise reduce the efficiency and effectiveness of work towards goals (Rothwell & Kazanas, 1994b). If organisational leadership and training and development processes can systematically create agreement in each of the aspects of alignment, then the organisation should enjoy a high level of internal organisational performance as a result of the benefits of such co-operative activity.

Organisational alignment is a state rather than an outcome (Jacobs, 1989). The broad concept of organisational alignment operates in distinct but complementary aspects (Schein, 1990) such as the structural aspects of

alignment, reward systems, cultural aspects, performance, goal-directed behaviour and environmental aspects of alignment:

- **Structural aspects of alignment**

Agreement between the goals of different levels of activity within the organisational structure describes the structural domain of alignment. Well-aligned organisations create a rationale of filtering down goals for key processes, subprocesses, teams and individual jobs. These goals and the outputs of each of the processes or activities contribute directly to the achievement of the ultimate goal of the process level of which they form part (Rumbler & Brache, 1990; Swanson, 1994). Members of the organisation systematically design the organisational processes in this way to maximise efficiency and reduce barriers to performance.

- **Reward systems**

The reward systems are an additional structural aspect of the alignment between the strategic goals, values and tactics of the organisation. The policies that reward, punish and offer incentives to people create a motivational structure within organisations that exerts a great influence on the individual and on team behaviour. Bechet & Walker (1993) recommended linking compensation and staffing systems to the strategic business plan. Managers cannot control the actions of individuals, but they can implement organisational structures in the form of reward systems that encourage or discourage specific behaviours.

- **Cultural aspects of alignment**

Well-aligned organisations use an effective leadership process that sets strategic goals, suggests appropriate tactical behaviours to achieve the goals and influences the organisational culture to support the strategy. Because cultural values and norms have a stronger, more pervasive effect on actual behaviour than rational planning does

(Pearce & Robinson, 1994; Schein, 1990), the degree of agreement between the organisational culture and the strategy directly influences the ease with which the organisation may achieve its goals.

- **Performance aspects of alignment**

Agreement between the actual behaviour of the individuals and processes within an organisation and the behaviour that is required for attainment of the strategic goals is another aspect of alignment (Tosti & Jackson, 1994).

- **Goal-directed behaviour**

Alignment of this aspect is an indicator of the degree of operational goal-directed behaviour demonstrated by members and processes within an organisation. This aspect is more of a measurement of alignment than something that organisational leadership and training and development practitioners can manipulate directly (Schein, 1990; Bechet & Walker, 1993).

- **Environmental aspects of alignment**

Environmental alignment represents the external aspect of organisational alignment. It reflects the strategic fit between the demands of the external environment and the selected vision, goals and tactics of the organisation (Pearce & Robinson, 1994).

This theory is based on a set of assumptions about system characteristics and behaviour in relation to organisational alignment paraphrased from Jacobs (1989) and McLagan (1989) and uses general items in the field of systems theory as an underlying framework for training and development:

- All organisations are made up of systems and subsystems (processes) and components (sub-processes, individuals and jobs).

- All organisations and subsystems have goals, which direct activity and whose contributions to the larger organisation determine their perceived value.
- Systems must be managed intentionally and designed to meet the goals set for each system reliably.
- The use of both a systems approach and a systematic method is necessary to design systems with intentional, rather than random, goals.
- Individuals and groups will respond to the conditions in a system with some degree of reliability and predictability determined or constrained by boundary conditions (Tannenbaum & Schmidt, 1973).
- The external environment will dictate a set of conditions, seemingly external to the boundaries of the organisation, that impact on the organisation (Bennett, Fadil & Greenwood, 1994; Nadler & Tushman, 1989).
- Leadership will set strategic goals and directions for the organisation and act according to the values that support the organisational strategy (Pearce & Robinson, 1994; Tannenbaum & Schmidt, 1973).
- Performance can be improved through the development of human resources by unleashing experience through training and development, organisational development or a combination of the two at the individual, process and organisational level (Harrison, 1984; Swanson, 1994).

2.2.5 Learning organisation, organisational learning

A clear distinction must be made between a learning organisation and organisational learning in order to establish the effect thereof on national and organisational alignment. This section on organisational learning and a learning organisation will focus on the following:

- Background to learning organisations and organisational learning
- What are learning organisations and organisational learning?
- What is the difference between a learning organisation and organisational learning?

Researchers are in agreement that one of the major focuses in the future should be process-based approaches, with an emphasis on holistic skills that highlight the importance of leadership in training and development in the organisation and the underlying concept of 'human capital' development (Hales, 1986). This argument concurs with Reich's (Reich, 1984) position on the importance of individual learning and development, in which he states that the next frontier for organisations is one in which nations' primary assets will be citizens' skills and insights.

Organisational learning is a concept that has been widely researched, and yet it still lacks a strong consensus definition. Individual learning, however, has been shown to be a necessary but insufficient factor in organisational learning. Simon (1969) initially defined organisational learning as the growing insights and successful restructuring of organisational problems reflected in the structural elements and outcomes of the organisation itself.

Learning occurs when organisations interact with their environment, including other organisations. Imitating the behaviour of other organisations and accepting their behavioural repertoires is an important source of organisational learning (Hedberg, 1981). Although organisational learning can be considered a process rather than an outcome, Levit & March (1988) argue that learning furnishes an organisation with the ability to act on stimuli, which may be either internal or external to the organisation. In addition, Meyers (1990) states that an organisation learns by processing information, which then changes potential behaviours. The outcome of a successful learning process may thus be long-lived competencies, providing the firm with the potential to adapt to dynamic conditions.

It is quite clear that the idea of the learning organisation has become fairly well established to the extent that an organisation that does not attempt to develop itself into a full learning organisation will remain "an unfinished business" (Jones & Hendry, 1992).

2.2.5.1 Background to learning organisations and organisational learning

The term *learning company or organisation* appeared in the literature comparatively recently when Hayes, Wheelwright & Clark (1988) and Pedler, Bodydell & Burgoyne (1988) adopted the concept. Its roots may be traced to early 1950s and 1960s, when ideas about learning started to emerge. Out of these various thought processes and movements arose the concept of the learning organisation.

However, while the concept is fairly well established within academic and practitioner circles, it is still under development. As Senge (1990) describes it, the concept has been invented but not yet innovated, and thus a certain amount of ambiguity and confusion surrounds it. As Jones & Hendry (1992) explain, it is not clear what circumstances trigger the creation and development of a learning organisation, how change is then implemented and what the benefits are to the organisation and the individual people who work in it.

The challenge to the researchers and developers is therefore to develop an understanding of the concept of the learning organisation to the point at which it is possible to begin to understand the implications for practice.

2.2.5.2 What is a learning organisation and organisational learning?

Although different definitions of the concept reflect varying emphases, the shared historical context has meant that a number of common themes are readily identifiable. These include:

- change
- self-development
- employee participation
- adaptation of leadership systems and structures
- changes in the processes of delegation
- power and control

Senge (1990) defined a learning organisation as one that facilitates the learning of all its members and continuously transforms itself. Furthermore, according to Pedler, Bodydell & Burgoyne (1988), a learning organisation is one in which people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together. However, some authors view learning as a change in behaviour in response to a stimulus (Cyert & March, 1963; March, 1991).

Other authors suggest that learning requires some conscious acquisition of knowledge or insight on the part of the members of the organisation (Argyris & Schon, 1978; Hedberg, 1981). Fiol & Lyles (1985) argue that organisational learning means the process of improving actions through better knowledge and understanding. This should include cognitive and behavioural elements in the definition of organisational learning.

While these definitions view learning organisations as places where training, personal development and learning are an integral part of the business, theorists and academics also recognise that factors such as sympathetic

leadership, changing power and organisational structures and the creation of a suitable culture are all vital for the development of a learning company.

2.2.5.3 What is the difference between organisational learning and the learning organisation?

Just as the concept of the learning organisation has gained recognition in recent years, so has the concept of learning been accepted as a fundamental organisational process that has become integral to the effectiveness, adaptability and success of organisations (French & Bazalgette, 1993). However, Jones & Henry (1992) and Calvert, Mobley & Marshall (1994) have argued that the two terms, though closely related, are not the same thing.

<i>Organisational learning</i>	<i>Learning organisation</i>
<ul style="list-style-type: none"> • Highlights formal and structural issues, such as human resource management, training and knowledge and skills acquisition. These issues tend to obscure the real issues behind the learning organisation (Jones & Hendry, 1992). • Uses methods of collective learning. • Improves actions through better knowledge and understanding (Fiol, 1985). 	<ul style="list-style-type: none"> • An organisation that excels at advanced, systematic collective learning. • Systems thinking, personal mastery, mental models, building shared vision, team learning and leadership are important. • Individual performance is linked to organisational performance. • Creates structures and procedures that support the learning process. • Values how and what it learns. • Turns data into useful knowledge, quickly and at the right time and the right place.

Table 2.3 – Organisational learning versus learning organisation (Jones & Hendry, 1992; Fiol, 1985)

2.3 LEARNER DEVELOPMENT

This section of the literature review focuses on learner development in order to answer the subsidiary research question: *How efficient is the delivery of training interventions?* The section on learner development thus reviews the following items (Figure 2.7 and Figure 2.8):

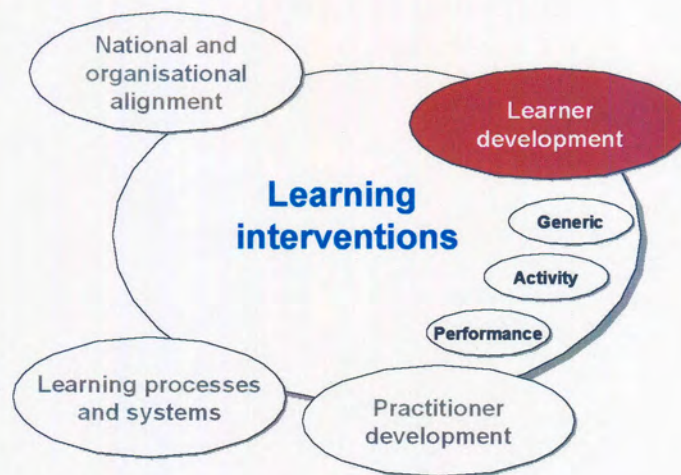


Figure 2.7 – Learner development

- Adult learning
- Learning pathways
- Career anchors
- Qualifications and learning programmes

Adult learning, learning pathways, career anchors and qualifications form integral parts of the individual learner's lifelong career development and training programme.

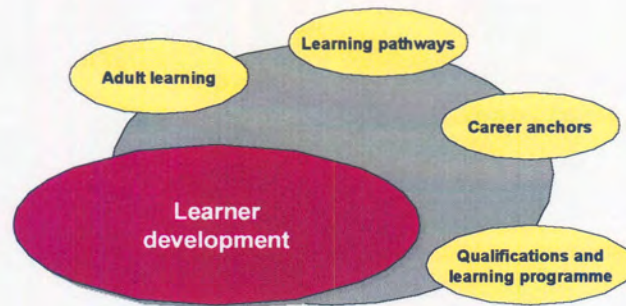


Figure 2.8 – Focus of learner development

2.3.1 Adult learning

Adult learning focuses on:

- The vulnerability of the learner
- Learning styles

Practitioners need to be more flexible, adaptable and resourceful to be competitive and prepared for the next millennium. The best way to develop these qualities is through experiential learning. A variety of social and organisational pressures have led to the development of various training and development interventions and a focus on the outcomes-based educational approach. For purposes of clarity, a brief discussion on problems inherent in the learning situation will follow. Spady argued that "outcomes are clear learning results that we want to demonstrate at the end of significant learning experiences" (Spady, 1994: 2).

2.3.1.1 The vulnerability of the learner

According to Kurt Lewin (as cited in Margulies & Raia, 1972), all learning begins with some form of discomfort. The learning process follows three stages (Figure 2.9):

- Unfreezing
- Change
- Refreezing

Learning is motivated by a drive to regain lost equilibrium occasioned by some form of disharmony, such as a realisation of a lack of knowledge, skills and competence (Figure 2.9). During the process of change, new behaviours or knowledge can be explored and tested, but dysfunctional defensive learning can occur as the self protects its perceived equilibrium from disconfirming information by rejecting it, suppressing it and distorting it. This coping behaviour is learned as surely as any other is (as cited in Margulies & Raia, 1972).

Recognising such dysfunctional responses in individuals or groups at an early stage poses a consummate challenge for the practitioner, even in an interactive situation. In addition, learners do not learn in isolation; their learning is inevitably influenced by other family and work communities of which they are part, and within which they will use particular individuals as key resources for discussion, comment and support (as cited in Margulies & Raia, 1972).

As shown in Figure 2.9, the learner may either be driven by a hunger for knowledge, skills and competencies or may feel his/her individual identity threatened by a state of disequilibrium and choose rejection, suppression or distortion as the way out.

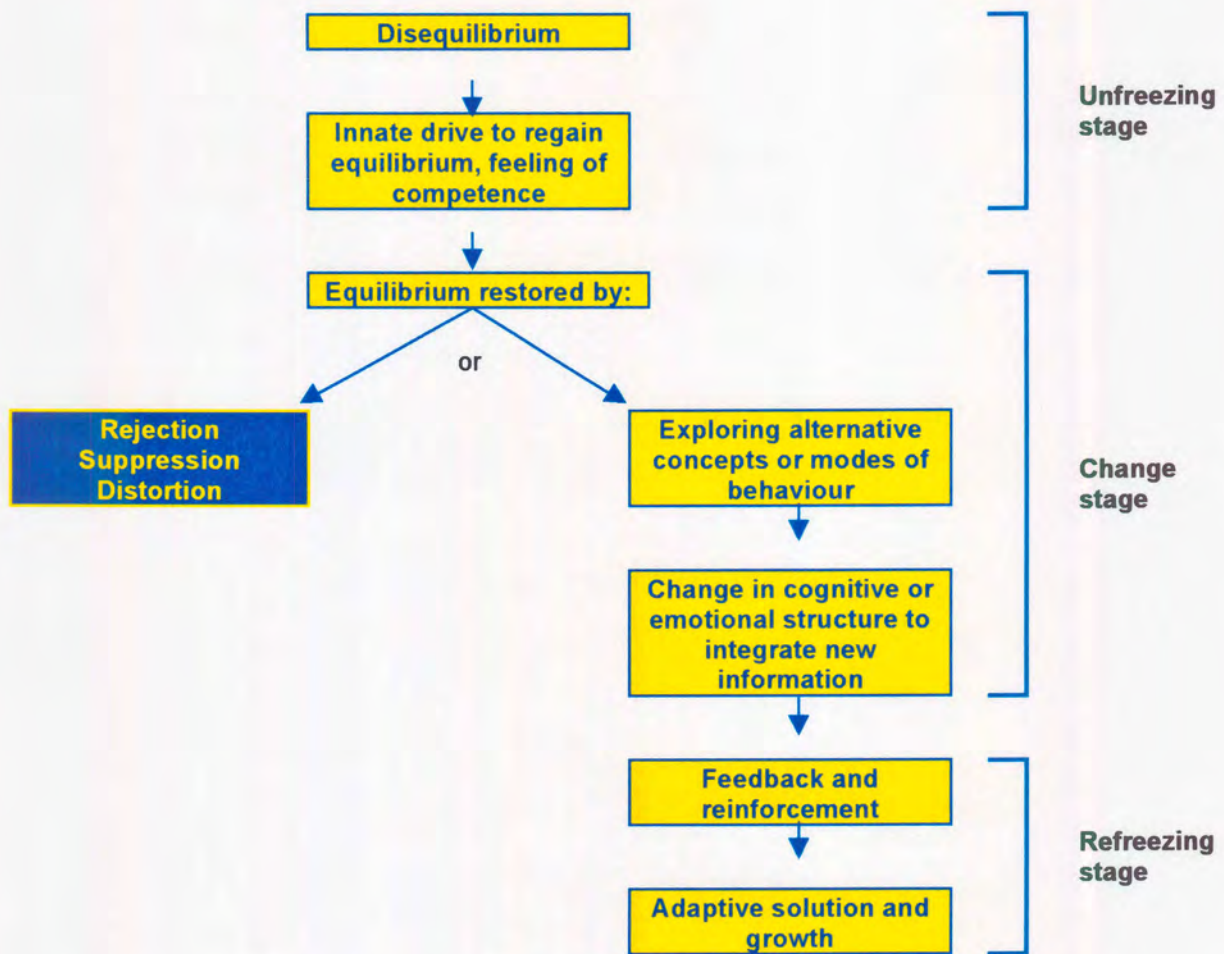


Figure 2.9 – Lewin's learning process (Margulies & Raia, 1972)

2.3.1.2 Learning styles

Lewin's model of learning (Figure 2.9) is not incompatible with Kolb's influential model of the learning cycle (Kolb, Rubin & McIntyre, 1971) (Figure 2.10), as this could be seen as an expansion of the change area in the linear representation. Kolb expands the process and Lewin reminds us that learning might have different outcomes. Any learning experience will move around this cycle, although habit, education, personality and circumstances will conspire to make learners feel comfortable at one particular point in the cycle (Kolb, Rubin & McIntyre, 1971; Margulies & Raia, 1972).

The learners' preferences or a combination of preferences will constitute their preferred learning styles, which may be one of four main types: accommodator, diverger, assimilator or converger (Figure 2.10). Effective learning needs to feature all of these aspects, but traditional learning addresses itself primarily to the assimilator and converger quadrants.

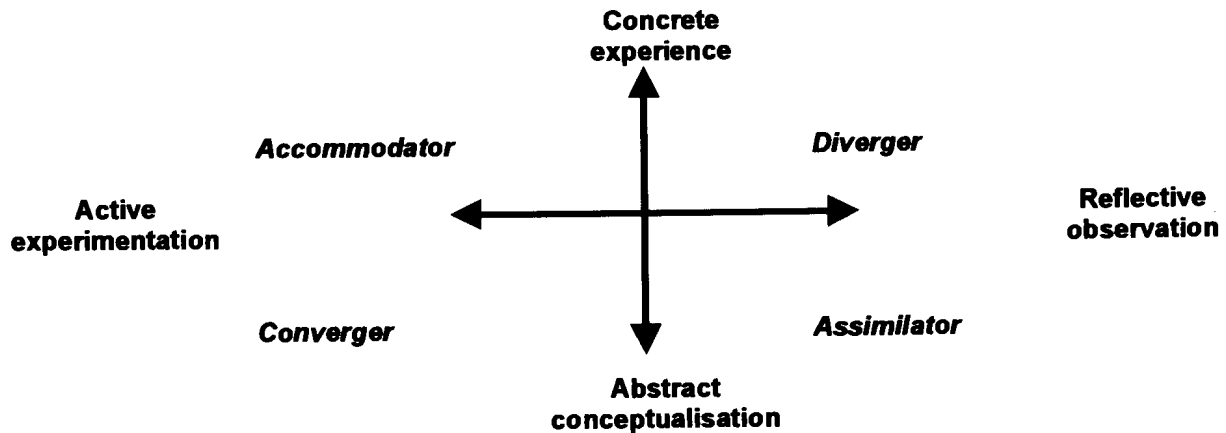


Figure 2.10 – The four learning style preferences (Kolb, Rubin & McIntyre, 1971)

Organisations expect leaders to take on board new concepts of leadership and implement them without any opportunity for experimentation or even any assistance with the new processes required. An effective programme must provide practitioners with the opportunity to experiment (Kolb, Rubin & McIntyre, 1971).

Kolb (Kolb, Rubin & McIntyre, 1971; Kolb, 1984) has identified similarities between his work and that of Piaget in his learning cycle in Figure 2.11, which provides a model for teaching interventions. The two ingredients essential for effective learning are the time and space to reflect on performance and to experiment with new ways of achieving it. Both time and space must be present for a programme to be effective, because learning occurs only after practice.

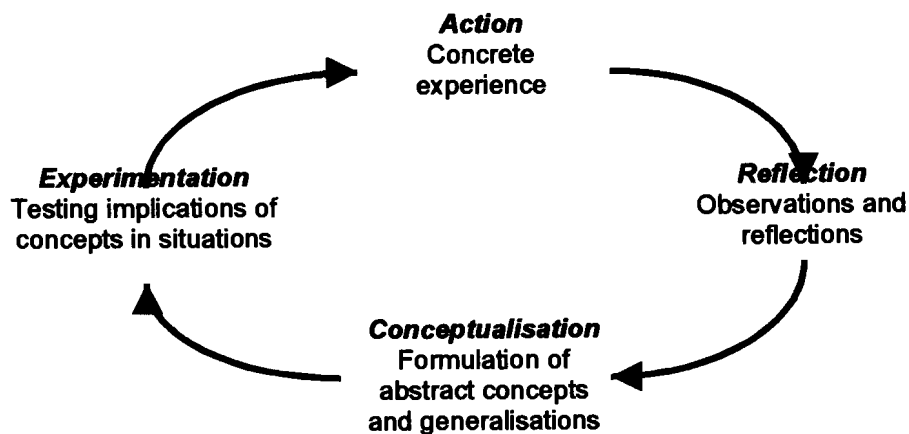


Figure 2.11 – Kolb's experiential learning model (Kolb, Rubin & McIntyre, 1971)

Figure 2.11 shows the learning cycle for experiential learning as Kolb (Kolb, Rubin & McIntyre, 1971) distinguishes the progression of learning as the learner moves through the learning experience. As McCarty (1979) says, the difference between learning at the bottom and the top of the cycle is the difference between institutional and experiential training.

2.3.2 Learning pathways

To design and develop outcomes-based educational programmes as part of learning pathways requires a focus on:

- Institutionalisation of learning interventions
- Skills training and levels
- Skills and competency grouping relevant to the learner
- Career anchors
- Qualification and learning programmes

2.3.2.1 Institutionalisation of learning interventions

The concept of institutionalisation goes beyond the simple transfer of training. As Michalak writes, "Successful training involves two phases: the acquisition and the maintenance of behaviours" (Michalak, 1981:22). Training and

development programmes often ignore the need to take steps towards the long-term maintenance of newly acquired skills and competencies.

2.3.2.2 Skills training and levels

An effective training programme will ensure that learners take the competency test only when they are competent to pass it. The following elements form the core of skills training:

- A positive model
- Practice with feedback
- A competency test

Throughout the training process, an atmosphere of support and encouragement must exist for adult learners. Learning new skills and changing old habits takes a long time.

2.3.2.3 Skills and competency grouping relevant to the learner

The learners need to develop high-performance skills to cope with the demands of the organisation. For a long time the corporate view of work, the workplace and the worker was rather limited and negative, and these work outputs were measured in terms of quantity of output. In the new workplace learners and workers need to make a 180-degree turn in a more responsive direction. Practitioners and learners need to move beyond the idea of training adults to that of assisting adults in a continuous learning process. Herr writes about assumptions the learner needs to encounter to create a culture of lifelong learning (Herr, 1995):

- Adult learners, as they mature, tend to prefer self-direction on their development pathways.
- Adult learners' experiences are rich resources for learning.

- Adult learners are aware of specific learning needs generated by real-life events.
- Adults are competency-based learners, meaning that they want to learn a skill or acquire knowledge that they can apply pragmatically to their immediate circumstances.

Competency modelling is required to drive organisational performance and achieve competitive advantage. The focus of the practitioner should be expanded through the introduction of programmes that prepare learners by giving them the basic skills. "The commitment to lifelong learning permits them to rapidly change in ways required by new organisations or content changes in the processes and performances of work" (Herr, 1995:5). Many educational approaches emphasise the importance of having students take charge of their own learning. Through experiential or on-the-job training, students can enhance their awareness of themselves for their own career development (Lester & Perry, 1995). Adult learning characteristics, as described by Ference and Vockell (1994), must be recognised if effective learning interventions are to be provided:

- Adult learners are active and willing to participate.
- Adult learners bring real-life experiences into the classroom.
- They are experts in many fields.
- They are independent and self-reliant and want to accomplish things for themselves.
- They want hands-on experience.
- They are life-centred and focus their attention on real-world situations.
- They are task-centred and wish to achieve goals.

(Adapted from Ference & Vockell, 1994)

A competency-based approach to learning provides learners with opportunities to demonstrate an ability to assess what needs to be learned, to select appropriate learning techniques and to apply the newly acquired skills

to their work. Specific skill development may be required in certain skill development areas (Table 2.4):

Competency	Skills required
Academic basics	<ul style="list-style-type: none"> • Reading skills • Writing skills • Computational skills
Adaptability	<ul style="list-style-type: none"> • Problem-solving skills • Creativity skills
Communication	<ul style="list-style-type: none"> • Speaking skills • Listening skills
Development	<ul style="list-style-type: none"> • Self-esteem skills • Motivational and goal-setting skills • Personal skills • Career development skills
Group effectiveness	<ul style="list-style-type: none"> • Interpersonal skills • Negotiation skills • Team-work skills
Influencing people	<ul style="list-style-type: none"> • Organisational effectiveness skills • Leadership skills
Learning to learn	<ul style="list-style-type: none"> • Foundation skills

Table 2.4 – Competency and skills required (South Africa, 1997a)

2.3.3 Career anchors

Organisations are undergoing a metamorphosis and profound changes are occurring worldwide. These changes in the work environment have implications for career development in the future. Schein (1978) wonders whether there will even be such a thing as an organisational career or will careers become a more fragmented set of jobs held over one's working life. It has become evident that most people form a strong self-concept, a career anchor, which holds their internal career together as they experience dramatic

changes in their external career. A person's career anchor can be seen as his or her self-concept, consisting of:

- self-perceived talents and abilities
- basic values
- an evolved sense of motives and needs as they relate to the career

Career anchors evolve only as the person gains occupational and life experience. However, once the self-concept has been formed, it functions as a stabilising force or an anchor. Most people are unaware of their career anchors until they are forced to make a choice pertaining to self-development, family or career. Although individual needs may change over the learning pathway, Schein (1978) believes that there are stable aspects to a learner's career and also argues that when career choices are made, each learner will consistently seek to implement his or her own career anchor. In addition, Schein has identified certain distinct career anchors that he claims will probably be found in all occupations and will influence learner development:

- Autonomy and independence
- Entrepreneurial creativity
- Managerial/leadership competence
- Security and stability
- Technical/functional competence
- Service or dedication to a cause
- Pure challenge
- Lifestyle

The concept of career anchors has become applicable in today's turbulent world as more and more people are laid off and have to figure out what to do next in their lives. Schein (1978) emphasises that career anchors will continue to shift as we speculate about the 21st century. The career anchors (security, autonomy, lifestyle, technical competence, leadership competence, entrepreneurial creativity, service and pure challenge) have shown dramatic

shifts in structure and content in recent times, as Schein (1993) has explained:

- **Security/stability**

The most severe problems have been experienced with this anchor because of the shift in organisational policies. This shift implies that the only thing the career occupant can really expect of an organisation is the opportunity to learn and gain experience in the organisation in order to make him/herself more employable.

- **Autonomy/independence**

Individuals anchored in autonomy will find the occupational world an easier place to navigate. The self-reliance that may be needed in the future is already part of the psychological make-up of this group of people. As their need for autonomy increases, they have fantasies of opening up their own businesses, becoming consultants, working part-time and reducing their dependence on any particular organisation or job.

- **Lifestyle**

Lifestyle has shown the greatest amount of change. Most people in this group are concerned about economic security, but a few talked about stabilising their life patterns by settling in given regions and refusing to be moved every few years. The trend towards autonomy and lifestyle as anchors is a healthy development, with advancement being defined in terms of what one knows and the skills one possesses and based less and less on seniority or loyalty.

- **Technical/functional competence**

While there is an awareness of the increasing importance of knowledge and skills, this group is at a disadvantage in that knowledge and skills rapidly become obsolete in a dynamically changing technological world and it is not clear whether organisations will guarantee continuing education and retraining. To remain technically and functionally competent will require constant updating and relearning in an organisational world that may not wish to bear the cost of this updating in terms of money and time.

- **General managerial and leadership competence**

These anchors will continue to attract career occupants who understand what is really involved. The need for general management and leadership will unquestionably increase and will be pushed to lower levels in organisations. As work becomes more technically complex, it requires more co-ordination and integration at lower levels. In today's organisations whole layers of management are being cut out and organisations are being flattened and re-designed around multiple shifting project teams. These teams are described as self-managed and consist of team managers, project managers and programme managers. With general management and leadership skills extending beyond a technical understanding of the tasks at hand, Schein (1990) argues that general management might cease to be a role or a position and become more of a process skill that will be needed in all kinds of roles and positions.

- **Entrepreneurial creativity**

More people are drawn to the idea of developing their own business, and as the world becomes more dynamic and complex, the opportunities for individuals with this anchor will increase dramatically.

The dynamic complexity of industry will put a premium on creativity and it is creativity that is the core of this anchor.

- **Service/dedication to a cause**

As the world becomes more conscious of large-scale problems such as environmental issues, the gap between developed and underdeveloped countries and factors related to health and welfare, new kinds of organisations and careers are being created to address these issues.

- **Pure challenge**

There has always been a small group of people who defined their careers in terms of overcoming impossible odds, solving the unsolved problems and winning out over competitors.

Each of the categories above still attracts a set of people, and the working out of a given anchor may become problematic as the world of work and organisational structures become more fluid. An ability to analyse and to figure out what kinds of jobs are available and how a particular job will evolve becomes a critical skill.

2.3.4 Qualifications and learning programmes

The *Green Paper on Further Education and Training* (South Africa, 1998a) distinguishes and acknowledges the diverse needs of learners and the different contexts of learning. The work of SAQA in developing the NQF forms the basis upon which the curricula, programmes and qualifications for training and development should be built and focused. One of the major requirements is to address the goals of lifelong learning, which will place their own demands on curriculum development for any future training and development interventions.

Learning outcomes, as defined by SAQA, are the contextually demonstrated end products of the learning process. Outcomes include knowledge, skills



and values that are recognised to be critical to the future success of learners. The critical outcomes have been defined as follows (South Africa, 1998a; Table 2.5):

<i>Critical outcomes</i>	<i>Developmental outcomes</i>
Problem-solving skills	Learning skills
Teamwork	Citizenship
Self-responsibility skills	Cultural and aesthetic understanding
Research skills	Employment-seeking skills
Communication skills	Entrepreneurship
Technological and environmental literacy	
The development of macro-vision	

Table 2.5 – Critical and developmental outcomes (South Africa, 1998a)

2.4 PRACTITIONER DEVELOPMENT

Practitioner development is an essential component in learning interventions and the training and development process. The literature related to practitioner development has been reviewed in order to answer the subsidiary research question: *How does practitioner development influence the quality of learning?* Practitioner development focuses on the following issues (Figure 2.12 and Figure 2.13):

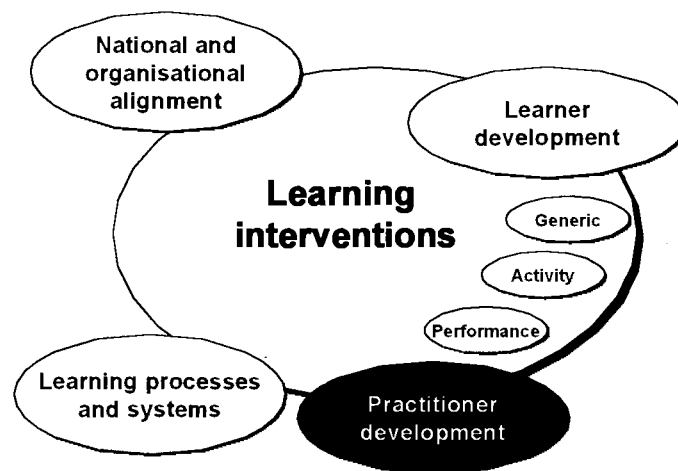


Figure 2.12 – Practitioner development

- Why practitioner development?
- Behaviour of practitioners
- Frequently used skills

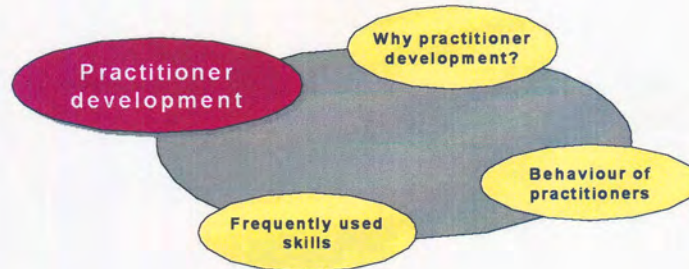


 Figure 2.13 – Focus of practitioner development

2.4.1 Why practitioner development?

There are two vital objectives that should be recognised in the development of staff:

- The need for skilled workers; and
- The influence that will be exerted on the organisation

Practitioners need to be developed to ensure that organisations have more skilled and productive employees working within the different processes. In order to be competitive, organisations need to be efficient and this depends on the ability of the practitioners involved in the processes to influence the organisation creatively. Processes that enhance the creative thinking and problem-solving skills of employees are not regarded as functional aspects of the organisation. The questions below are frequently asked about the role and place of the practitioner in an output-focused environment where the employees need to make productive contributions to the organisation and business (Kolb, Rubin & McIntyre, 1971; Kolb, 1984):

- What are the competencies required for practitioners to help the learners?

- What kind of knowledge is required from the practitioners to do their work well?
- What kind of training and development is required to prepare the practitioners for effective training and development interventions?

With the necessary clarity about his/her role, skills and competencies, the reflective practitioner can train learners in the following way:

- First go through the relevant basic science.
- Then teach the relevant applied science.
- Finally, provide or develop a curriculum in which learners practise applying that science to the problems.

2.4.2 Behaviour of practitioners

Rothwell & Kazanas (1994a) argue that many research studies have attempted to describe the activities, roles and competencies needed by HRD practitioners and they have identified the following key activities they are required to perform:

- Provide guidance and plan instruction for those who want to participate as a practitioner.
- Explain and justify HRD to others in organisational settings.
- Provide guidance for HRD leaders in selecting, developing and evaluating HRD practitioners.
- Provide other practitioners with career path direction and development in the field of HRD.

The American Society for Training and Development, as cited in Rothwell & Kazanas (1994a), gives the 15 key roles of HRD practitioners (Table 2.6) as the following:

<i>An evaluator</i>	<ul style="list-style-type: none"> • To identify the extent of the impact of a programme, service or product.
<i>A group facilitator</i>	<ul style="list-style-type: none"> • To manage and facilitate discussion groups.
<i>An individual development counsellor</i>	<ul style="list-style-type: none"> • To help individuals assess personal competencies, goals and values and to plan individual development.
<i>An instructional writer</i>	<ul style="list-style-type: none"> • To prepare written learning and instructional materials.
<i>An instructor</i>	<ul style="list-style-type: none"> • To present information for individuals to learn in the form of a structured learning experience.
<i>A manager</i>	<ul style="list-style-type: none"> • As a training and development manager to plan, organise, administer staff, control the training and link training and development with other organisational interventions.
<i>A marketer</i>	<ul style="list-style-type: none"> • To sell the training and development viewpoint, learning packages, programmes and services to a wide range of participants in and outside the organisation.
<i>A media specialist</i>	<ul style="list-style-type: none"> • To produce software for and to use applicable multimedia applications and related technology for training and development.
<i>A needs analyst</i>	<ul style="list-style-type: none"> • To define deficiencies between ideal and actual training and to specify the cause of the gaps.
<i>A programme administrator</i>	<ul style="list-style-type: none"> • To ensure effective utilisation and administration of programmes and to ensure that other components of learning are present during the implementation and presentation of programmes.
<i>A programme designer</i>	<ul style="list-style-type: none"> • To prepare objectives, define content, select and sequence activities for specific programmes.



A strategist	plans and action to accomplish training and development goals and objectives.
A task analyst	<ul style="list-style-type: none"> To identify activities, tasks, subtasks, human resources and support requirements necessary to achieve specific results in the organisation.
A theoretician	<ul style="list-style-type: none"> To develop and test theories of learning, training and development.
A transfer agent	<ul style="list-style-type: none"> To help individuals apply learning in the workplace.

Table 2.6 – HRD practitioner roles (Rothwell & Kazanas, 1994a)

Various training and development skills are essential for HRD practitioners to be able to implement training and development interventions in the workplace (Table 2.7).

<ul style="list-style-type: none"> An understanding of adult learning Audio-visual skills Career development skills Competency identification skills Computer competence Cost-benefit analysis skills Counselling skills Data reduction skills Delegation skills Facilities skills Feedback skills Futuring skills Group process skills Industry understanding skills Intellectual versatility skills Library skills 	<ul style="list-style-type: none"> Model-building skills Negotiation skills Objectives preparation skills Organisational behaviour understanding skills Organisational understanding skills Performance observation skills Personnel/HR field understanding Presentation skills Questioning skills Records management skills Relationship versatility Research skills Training and development understanding Training and development techniques understanding Writing skills
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Table 2.7 – Training and development skills (Rothwell & Kazanas, 1994a)

2.4.3 Frequently used skills

The following are the skills most frequently used and in which training is most frequently offered by American companies (Table 2.8):

<i>Skills used</i>	<i>Percentage</i>
Basic computer skills	88%
Communication skills	83%
Management skills/development	84%
Supervisory skills	81%
Technical skills/knowledge	85%

Table 2.8 – Skills usage in the USA (BMI Issues Management, 1997)

The focus of skills training in South Africa versus that in the United States of America is reflected in the next table (Table 2.9):

<i>Skills training</i>	<i>South Africa</i>	<i>USA</i>
Computer skills	76%	88%
Management training	78%	84%
Supervisory training	80%	81%
Technical skills	72%	85%
Total budget for formal training	R2,344 billion (up by 7%)	\$59,8 billion (up by 15%)

Table 2.9 – Skills trained in South Africa (BMI Issues Management, 1997)

As reflected in Table 2.9, the focus of skills training in the two countries also differs in terms of the amount of money spent on training and development in the last financial year (BMI Issues Management, 1997), with the difference in the case of computer skills (12%) and technical skills (13%) being notable.

2.5 LEARNING PROCESSES AND SYSTEMS

This section on learning processes and systems reviews the literature in order to answer the subsidiary research question: *How can the learning processes and systems assist in the advancement of employees?* The literature review therefore focuses on (Figure 2.14):

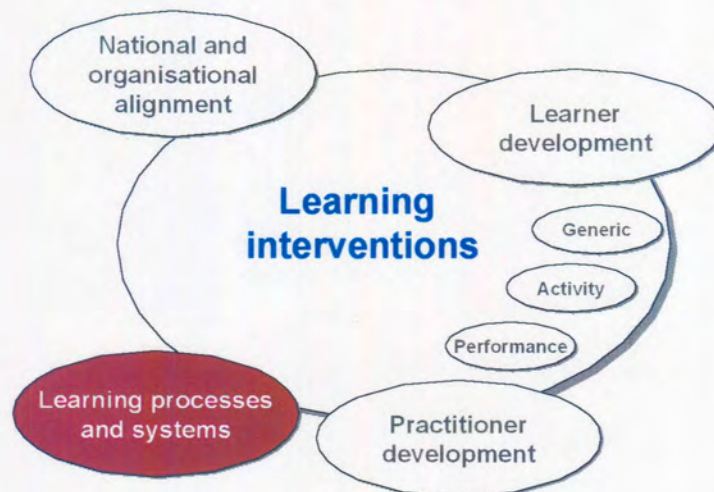


Figure 2.14 – Learning process and systems

- Programme design and development
- Effective learning
- Approach to learning interventions
- Delivery of learning interventions
- Modes of learning
- Technological approach for training and development
- Outcomes-based education
- Development of competencies
- Transformation

2.5.1 Delivery of learning interventions

Currently, the concepts of the learning organisation (Garratt, 1987) and open learning are being more widely embraced, including as they do flexibility in pace, an element of individual choice and discretion over the learner's own development, career-specific and otherwise. Increased demand has been accompanied by an increase in the understanding of how learning takes place and the availability of technology to achieve and enhance learning.

2.5.2 Other forms of delivery in training and development

It is clear that in the longer term the structures of most organisational systems will undergo profound modification under the impact of advanced re-engineering and process development changes (Kolb, Rubin & McIntyre, 1971; Kolb, 1984). Other developments are taking place in the structure and process of organisations to enable them to provide the training and development necessary to address identified training needs in the organisation:

Outsourcing

- This is a recent trend. Organisations will contract out to external firms activities in which they are not leaders in delivering the required outputs. Quinn (1980) and Drucker (1994) forecast that ten years from now companies will outsource all work not on a career ladder up to senior management.

Modular operations

- Ideas of outsourcing and being the best in the world are taken further in the modular organisation, where, as Tully (1993) explains, selected core activities and competencies in which one is better than anybody else in that specific field are nurtured.

Strategic networks

- Strategic networks can be defined as long-term arrangements between two or more organisations. Such networks, in the form of alliances between organisations, are forming and transforming at an increasing rate. Highly complementary strengths are united and such co-operative arrangements can give organisations competitive strength (Jarillo, 1988).

Virtual organisations

- The idea of virtual organisations is an emerging concept. By utilising its core competencies, a virtual organisation should be capable of fulfilling its potential in virtually any form. This approach can include virtual products available at any time or place and in whatever size is required (Davidow & Malone, 1992).

Looking at these forms of delivery of training and development interventions, it is clear that strategic networks and virtual organisations, in particular, require heterarchical rather than hierarchical structures and modernistic approaches to knowledge and skills management (Sadler, 1996; Quinn, 1980).

2.5.3 Programme design and development

Effective programmes generate a high degree of motivation for action and intentions to act and the potential for the conversion of this motivation into actions that measurably affect the performance of the organisation. Effective programmes attract and retain learners' interest rather than merely their attention. Those who feel motivated to learn do learn, so the primary task of the designer is to arouse that motivation. A major requirement for an effective programme is that it should stimulate the learners to want to do something with what they have learned (Tully, 1993). The learners and participants need

to have more of a say in the design and delivery of the programme, so that they can relate it directly to themselves and their own working situation and learning environment. Programmes capable of generating a high intention to act are those that (McLagan, 1989):

- are relevant to the problems faced in the work situation;
- attract and retain learners' interest; and
- draw on experience.

Programmes that meet the three criteria mentioned above seem to give participants a real incentive to change things in the workplace. But an intention to act does not necessarily imply an ability to act. Programmes capable of generating high action are those that (Billett, 1994):

- contain understandable concepts;
- give people confidence in their mastery of the skills required; and
- help people translate these concepts into action.

Simple rather than complex, experiential rather than cognitive, supportive rather than didactic – these programmes should provide simple and elegant concepts that learners can grasp and use immediately in the workplace to prevent over-complicated, over-analysed material that looks good in the workbook but confuses the learner (Anderson, 1982). Designers should avoid attempting to put everything they know into their programmes.

Print-based resources often accompany these programmes or modules, with learners being encouraged to use them independently. This approach is attractive to those who seek to find training solutions to secure the development of vocational knowledge (Billett, 1994). However, questions remain unanswered about the effectiveness and consequences of this approach to instruction.

2.5.4 Effective learning

Hand in hand with the design criteria, the boundaries of the learning situation and the environment go the learner and effective learning. Learners expect to gain something very positive from the time allocated to the programme.

Effective learning occurs when the learning climate is (Sadler, 1996):

- a challenging mix of cognitive and experiential material;
- related to the learning interventions identified;
- safe for the learner in terms of assessment; and
- surprising in the sense of changes of pace and type of learning material used.

The style of the practitioner is crucial to effective learning. Success is achieved when the learners believe that they have created the outputs and the potential for new action themselves (Glaser, 1990). An outstanding practitioner is a true leader, someone who gives the learners a vision of what they might achieve, sets an example of the behaviour likely to lead to that achievement and gives a lot of support and feedback along the way. Apart from the practitioner's role in teaching the content, his/her other tasks are to (Berryman, 1993):

- challenge;
- coach;
- counsel;
- criticise;
- listen; and
- set an example.

Designers and practitioners in the learning situation should focus on effective development programmes (Stevenson, 1991):

- They must be focused.

- Their impact must be capable of measurement.
- The design must be clearly structured to address the values and beliefs of the learners.
- The programme must include cognitive and experiential elements.

The objective of the practitioner and the programme designer is to affect the performance of the organisation in a positive manner. They do this by benchmarking the original situation, both for use in the programme and for subsequent evaluation, and then designing and implementing the programme using the effective processes outlined above (Perkins, Jay & Tishman, 1993).

2.5.5 Approach to learning interventions

A rapid increase is currently being experienced in interest in practice and learning in the workplace as a site for securing vocational knowledge and enabling interaction between learning outcomes through print and text-based resources and an alternative approach to learning through participation in everyday work practices (Billett, 1994). The researchers have identified two major focus points for securing vocational knowledge:

- Instructional media
- Everyday practice (on-the-job training)

The instructional media include print-based modules, computer-based learning, mentors and instructional videos. This approach to amassing vocational knowledge is contrasted with everyday practice on the job, comprising participation in everyday workplace activities. Everyday practice or on-the-job training emphasises ongoing participation in work activities. It is not part of any formal curriculum, but exposes the learner to topics covered by the instructional media or at formal institutional training. Two forms of

knowledge are referred to in this study (Anderson, 1982):

- Propositional or conceptual
- Procedural

2.5.5.1 Propositional or conceptual knowledge

Propositional knowledge or conceptual knowledge can be seen as including facts, concepts, information and statements (Stevenson, 1991). Propositional or conceptual knowledge can be acquired at different depths, from simple factual knowledge to deep conceptual understanding. The depth of understanding allows rich linkages with other concepts, which permit vocational experts to address complex problems successfully (Anderson, 1982; Perkins, Jay & Tishman, 1993).

2.5.5.2 Procedural knowledge

Procedural knowledge can be seen as including techniques, skills and the ability to achieve goals. Procedural knowledge is concerned with achieving goals, accomplished through specific procedures used to undertake specific tasks with higher-order procedures guiding, monitoring and regulating these activities. The deployment of procedural and propositional knowledge is seen as being interrelated and interdependent (Stevenson, 1991).

In addition, factors such as values, attitudes and interests are seen as having a keen role in underpinning the development and subsequent deployment of these forms of knowledge in the practical experiential training phase (Perkins, Jay & Tishman, 1993; Grusec & Goodnow, 1994; Tobias, 1994). Within any particular domain, a highly developed base of these forms of knowledge is viewed as being a key attribute of expertise (Glaser, 1990).

In combination, these forms of knowledge offer the depth of understanding and adaptable procedures required for complex performance, including the

ability to deploy knowledge effectively to resolve new problem situations. The workplace is characterised by self-managed work-teams, a lack of demarcation between tasks and a flat organisational structure, which encourages and permits a sharing of knowledge about work.

2.5.6 Delivery of learning interventions

The two ways in which the main types of learning delivery take place will be discussed, as will the way in which these approaches contribute to effective learning in the workplace (Stevenson, 1991).

The two main types of learning interventions researched can be classified as:

- Instructional media
- On-the-job training

2.5.6.1 Instructional media

Various instructional media can be used to develop and deliver learning interventions, such as print-based modules, computer-based learning and videos.

- **Print-based modules**

Learners can use the print-based modules in different ways. They may read through them and then use them in conjunction with work activities. Some learners may use the modules as a reference or as a backup for reinforcement (Glaser, 1990). These modules are generally used for providing information related to non-skilled, propositional knowledge and in situations of uncertainty in order to clarify meaning and remove uncertainty.

- **Computer-based learning**

Computer-based learning material provides greater depth of understanding in some areas than the print-based modules (Billett, 1994; Berryman, 1993). It has been found that the use of computer technology may cause concern, frustration and, occasionally, anger among the learners and also restrict the opportunities to access the knowledge in the computer text.

- **Videos**

Videos are used in conjunction with the text-based modules as a visual stimulant and to provide access to information not easily available to the learners through normal plant operations (Billett, 1994).

The instructional media can be seen as providing access to non-skilled propositional knowledge and a basis for the development of specific procedures.

2.5.6.2 On-the-job training (everyday practice)

On-the-job training includes aspects such as other workers, work activities, observing and listening, and direct instruction.

- **Other workers (mentors and coaches)**

The use of mentors and coaches to provide learning opportunities and activities seems to be very useful. The monitoring of activities and the progress of the learner provides close guidance, which is conducive to effective work performance (Tobias, 1994; Stevenson, 1991). Mentors and coaches are able to explain and make explicit that which is not immediately observable, thus usefully contributing to the development of the learners' conceptual understanding of the work requirements and activities.

- **Work activities**

Ongoing work practice and activities provide an opportunity for work tasks to become second nature, and this process is referred to as knowledge becoming procedurally driven or compiled for smooth performance (Anderson, 1982). Activities are contextualised by the requirements of the work practice and this type of learning is useful for making explicit the standards and values associated with work practices. Factors associated with on-the-job training are appropriated by learners through engagement in workplace activities and guided support from the other workers.

- **Observing and listening**

The guidance of other workers does not always involve direct interaction, with more indirect forms of guidance reported as being important. Observing and listening are described as providing a bridge between knowing about something and knowing how it can be undertaken. Whereas observing and listening during lectures might be seen as passive, in the workplace this is proposed as an active mode of engaging knowledge, as it is linked to actual on-the-job training (Billett, 1994; Anderson, 1982).

This ongoing and indirect form of guidance is essential for the sharing of knowledge, which could not be accessed or communicated in other ways. Moreover, the informal nature of learning from others can be illustrated by communication between workers in non-work situations, suggesting that accessing knowledge is not forced, but is a normal component of dialogue between workers, even during work breaks.

- **Direct instruction**

Direct instruction offers access to knowledge that would otherwise have been inaccessible. According to Berryman (1993), this type of

instruction is used increasingly in skilled occupations as the nature of the work becomes more complex. Explanations of an explicit nature are said to be very useful when knowledge is inaccessible.

The text-based modules and computer-based learning arrangements offer access to activities in the form of descriptive accounts, thereby developing non-skill-based knowledge. However, little evidence is offered that they provide access to the forms of knowledge required for complex work performance. The characteristics described above suggest that the use of print-based and text-based learning only, without associated on-the-job training, would result in superficial outcomes (Billett, 1994). On their own, instructional media are not sufficient for the development of skills – they have to be integrated with real activities and the guidance of experts involved in the process.

The following are the most common instructional methods and media used for training and development in the United States of America (Table 2.10):

<i>Instructional methods used</i>	<i>Percentage</i>
Business books and guidelines	55%
Classroom programmes	91%
Overhead transparencies	56%
Role-play	55%
Video tapes	79%
Workbooks and manuals	77%

Table 2.10 – Instructional techniques used (BMI Issues Management, 1997)

2.5.7 Modes of learning

The following modes of learning represent a configuration of mutually supportive elements and the significance of these modes is that they reveal a wide range of common learning processes identified by the literature:

- Analytic learning
- Synthetic learning
- Experimental learning
- Interactive learning
- Structural learning
- Institutional learning

Although one or two modes of learning may dominate in organisations, several modes may easily co-exist.

2.5.7.1 Analytic learning

Rational analysis is a well-known form of methodical learning (Allison, 1971; Ansoff, 1965). Learning occurs through intensive and systematic information-gathering from both within and outside the organisation. Operations are analysed and the environment is scanned to determine the key problems and opportunities. In making decisions, practitioners evaluate a variety of alternatives and a few key objectives are identified (Grandori, 1984), usually including aspects such as profitability and growth.

Much of the information gathered is quantitative and is monitored through formal systems. The emphasis is on hard intelligence data, deductive logic, numerical calculation and even optimisation (Ackoff, 1971). Most analytical learning is diffused only selectively to lower levels of the organisation. Although the results of learning are implemented through detailed plans, programmes and routines, lower levels may not always be made aware of the underlying rationales of the learning interventions or intentions.

2.5.7.2 Synthetic learning

Compared with analysis, learning by synthesis is a less systematic but more emergent, intuitive and holistic mode of learning. It combines different bits of

knowledge in a new way so that unique relationships or patterns are revealed and the whole becomes greater than the sum of the parts. Concepts may be reconfigured to display harmony and consistency (Mintzberg, 1989). Focal themes, critical relationships or systematic properties may be identified to reveal new possibilities (Nonaka, 1988).

The standards of evaluation used in the synthesis are largely aesthetic and subjective. Synthesis is normally a product of a single creative mind and results in products like configurations and systems thinking. Synthetic learning pulls together information in a way that gets rid of extraneous details and concentrates on what is most important (Radnitzky, 1968; Palmer, 1969). Another application of synthetic learning is the use of systems thinking (Beer, 1981) to understand the underlying dynamics of the systems, processes and organisations in question (Mintzberg, 1989; Senge, 1990).

2.5.7.3 Experimental learning

Practitioners have noted that the analytical model ignores limitations in decision-makers (March & Simon, 1958) and have suggested that overcoming these limitations and constraints requires a simpler, more incremental approach to learning through the performance of small experiments and monitoring of the results (Quinn, 1980). Practitioners can explore complex environments in a gradual and more focused way instead of making long-term plans (Burgelman, 1990). Experimental learning is also more spontaneous than analytical learning, as it is not governed by detailed plans and changes and is based on feedback from the processes and systems.

Like analysis, experimental learning is an intentional, rational, methodical approach to learning. There is a deliberate effort systematically to gather and interpret information in the hope of improving the behaviour of the organisation as needed (Weick, 1979). Experimental learning is especially likely to occur during efforts to adapt or renew an organisation, as changes

are made to products, services and methods to bring about a better way of doing things (Zaltman, Duncan & Holbek, 1973; March, 1991).

2.5.7.4 Interactive learning

Like experimentation, interactive learning involves learning by doing tasks and working simultaneously in many parts of the organisation. Instead of systematically experimenting with practices, practitioners learn in a more subtle and implicit way by negotiating and dealing with the stakeholders (Cohen, March & Olsen, 1972). Learning occurs in the exchange of information and the evaluation of transactions and interventions within or external to the organisation (MacMillan & Jones, 1986; Pfeffer, 1981).

Interactive learning is more intuitive and inductive than methodical and relies on hunch, political instinct and analysing or reading people. This approach to learning typically sees an individual or department trying to achieve local objectives (Cyert & March, 1963; March & Olsen, 1976). Interactive learning is widely used in organisations where goals are vague and power is broadly distributed.

2.5.7.5 Structural learning

Structural learning is one of the most pervasive forms of methodical learning and occurs through organisational routines (Cyert & March, 1963; Nelson & Winter, 1982; Perrow, 1986). Routines are products of analytical learning and design; they codify prior learning by specifying how tasks and roles should be carried out and played efficiently and guiding learning implicitly and explicitly, spelling out methods for improving efficiency, correcting errors or refining existing processes and systems (Nelson & Winter, 1982). Routines also teach by directing attention, institutionalising standards and assumptions, and even creating basic vocabularies (Hedberg, 1981).

2.5.7.6 Institutional learning

Institutional learning is an emerging inductive process by which organisations assimilate values, ideologies and practices from their environments (Scott, 1995). The learning is done by a large group of participants from the organisation, so that knowledge can be widely diffused. Instruction and indoctrination may occur openly, as a leader teaches his or her vision of the mission of the organisation and disperses it to members through formal symbolism, charismatic persuasion or example (Berger & Luckman, 1966; Deal & Kennedy, 1982).

Institutional learning harmonises the values of a leader, community or stakeholder with those of the broader membership of an organisation (Clark, 1956; Selnick, 1957). It also creates coherence among the beliefs of the employees, making it easier for them to work together (Whitley, 1991). Such learning tends to sanction organisational efforts in the eyes of powerful external parties.

2.5.8 Technology in training and development

Abetti (1989:37) defines technology as a "body of knowledge, tools and techniques, derived from both science and practical experience, that is used in the development, design, production and application of products, processes, systems and services". Technology transfer is defined as the process by which knowledge contained within one organisation is acquired by another organisation (Cutler, 1989). However, in the field of training and development a wide variety of practices are used to deliver training and development interventions (BMI Issues Management, 1997).

2.5.8.1 Training and development and the Internet

Classroom training is becoming expensive and in some instances ineffective, and also requires people to be removed from their workplace to attend training and development courses (BMI Issues Management, 1997). With new learning technologies such as Internet-based and computer-based training, learners decide what they want to learn and at what speed. These technologies were designed to improve performance and not necessarily for training. Technological applications include electronic performance support systems (EPSS) to assist learners with routine but complex decisions in the work situation using computer applications (BMI Issues Management, 1997).

The ability to access information world-wide practically immediately means that learning no longer needs to remain solely in a classroom and other means can be used to complement the traditional training interventions. With the Internet, training becomes more dynamic, personalised and interactive and can be delivered remotely. The most frequent ways in which the Internet is used in training and development include (Cilliers, 1997):

- Bulletin boards
- Discussion groups
- Electronic mail
- Interactive learning materials
- Real-time video conferencing
- Use of the World-Wide Web (WWW) to download information

The impact of technology and the Internet will force current practitioners to remain up to date with new technology and to adapt to the new trends in the use of technology to enhance their teaching and instructional skills.

2.5.9 Outcomes-based education

This section focuses on:

- Objectives of outcomes-based education
- What is outcomes-based education?
- Why do we need outcomes-based education?
- Focus areas of outcomes-based education
- What is needed for outcomes-based education?

One of the most significant shifts in the educational paradigm has involved the focus on outcomes-based education. The restructuring of academic curricula to include the basic concepts of outcomes-based education is increasing rapidly. Pressure from society to improve the levels of knowledge and skills of learners and overall dissatisfaction with the status of public school education have combined to alter the way forward for students in industry.

Outcomes-based education is founded on three basic principles, according to Spady, Marshall & Rogers (1994):

- All learners can learn and succeed, although not necessarily in the same way
- Success breeds success
- Institutions control the conditions of success

Outcomes-based education is education that is learner-centred, results-orientated and founded on the belief that all individuals can learn. As Spady (1994) argues, "Those who are slower never get the opportunity to truly catch up because their record of earlier mistakes cannot be erased. But what is almost never assessed or documented is what either kind of student ultimately can do successfully to match this accumulation of grades" (Spady, 1994: 7).

2.5.9.1 Objectives of outcomes-based education

Students and practitioners who are exposed to outcomes-based educational activities learn (Spady, 1994) to:

- identify the basic principles of outcomes-based education;
- explain terminology common to the outcomes-based education framework;
- describe the impact of the outcomes-based educational paradigm within the total educational experience; and
- develop appropriate learning interventions within the related educational content areas, which will meet the stated learning outcomes.

In implementing outcomes-based education, educators and practitioners are trying to make themselves more accountable for the whole person (Spady, Marshall & Rogers, 1994). In addition, the goal of outcomes-based education is to make sure that when expectations are presented to learners and responsible practitioners, there is a focus not only on the basics but also on the entire picture of what it takes for a learner to be able to function in a society. The following points must be made clear (Spady, Marshall & Rogers, 1994):

- The teaching of basic core knowledge is not dispensed with with the implementation of outcomes-based education. These basics are the core of the curriculum and are built upon and enhanced by current research and teaching strategies.
- Formal institutions have always addressed the whole learner, but never put these expectations down in objective terms. Objectively stating behavioural expectations enables productive communication with students and responsible persons in training and development.

2.5.9.2 What is outcomes-based education?

In outcomes-based education practitioners begin by determining the knowledge, competencies and qualities they want learners to be able to demonstrate when they finish the learning intervention and need to face the challenges of the organisational world (Towers, 1992). Exit outcomes therefore need to be established that are appropriate for the required work. In an outcomes-based educational system, the following concepts are emphasised (Towers, 1992):

- What is to be learned has been clearly identified.
- Learner progress is based on a display of competence and achievement.
- Multiple instructional and assessment strategies are available to meet the needs of each learner.
- Time and assistance are provided for each learner to reach his/her maximum potential.

Credibility, like respect, is earned and not granted. It is earned on the basis of the practitioner's professional knowledge, business experience and track record.

Spady, Marshall & Rogers (1994: 29) define outcomes-based education as a "comprehensive approach to focusing, defining and analysing all aspects of a school's instructional and credentialing systems. The instructional system includes things like goal-setting, planning curricula, teaching, instructional tools and resources, assessment of student learning. The credentialing system includes things like evaluating, grading, credit, record-keeping and transcripts, reporting, promotion and graduation standards".

Helsby & Saunders (1993) refer to outcomes-based education as:

- creating a desired state in individual students by describing what they should know and be able to do or be like as a result of their education;
- making use of class, institution or systems level performance indicators such as the distribution of results, course completion rates, measures of student alienation or post-course destination of students.

In this usage the learners' outcomes are performance indicators that either provide evidence of what has happened with respect to a group of students or define a desired state with respect to that group of students (Helsby & Saunders, 1993). With outcomes-based education the practitioner needs to clearly define the desired outcomes in terms of what the learners are to learn, measure their progress based on actual achievement, meet their needs through various teaching strategies, and give them enough time and help them to meet their potential.

2.5.9.3 Why do we need outcomes-based education?

Two of the most common concerns relating to outcomes-based education and the teaching of values and morals are:

- Whose morals and values should the practitioner teach?
- Should the practitioner teach these values and morals at all?

Values and morals are learned whether the practitioner teaches them directly or not. If the practitioner does not address them, they are adopted in a second-hand manner by observing the way others behave and interact. Ensuring that values and morals in training and development are covered in a

well-planned and deliberate fashion can best be accomplished by designing outcomes to organise this process (Spady, 1994).

What needs to be more specifically established are the behaviours and beliefs the practitioners want the profession to share with the learners (Spady, Marshall & Rogers, 1994). Acceptable behaviours have never been adequately identified for learners. The practitioners have been quick to let learners know when they do wrong, but the real question is whether practitioners have let learners know up front what was expected from them? Identifying acceptable social behaviours and incorporating these into the learning situation and the pre-determined standards will produce successful well-rounded students. Learning interventions with high standards, both academically/practically and socially, will be successful in creating confident and prosperous learners.

Outcomes-based education allows practitioners to put the outcomes that are expected into words, helping to make communication more thorough and direct (Towers, 1992). To have a successful outcomes-based programme, it is important to design it around the needs of the organisation, including relevant stakeholders in the process to assist in designing and developing the desired and appropriate outcomes.

2.5.9.4 Focus areas of outcomes-based education

A number of education systems around the world have described student outcomes quite explicitly in terms of the actual learning students should display at the end of planned learning experiences and the development of accountability mechanisms that directly reflect student performance in relation to those outcomes (Helsby & Saunders, 1993). There is wide variation in focus and, particularly, the kinds of student outcomes specified at a systems level, with these generally rather broader in scope than those specified in the objectives.

The focus is on the long-term learning valued by the system rather than more short-term objectives related to specific curriculum components. Systems level outcomes describe characteristics, behaviours or understandings in the learner, which have significance beyond the particular learning sequence or topic, indeed beyond school. Where education systems define student outcomes, they may be at any or all of the three levels of generality. There are many variations in the terminology used to describe the levels of outcomes-based education (Helsby & Saunders, 1993):

- | | |
|--|--|
| <i>Overarching student outcomes</i> | <ul style="list-style-type: none"> • This is the highest level of student outcomes and these are broad general <i>exit</i> outcomes, which apply to the whole curriculum. |
| <i>Curriculum area outcomes</i> | <ul style="list-style-type: none"> • Curriculum area outcomes are also broadly defined <i>exit</i> outcomes, but they apply to particular activities in the curriculum. |
| <i>Progressive outcomes</i> | <ul style="list-style-type: none"> • Progressive outcomes are more detailed and make <i>explicit</i> the benchmarks or standards by which student progress towards the achievement of the curriculum area outcomes may be mapped. |

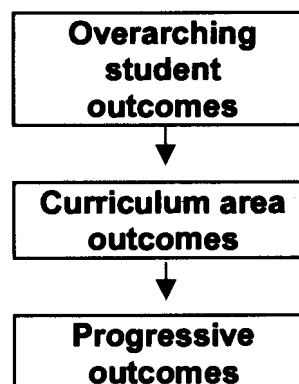


Figure 2.15 – Progression steps for an outcomes-based educational approach (Helsby & Saunders, 1993)

Education systems make explicit the broad characteristics or attributes they wish all students to exhibit by the time they have completed their training and development. While the precise nature of these overarching learner outcomes varies (Figure 2.15), they tend not to fit within traditional subject areas in the curriculum and may address attitudes, appreciation and values, personal attributes, work and process skills, in addition to academic outcomes. Education systems may also describe outcomes within particular curriculum areas. Like the overarching student outcomes, these are the outcomes the system expects students to exhibit by the time they have completed the common years of education and training.

Variably called learning area outcomes, attainment outcomes or learner outcomes, they are more specific than overarching learner outcomes because they apply to particular aspects of the educational programme. More specific than the curriculum area outcomes are the progressive outcomes, often referred to as attainment targets, attainment levels, student performance standards, learner profiles or curriculum profiles.

2.5.9.5 What is needed for outcomes-based education?

Practitioners should initiate a comprehensive effort to identify standards and outcomes for the development of learners in organisations within the framework of appropriate curricula and assessment methods (Helsby & Saunders, 1993). Performance criteria need to be built in to support the exit outcomes and to provide a framework for developing curricula and assessment as part of the pact of learning between the practitioner and learner. The framework and curricula should contribute to the knowledge, skills and values needed by all the participating learners (Spady, 1994).

The exit outcomes should address the required mathematical analysis, scientific inquiry and engineering design, as appropriate, showing students are able to pose questions, seek answers and design solutions. Mathematics,

science and technology are each distinguished by specific characteristics and processes. They can be used separately, but are more often used together.

Learners would need to understand the scope and limits of the above-mentioned ways of knowing and doing, and to apply these solutions to problems. Learners need to learn when these modes of inquiry and their tools are appropriate and when they are not, what they can solve on their own and what questions require working with others. While mathematics, science and technology are applied differently, each can be enhanced through the others. These disciplines also fit together with other subjects in the curriculum, such as statistics and financial subjects (Helsby & Saunders, 1993; Spady, 1994; Salder, 1996).

The practitioners and the learners need to acquire an understanding of the basic concepts of systems and their uses in the analysis and interpretation of complex interrelated abnormalities in the real world, within the context of the sciences. It is essential to introduce systems analysis to learners to enable them to transfer knowledge from one system to another by recognising commonalities and seeing interrelationships as well as objects and patterns of change. Practitioners and students need to use a full range of information systems, including computer systems, to (Helsby & Saunders, 1993):

- handle information
- communicate information
- model and simulate natural and human-made situations
- measure and control objects, processes and systems
- understand the application and effects of information within the context of the sciences

Processes and systems that have been engaged in articulating learner outcomes (Helsby & Saunders, 1993) enhance what is actually taught to students. Some regard them as a means of ensuring that all students have access to and succeed with high quality outcomes, while others see them as

improving accountability and the distribution of responsibilities within the education system (Darling-Hammond, 1994).

Such a focus on outcomes-based education demands that all learners are taken seriously and have access to a curriculum consistent with the significant or valuable learning. The supporters of outcomes-based education consider that defining the same outcomes for all is particularly important for those students who have traditionally not been well served by schools. As Darling-Hammond (1994) states, "We have entered an era where the goal of schooling is to educate all children well, rather than selecting a 'talented tenth' for knowledge work" (Darling-Hammond, 1994:25).

2.5.10 The development of competencies

Preparing individuals who can reach the competency levels required in the workplace should be the concern of all practitioners within the training and development field, and it is not practice that makes perfect, but practice with feedback that makes perfect. Learning a skill is only half the battle; applying the skill in the workplace is the other half (McLagan, 1983).

2.5.11 Transformation

Organisations have to discover, articulate and realise potential all the time and at all structural levels to develop capacity for learning and new modes of operation. People in companies have mostly looked upward toward their leaders and inward toward their department, but seldom outward toward their customers. This has suffocated creativity and innovation, as emphasised by Hammer & Champy (1993:28): "To cope with change, organisational and business process redesign are essential for many corporations. For this the multilevel logic of management (operational, strategic and normative) must be understood."

Redesign and transformation are often more than a matter of increasing operational efficiency – they are a means of enhancing core competencies or beating the competition on key success factors such as quality, speed or cost. Beyond that, redesign is often critical to the viability and development of an organisation. It entails literally reinventing the mode of doing work and training.

2.6 LEARNING INTERVENTIONS

The learning interventions should integrate the alignment, learning systems, practitioner development and learner development with the following (Figure 2.16):

- Generic training
- Activity training
- Performance training

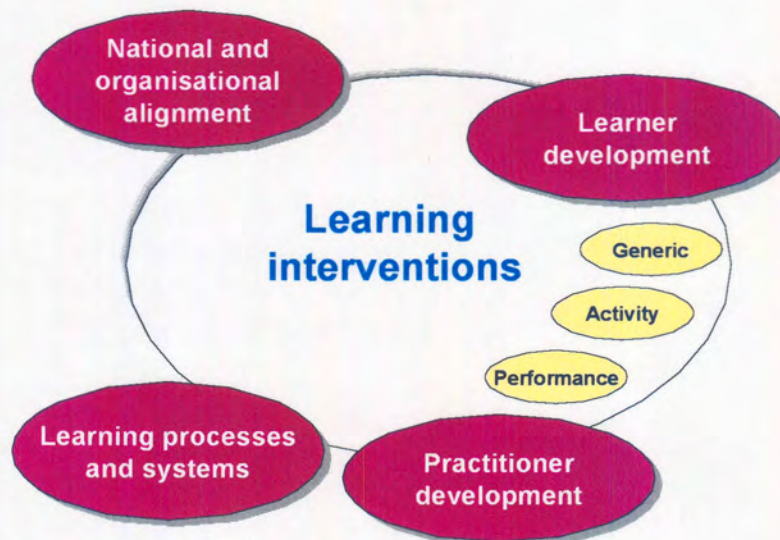


Figure 2.16 – Focus areas for this literature review

In addition, the literature review relating to learning interventions will research:

- Training and development as a whole
- Training and development models
- Expected results from learning interventions

The development of vocational skills is an important national and economic goal. Accompanying this economic goal is a demand for accountability from educators and practitioners, which extends to determining how the educational component of this goal is established. Curriculum development has therefore become increasingly top-down, with decisions about content and approach determined by a government-led and industry stakeholder-based framework that includes the mandatory use of competence-based training.

A characteristic of this accountability model of curriculum development is the use of modularised units of instruction, shaped by behavioural competence formats. The types of knowledge required for skilled work are more likely to be secured through on-the-job training than through instructional media. This does not mean that print-based and text-based resources are without effect, but with this type of approach they would be insufficient on their own.

2.6.1 Training and development

This section will include the following areas of research on training and development:

- Training and development in perspective
- Training and development terms
- Training and development designs
- Training and development strategy
- Training and development policies
- Learning systems
- Learning systems design

2.6.1.1 Training and development in perspective

The philosophical foundation of training and development is derived from the concept of change by learning. Human resources development (HRD) refers

to the set of interventions implemented for the production of desirable behavioural and organisational change and can be seen as an end rather than a means. Training is the organisational means to achieve this end. Katz & Kahn (1978) have argued that training is such a general word that it should immediately be qualified.

The rationale for this statement is the view that a close relationship exists between training, education and development, both operationally and conceptually. This argument is also grounded on the availability of various similar instructional methods and techniques of training and education. However, throughout the literature, various authors define training in very similar ways:

- Training serves to "help increase upward mobility within the organisation, to adjust workers to the technology changes affecting the workplace, and often simply to introduce people to the world of work at the entry level" (Deutsch, 1979:104).
- Werther & Davis (1985) argue that training is the function of helping employees to do their present jobs.
- Training and development involves the development of the individual's knowledge, skills and attitudes (Reilly, 1979).
- Training and development is a human resource development activity that is closely related to increasing or maintaining the productivity of employees (Klinger & Nalbandian, 1985).
- Training and development "activities focus on learning the skills, knowledge and attitudes required initially to perform a job or task or improve upon the performance of a current job or task" (Nadler & Wiggs, 1986:4).

The benefits of an organisation's training and development activities may extend throughout a person's career and may help to develop the individual for future responsibilities. From the above definitions of training and development, the following common characteristics can be identified:

- Training and development is a learning experience for both the individual and the organisation.
- Training and development is a tool for behavioural and attitudinal change.
- Training and development is concerned with equipping practitioners with and exposing them to a new set of knowledge and skills.
- Improved organisational productivity through an increase in individuals' potential performance is the ultimate objective of any training system.

Training and development can thus be seen as a planned learning system aimed at attitudinal and behavioural change by equipping individuals with desired knowledge and skills in order to maximise potential performance to increase an organisation's productivity. Training and development is an integrative system, requiring among other things a high level of collaboration between various human resources activities.

2.6.1.2 Training and development terms

Development and training terms are used in the literature and industry with different meanings and some authors distinguish between training and development using time as the criterion:

- Werther & Davis (1985) explain training as a short-term organisational concern that involves helping employees to perform their jobs, while development is concerned with an employee's future job-related responsibilities.
- Nadler & Wiggs (1986) distinguish between training, education and development at three levels:

Training

- Training is the first and most common HRD activity and is short-term. Training focuses

on the learner learning the skills, knowledge and attitudes required initially to perform the job or to improve and enhance the work performance.

Education

- Education can be seen as a long-term activity that focuses on the learning of new skills, knowledge and attitudes that will equip the learner to assume a new job or to perform a different task at a predetermined time in the future.

Development

- Development is both personal and organisation-orientated as a present and future concern.
- Meyer & Semark (1996) talk about a learning system rather than a training and development system as providing a more holistic approach.

There is no doubt that similarities exist between training and development as a learning experience. Learning is a function of exploring other possibilities and integrating the organisational objectives in a productive and functional framework. Change and transformation are common to both development and training in so far as training and development are successfully planned, implemented and evaluated.

However, the learning methods used to execute training and development are different. While training involves primarily lectures, practical sessions and workshops, development uses methods such as work rotation, learning centres and available literature. Development is also employee-initiated and voluntary. The organisation's role is to provide the learning opportunities.

2.6.1.3 Training and development designs

Training and development models and system designs challenge organisations and include the following focus areas:

- Development of leadership to function in a global economy
- Transformation of work practices
- Development of accelerated development programmes
- Building of constructive relationships and partnerships
- Retaining and retraining of critical skills

The training and development learning process needs to propose a strategy to provide important contextual frameworks and support. To build capacity in the organisation and at programme level will require sound training and development strategies, policy formulation and learning system design. It is important to distinguish between strategy, policies and systems, as each has a unique role in an effective training and development environment.

2.6.1.4 Training and development strategy

The training and development strategy has to do with identifying the priority needs of the individual and the organisation and ensuring that proper resources and processes are put into place to address them. It is therefore output-focused and dynamic, changing as different needs are identified and environmental conditions change. When organisations express dissatisfaction with training and development activities, the cause can often be traced to the process by which the activities were created (Middlebrook & Rachel, 1983; Moore & Dutton, 1978) (Figure 2.17).

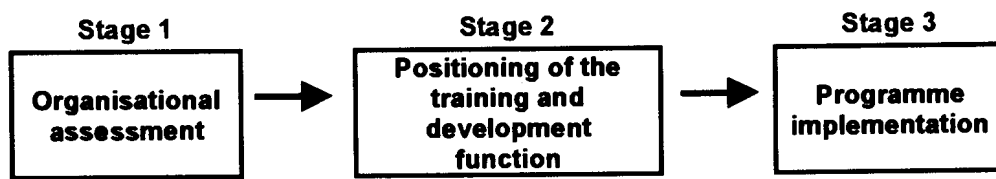


Figure 2.17 – Strategic process model (Middlebrook & Rachel, 1983; Moore & Dutton, 1978)

In Figure 2.17, a strategic decision-making process model, organised around three sequential stages, is outlined as one way of approaching a training and development strategy (Middlebrook & Rachel, 1983; Moore & Dutton, 1978).

- Stage one**
 - Stage one emphasises both external and internal alignment and assessment of the organisation's goals, strengths and weaknesses.
- Stage two**
 - Stage two requires decisions to be made about the role and function of training and development within the context of the larger organisation.
- Stage three**
 - Stage three focuses on several basic implementation decisions to ensure that the plan will become part of a general approach to management.

To move beyond this 'quick fix' mentality, a fundamental shift in thinking must occur about ways of developing proactive goal-orientated programmes that can be integrated with other human resources activities (McLagan & Bedrick, 1983).

2.6.1.5 Training and development policies

Training and development policies have to do with the principles that guide decision-making in relation to the development of the learners to suit the identified business goals and objectives of an organisation or business.

2.6.1.6 Learning systems

Learning systems are the processes, structures and mechanisms that need to be created to give effect to strategy and policy and sustain capacity-building (Meyer & Semark, 1996). Learning systems have to do with the holistic relationship between components. It is therefore important to be able to identify, define, apply and evaluate the components of a learning system as well as its relationship to other organisational systems and purposes.

The specific outcomes of learning need to be defined and competencies can be seen as the integration of knowledge, skills and value orientation demonstrated to a defined standard in a specific context (Meyer & Semark, 1996). Multiple categories of competencies may be defined. A frequently neglected component of learning systems is that of support systems to enhance the success of a training and development process. The integration of learning programmes and management information systems is needed with the current change and availability of effective human resources-related systems. Meyer & Semark (1996) state that all experiences are learning experiences.

Within the context of a learning system creative learning experiences are multiple in nature and are systematic in their design. It is here that the concept of learning rather than training becomes important. An organisation that is able to create a learning culture creates a window for innovation and change at both an individual and organisational level. Learning paths supply both focus and flexibility to a learner's personal learning and competency development. Effective learning systems require feedback mechanisms to establish whether the assessment of individual competency or the evaluation of a complex learning intervention or system is essential to the purpose, maintenance and design of such interventions (Meyer & Semark, 1996).

2.6.1.7 Learning systems design

Meyer & Semark (1996) have described a holistic learning system model and emphasise seven primary components in teaching and consulting (Figure 2.18). The model can be applied at national, industry, organisational and individual level. As shown in Figure 2.18, the purpose and context of the system is central to the model. Most learning systems have multiple purposes.



Figure 2.18 – Holistic learning systems model (Meyer & Semark, 1996)

2.6.2 Training and development models

Transfer, evaluation and institutionalisation are three major elements of a training and development model within the training function. Training needs to be transferred to the workplace and its effectiveness evaluated, and the positive elements of training should be institutionalised. These training and development models should include the following elements (Sadler, 1996):

- Determining the organisation's training needs, designing training interventions for the problems

- Assessing the learning and the learners' attitudes towards the training and development interventions
- Assessing the transferability of the training and development to the work situation
- Evaluating on-the-job training
- Institutionalising positive results and outcomes and unlearning techniques with negative consequences

Evaluation of training and development without a transfer of the training to the workplace is clearly lacking in validity.

2.6.2.1 Training and development process

Training and development processes found in the literature are characterised mainly by a systems approach and focus on the sub-processes, which are in turn more conceptually than practically orientated (Figure 2.19). The training field has used systems thinking extensively and there is wide application of a systems approach in training and development (Gague, 1962; Echstrand, 1964; Goldstein, 1974; Hinricks, 1976; Bexley & Latham, 1981; Camp, Blanchard & Huszcco, 1986; Lathan, 1988; Nadler, 1984).

- **Popularity of process training models**

The popularity of this type of training and development approach lies in the fact that systems modelling allows for large-scale design (Cuenod & Kahne, 1973) where various variables are incorporated into local units to achieve complex development objectives. The unique ability of large-scale design may also help in diffusing the cultural and functional difficulties found in today's highly diversified organisational structures.

As shown in Figure 2.19, the training and development process has two focus areas, the main process and the sub-processes within the main process (Nadler, 1984). In studying the sub-processes, the majority of practitioners and specialists focus on a particular training event that analyses and explains

their activities without explicitly accounting for environmental elements surrounding the training activities. For example, the needs assessment phase (Figure 2.19) as part of the training and development process stands as a single event also considered on its own. The main training and development process attempts to account for the internal and external organisational factors that influence the training activities (Goldstein, 1974).

- **Needs identification**

The literature agrees that the needs identification phase should be the starting point in any training and development activity. The needs identification or assessment is not a routine function and should be conducted in a careful, diagnostic manner. It is a collaborative effort between the training and development team and the various line support functions in order to collect, diagnose and analyse pertinent information about the organisation (Casner-Lotto, 1988). The training needs assessment is necessary in order to decide whether training is actually what is needed to solve the problem being confronted and to develop interventions for the subsequent training and development activities (Boud, 1985).

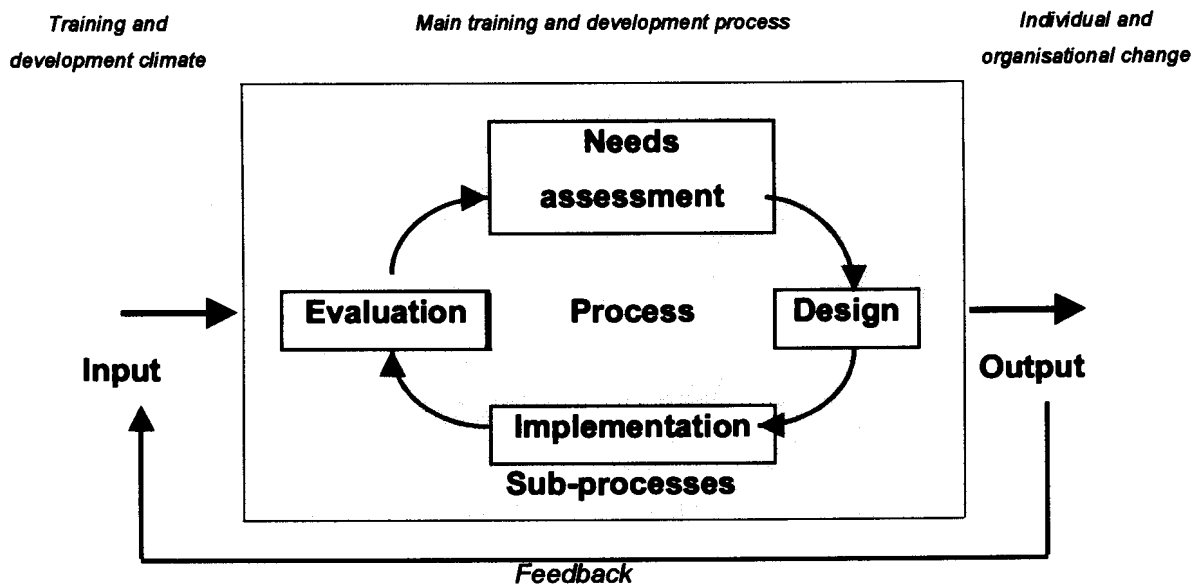


Figure 2.19 – Training and development process

- **Design**

The design phase involves the creation of a training and development plan with clear objectives. It is an attempt to determine systematically how to achieve a positive transfer of skills, knowledge and attitudes in the training situation. It is a description of the performance learners will be required to master before they will be considered competent (Mager, 1975). Steps involved in this phase include reviewing the outcomes of training and development objectives, consulting with the parties involved, writing the final learning objectives, arranging training activities and interventions and evaluating the training and development objectives (Goldstein, 1974; Camp, Blanchard & Huszco, 1986; Nadler, 1984).

The literature supports various learning theories and models to enhance the design of training and development programmes in terms of Lewin's (1951) field analysis model of maintaining forces, unfreezing, moving and re-freezing as a learning approach or Piaget's (1950) evolutionary stages of learning theory used to identify learners' cognitive development needs. The design phase also involves the selection of instructional methods and techniques. The implementation of the training and development programmes and

activities becomes the next step in the process. The objective of this phase is to conduct the training programmes that have been designed (Bushnell, 1990).

- **Evaluation**

Training evaluation and feedback is the final phase in the proposed process. This phase investigates whether the training and development process achieved its objectives and whether the programme was implemented according to the specified predetermined plans. This phase includes the determination of whether the behavioural and performance changes have occurred. This is not the final evaluation of the training and development system (Nadler, 1983; Golstein, 1974).

There is a difference between programme evaluation and system evaluation. Programme evaluation determines behavioural and knowledge changes, whereas systems evaluation determines the return on investment quantitatively and qualitatively. No adequate evaluation can be undertaken without an effective feedback system that makes the necessary information available. Feedback is an ongoing systematic process aimed at the transmission of data and information among the entire training process and system. Training and development is most successful when employees have actually helped to plan, design and implement programmes (Casner-Lotto, 1988). A participative approach involves all the relevant parties from top management down to the learner.

- **Output**

Training and development systems outputs capture what organisations gain from the intervention activities. This level of evaluation considers the entire system. It is not an evaluation of a training programme, but an attempt to measure the organisation's return on its investment in the training. There is unanimous agreement in the literature that this is a difficult task to perform (Bushnell, 1990; Erickson, 1990; Goldstein, 1974; Kirkpatrick, 1983; Hequet, 1996; Phillips, 1996; Tracey, 1981).

Measuring the extent to which employees are able to apply knowledge and skills that have been learned is also highly important in any evaluation and feedback in the work situation. The motivation for this type of evaluation will be to determine the extent to which the programme has been designed effectively and the participant acquired the requisite knowledge and skills, and whether he or she is now able to apply this knowledge in the workplace.

2.6.2.2 The input stage

At the input stage, the elements that could be evaluated in terms of their potential contribution to the overall effectiveness of a training programme fall into such categories as trainee qualification and practitioner experience. The input stage includes elements such as the availability of already tested instructional materials, the types of equipment and training facilities and the training budget (Bushnell, 1990).

2.6.2.3 The process stage

At the process stage the practitioner needs to specify instructional objectives, develop design criteria, select instructional strategies and assemble training materials. At this stage the training and development takes place and adds value to the learner (Bushnell, 1990).

2.6.2.4 The output stage

The output stage includes the learner's reaction to the learning intervention and the gaining of skills, knowledge and competencies, leading to improved performance in the workplace. However, it is helpful to distinguish between outputs and outcomes. Outputs are the short-term benefits or effects of training, whereas outcomes refer to the longer-term results associated with improvement in the organisation's business objectives (Figure 2.20) (Bushnell, 1990).

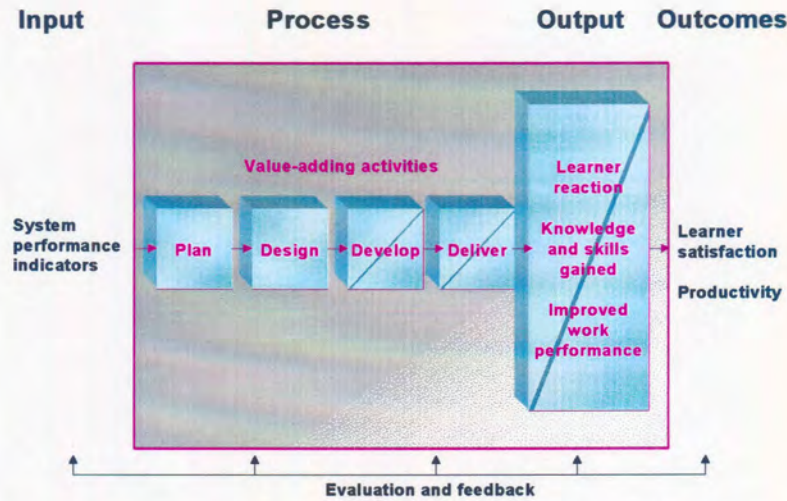


Figure 2.20 – An input-process-output approach (Adapted from Bushnell, 1990)

2.6.2.5 Advantages of using a macro training and development process

The model illustrated in Figure 2.19 and in Figure 2.20, comprises three main sets of variables: input, process and outputs. There are six major inputs that impact on the quality of the organisational training and development function: human resources development objectives, long-term human resources development policies, the perception of leadership, organisational climate, availability of resources, and learning systems.

Human resources development objectives

HR objectives will lead to the HRD objectives at organisational level, as strategic objectives and at a training events level. The organisational strategic objectives are derived from the strategic or business plan, as are the objectives at training event level (Bexley & Latham, 1981; Camp, Blanchard & Huszycz, 1986).

- **Long-term human resources development policies**

Long-term human resources development policies are practically neglected in the modules found in the literature. These policies form the umbrella under which training and development activities are executed. Human resources development must become a long-term investment aligned with the organisational objectives and strategic plans (Echstrand, 1964; Hinricks, 1976; Lathan, 1988).

- **Perception of leadership**

The perception of leadership plays an important role in human resources development in an organisation. Training and development must not be perceived as an isolated event (Sadler, 1996). It should be comprehensively articulated, using various training and development techniques, in terms of on-the-job training and work rotation. It is no longer feasible to address the complex needs and requirements of training and development in the contemporary organisation in a less than comprehensive manner (Camp, Blanchard & Huszczo, 1986). Organisations are operating in diversified external and internal environments where technology is rapidly reshaping the organisation. Communications are advancing and human societies are becoming informational rather than industrial (Naisbitt, 1982).

- **Organisational climate and the attitude of management**

Organisational climate and the attitude of management relates to the implementation of new ideas to enhance the working environment and improve performance. Training and development are fundamentally change mechanisms (Nadler, 1984).

- **Availability of resources**

The most important input to the process is the availability of resources in terms of manpower and finances (Goldstein, 1974; Bexley & Latham, 1981; Latham, 1988).

- **Learning systems**

The learning systems approach accommodates the multiple purposes required by individuals and by organisations. This approach also address the complexity of learning that characterises the modern world of work and integrates elements of learning systems and human resources practices (Meyer & Semark, 1996).

The training and development process is the catalyst for change within the organisation. The training and development inputs are transformed into actions and results. This is where the learning occurs and required performance changes are introduced to employees. It is a systematic process aimed at producing a progressive learning environment, encouraging the participants to reach the desired standard of performance and to evaluate the learning experience.

2.6.2.6 Emphasis and criteria for training and development models

The major emphasis of *training and development models* and *learning systems* should be the transferability of generic skills in areas not normally supported by readily available systems and interventions. The training and development process focuses on the following areas (Camp, Blanchard & Huszczo, 1986; Boud, 1985):

- Determining the actual need for the training and development.
- Training and development as an ongoing process

- Evaluation of the training outcome as an essential function of any training activity
- Developing a process training and development model and casting it in a systems perspective
- Validating the proposed model and outlining future research implications and direction
- The requirement of more flexible processes and modes of delivery in which disruption of normal working activities is minimised
- Ensuring that the content of learning systems and processes is directly relevant and related to the activities and requirements of the workplace

2.6.2.7 Characteristics of a training and development process

When the training and development process is focused on re-engineering, individuals are enabled to control their own activities. The same applies when the decision-making and design processes are linked. Process redesign can eliminate departmental obstacles because data, skills and knowledge can be shared throughout the organisation, can be applied across physical borders and over geographical distances and can even overcome interpersonal fears. Hammer & Champy (1993) describe some of the elements that are adapted by organisations using a re-engineering training and development approach:

Combined jobs

- Several jobs are combined in one. A team takes account for a whole process.

Participants make decisions

- There is empowerment – workers assume responsibility and decision-making becomes part of the work.

Multiple versions

- Processes have multiple versions and can be clean and simple and handle the

activities applicable to specific training and development environment needs.

Hybrid centralised / decentralised

- Hybrid centralised / decentralised operations are widespread, enabling an organisation to provide high flexibility in virtually autonomous systems.

2.6.2.8 The place of a training and development model in a process organisation

The development and place of a training and development model within a process organisation is important. The development of this theory is based on a general systems theory view of organisations with additional insight from complexity theory. An organisation exists as a purposeful collection of processes within an environment (Jacobs, 1989). A process model of an organisation, designed by Jacobs (1989), is reflected in Figure 2.21. Nadler & Tushman (1989) suggest that the environmental context, available resources and the history of the organisation serve as inputs to the organisational processes.

Other authors view the external environment as providing the context within which an organisation performs (Pearce & Robinson, 1994; Swanson, 1994). Leadership and strategy serve as drivers to the process and are affected by the culture. The structure of the organisation brings about the transformation of inputs into outputs and is also affected by the organisational culture (Figure 2.21). The results of the processes continually feed information back into the organisational structure and drivers, as well as into the environment.

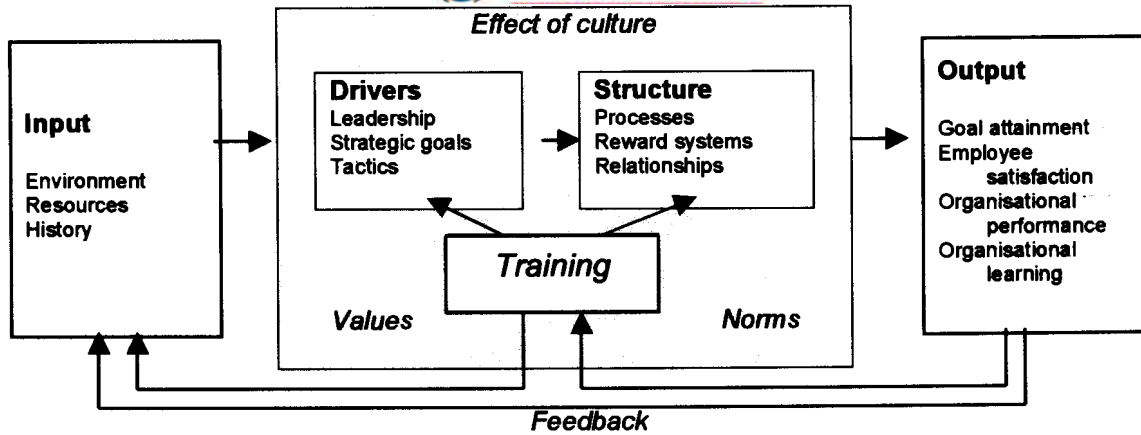


Figure 2.21 – Organisational process model (Adapted from Jacobs, 1989)

As shown in Figure 2.21, training and development can affect the drivers and the structure through the development of organisational leadership, strategy processes and improvements in processes and reward systems. Conditions within the environment make some positions more or less advantageous when matched with the organisation’s competencies. Bennett, Fadil & Greenwood (1994) and Schein (1990) note that the external environment also has an indirect influence on the organisational culture through the values and beliefs of its individual members. This influence is reflected in the input element “resources” in the process model.

2.6.2.9 Expected learner outcomes from the learning interventions

This section will discuss a conceptual framework for the evaluation of expected learner outcomes. Nussbaum & Scott (1979) have developed such a framework for evaluating the experiences gained by the practitioner-learner during the learning phase and they argue that "learning is a change brought about by teacher-student interactions" (Nussbaum & Scott, 1979: 569). This change is evident in the following three domains, which can be viewed individually or in combination:

- Affective domain***
- The affective domain focuses on learner attitudes towards the practitioner, the learning intervention or both. This domain typically emphasises the learner's evaluation of the learning interventions.
- Cognitive domain***
- The cognitive domain is concerned with the assimilation of the course content learned. Evaluation results are frequently used to assess this kind of learning.
- Behavioural domain***
- The behavioural domain reveals the extent to which learners apply what they have learned in practice and on the job.

The affective domain is important because it forms the basis for practitioner evaluation programmes in the workplace as well as managing the training programmes in the organisation. In the affective domain the learners evaluate the learning interventions and in the cognitive domain the practitioners measure the success and achievements of the learners (Cohen, 1981).

2.7 SUMMARY

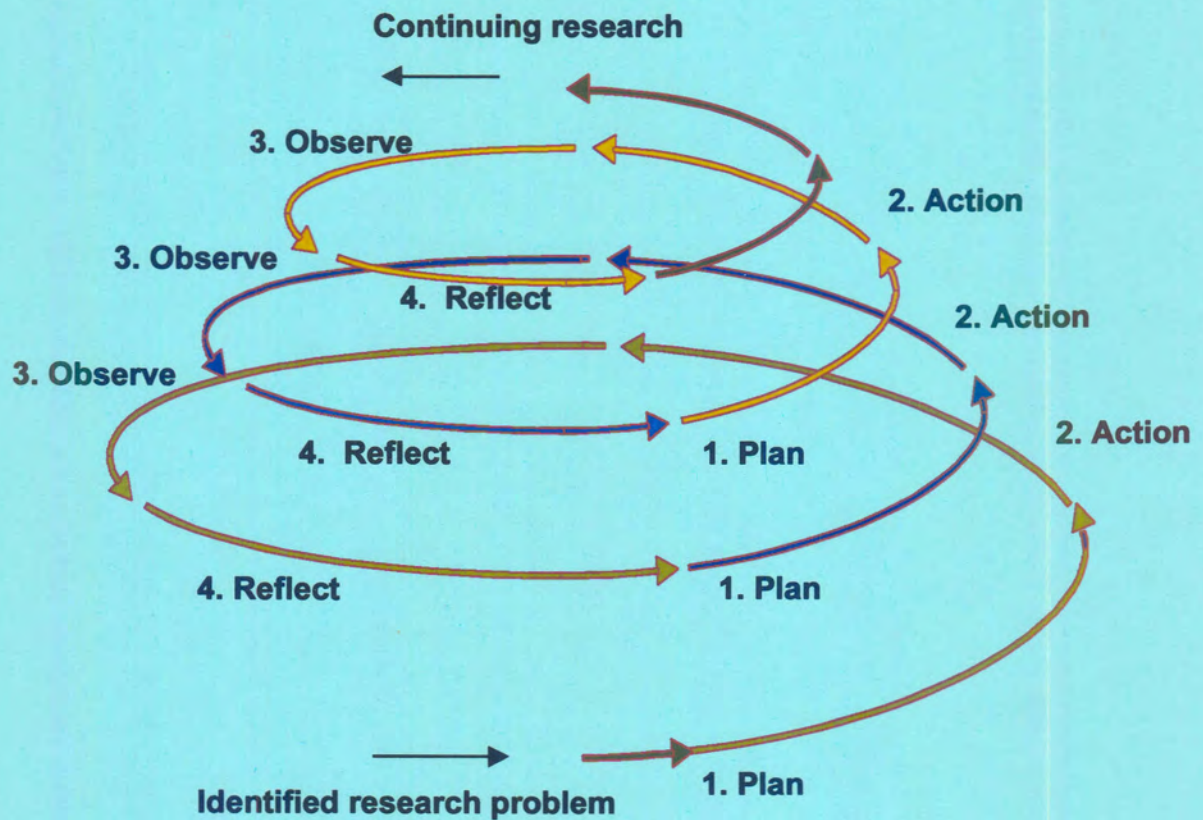
The experiential process model concept is not new. It is utilised in the training and development environment on a daily basis. However, whether or not it is used in a micro or macro training and development environment, a profound theoretical knowledge, educational philosophy and understanding of training and development principles are required to accommodate and integrate the external forces into the learning environment.

It is evident from this literature review that a process cannot work if national and organisational alignment is not adhered to, the learner's development is not well structured, and the practitioner is not trained to be an agent of change and implementor of new initiatives supported by the process and systems available. External influences on the training and development process should be accommodated by the learning interventions and should therefore be clearly visible in the generic, activity and performance learning by the employee.

The next chapter reports on the development and design of such an experiential learning process.

Chapter 3

Research methods



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

3 RESEARCH METHODS

The clever man will tell you what he knows; he may even try to explain it to you. The wise man encourages you to discover it for yourself, even though he knows it inside out (Revans, 1980).

3.1 INTRODUCTION TO ACTION RESEARCH

In this chapter the researcher will discuss the following:

- What is action research?
- Definitions of action research
- Background to and application of action research

The term action research refers to efforts by the practitioner to better understand what is happening in the learning environment and is undertaken by practitioners who are encouraged and supported in the study of their own instruction.

3.2 WHAT IS ACTION RESEARCH?

A variety of forms of action research have evolved over the last few decades (Carr & Kemmis, 1986), but most adopt a methodical, iterative approach embracing problem identification, action planning, implementation, evaluation and reflection. The insights gained from the initial cycle feed into the planning of the next cycle, with the action plan being modified and the research process repeated.

There are four basic elements evident in the definitions and descriptions of action research:

- Empowerment of participants (learner and practitioner)
- Collaboration through participation
- Acquisition of knowledge
- Social change

Zuber-Skerrit (1991) describes four processes through which a researcher goes in pursuit of these elements as a spiral of action research cycles consisting of four major phases:

- Planning
- Acting
- Observing
- Reflecting

Zuber-Skerritt (1982) describes a number of further distinctive features of action research. For her the characteristics of action research are:

- Critical collaborative enquiry
- Reflective practitioners
- Accountability in practitioners making the results of their enquiries public
- Practitioners who are self-evaluative in their practice
- Participative problem-solving and continuing professional development

According to this view, action research is critical in the sense that practitioners not only look for ways to improve their practice within the various constraints of the situation in which they are working, but are also critical agents of change for those constraints and for themselves. It is reflective in that participants analyse and develop concepts and theories about their

experiences. Action researchers are accountable in that they aim to make their learning process and its results public.

Their practice is self-evaluating in that the reflective and analytical insights of the researcher and practitioners themselves form the basis of the developmental process. In addition, action research is participative in that those involved contribute equally to the inquiry and collaborative in that the researcher is not an expert doing research from an external perspective – the researcher and practitioners act as partners working with and for those affected by the problem and its solution (Stinger, 1996).

Kemmis & McTaggart (1988) state that there are three requirements for action research to incorporate the goals of improvement and involvement that characterise any action research project:

- The project takes as its subject matter a social practice, regarding it as a strategic action requiring improvement.
- The project proceeds through a spiral of cycles that include planning, action, observing and reflecting, each being systematically and self-critically implemented and interrelated.
- The project involves those responsible for each step of the activity, widening participation in the project gradually to include others affected by the practice but with the researcher maintaining collective control of the process.

Action research can be seen as a combination of actions taken and implemented to address a problem situation identified in the workplace in order to improve it in terms of:

- the researcher's own social and educational practices
- understanding of these practices

- understanding of the situation in which these practices are carried out

This framework of action research is most appropriate for participants who recognise the existence of shortcomings in their educational activities and who would like to adopt some initial stance in regard to the problem. Action research involves formulating a plan, carrying out the intended intervention, evaluating the outcomes and developing further strategies in an iterative trend (Hopkins, 1993). In short, action research is characterised by the constraints and strengths of a research methodology environment and is intended to provide a workable technique for practical implementation and problem-solving in the training and development situation.

3.3 DEFINITIONS OF ACTION RESEARCH

Various leaders in this research methodology have defined action research in the following ways over the past few decades:

- "A systematic inquiry that is collective, collaborative, self-reflective, critical and undertaken by participants in the inquiry" (McCutcheon & Jung, 1990:148).
- A form of "collective self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and the situations in which these practices are carried out" (Kemmis & McTaggart, 1990:5).
- An effort to "contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport, 1970:499).
- "A participatory collective, self-reflective enquiry undertaken by participants in social situations in order to improve the rationality

and justice of their own social practices" (Kemmis & McTaggart, 1990:5).

3.4 BACKGROUND TO AND APPLICATION OF ACTION RESEARCH

Action research has been extensively utilised by various researchers in specific applications and approaches in the areas described below. Action research can therefore be classified in the following fields of practice:

Action research in organisations

Action research is used extensively in the field of organisational behaviour and organisational development in industry and business organisations by management embracing human resource theories, specifically those associated with the socio-technical systems perspective, which has focused on the fit between technical and social systems (Lewin, 1946; Whyte, 1964).

Many techniques have been developed for engaging members of organisations and groups in collectively identifying concerns and problems, including the search conference process, which has been used to focus commitment leading to action research. The underlying assumptions in action research include (Stinger, 1996):

- systems theories
- humanistic values and the development

of human potential

- democratic decision-making

***Participatory action
research in community
development***

This has been considered a process of combining education, research and collective action on the part of oppressed groups working with popular educators and community organisers (Hall, 1979). The knowledge that is generated is intended to help solve practical problems within a community and ultimately to contribute to a fairer and more just society.

It assumes that knowledge generates power and that people's knowledge is central to social change. In this way it promotes a collective process of inquiry, as opposed to the individualistic nature of classical research methodology (Stinger, 1996). This tradition emphasises full and active participation by powerless people, and stresses ideological, political and economic dimensions.

***Action research in
education***

Since the 1970s action research has been practised as central to organisational development activities to improve higher education (Kemmis, 1982). One form of organisational development was introduced to many campuses by the Society for Values in Higher Education when the value audit approach was adopted (Smith, 1985). Underlying assumptions in action research in

schools include the following (Stinger, 1996):

- Practice can be improved through problem-solving
- Teachers and educational practitioners are central to the research process
- Theory and practice can be linked through action research
- Reflection and action can be linked
- Research is focused on a single unique situation
- Methods are innovative in specific situations

Farmer participatory research and technology generation

Farmer participatory action research is also known as participatory technical development. This approach was developed over time by agricultural researchers and other international rural development workers as an alternative to the traditional transfer of technology or top-down approach to agricultural research and extension.

It emerged from farming systems research and emphasises the participation of farmers in technology generation, testing and evaluation to increase or promote sustainable agricultural production and natural resource management (Selener, 1992). Underlying assumptions of technology development include:

- An emphasis on farmers' indigenous

knowledge

- Farmers' capacity for experimentation
- Appreciation of interdisciplinary collaboration between researchers and farmers

Participatory evaluation

- Participatory evaluation emerged in response to concerns that programme evaluations were being underutilised and a feeling that participation on the part of stakeholders could increase their use (Patton, 1978; Brunner & Guzman, 1988; House, 1978).

3.5 BRIEF HISTORY OF ACTION RESEARCH

The researcher will review the history of action research and will report on the following:

- The early years of action research
- The progression of action research in five stages

3.5.1 The early years

The origins of action research are not very clear and in the literature authors such as Kemmis and McTaggart (1988) and Zuber-Skerrit (1992) state that action research originated with Kurt Lewin, an American psychologist.

McKernan (1988) states that action research as a method of inquiry has evolved over the last century and careful study of the literature shows clearly and convincingly that action research is a root derivative of the scientific method reaching back to the science education movement of the late

nineteenth century. McKernan (1988) also states that evidence indicates the use of action research by a number of social reformists prior to Kurt Lewin, such as Collier in 1945 and Lippitt & Radke in 1946.

3.5.2 The progression of action research in five stages

Various historical interventions influenced and help to form action research over the decades, as indicated in Table 3.1 (McKernan, 1991):

	<i>Type</i>	<i>Contribution</i>	<i>Date</i>	<i>Leaders</i>
1	Science in education movement	Scientific methods were applied to education	Late 19 th and early 20 th centuries	Boone (1904) Buckingham (1926)
2	Experimentalist and progressive educational work	Applied the inductive scientific method of problem-solving as a form of logic for the solution of problems	19 th century	John Dewey (1929)
3	Group dynamics movement	Focused on social psychology and human relations training	19 th century	Kurt Lewin (1945)
4	Post-war reconstructionist curriculum development	Action research was used as a general strategy for designing curricula and attacking complex problems	Post-1945	Corey (1953) Taba (1949) Brady and Robinson (1952)
5	Teacher research movement	All teaching should be based on action research. Curriculum development resides with the teachers.	Post-1975	Stenhouse (1971, 1975)

Table 3.1 – Historical development of action research

Table 3.1 indicates the different action research interventions together with the various key role-players in those eras and a brief overview of the focus of the development and theory they practised.

3.6 TYPES OF ACTION RESEARCH

The researcher will discuss the following types and elements of action research:

- Technical, technical-collaborative and scientific-technical positivist action research
- Mutual-collaborative, practical-deliberative-interpretive perspective
- Enhancement approach, critical-emancipatory action research, the critical science perspective
- Participatory action research
- Participatory action research values

Various groupings and classifications of action research were stipulated by the researchers and can be viewed as follows (Table 3.2):

Researcher	1	2	3
Grundy (1988)	• <i>Technical</i>	• <i>Practical</i>	• <i>Emancipatory</i>
McCutcheon & Jurg (1990)	• A positivist perspective	• An interpretive perspective	• A critical science perspective
Kemmis & McTaggart (1990)	• Collective	• Self-reflective	• Enquiry
McKernan (1991)	• The scientific-technical view of problem-solving	• Practical-deliberative action research	• Critical-emancipatory action research
Holter & Schwartz-Barcott (1993)	• Technical collaborative approach	• Mutual-collaborative approach	• Enhancement approach

Table 3.2 – Types of action research

3.6.1 Technical, technical-collaborative and scientific-technical positivist action research

According to McKernan (1991), the underlying goal of the researcher in this approach is to test a particular intervention based on a pre-specified theoretical framework. The nature of the collaboration between the researcher and the practitioner is technical and based on facilitation. The researcher identifies the problem and a specific intervention, then the practitioner is involved and agrees to facilitate the implementation of the intervention. The flow of communication and interaction in this type of action research is mainly between the facilitator and the group (Grundy, 1982). An action research project that uses this technical approach can be identified by the following characteristics:

- The project is initiated by a particular person or group whose experience or qualifications classify them as subject matter experts or figures of authority on these specific issues (Grundy, 1987)
- Technical action research promotes more efficient and effective practice (Grundy, 1987)
- Technical action research promotes personal participation by the practitioners in the process of improvement (Grundy, 1987)
- Technical action research results in the accumulation of predictive knowledge (Grundy, 1987)
- The major thrust of technical action research is based on the validation and refinement of existing theories and is essentially deductive (Holter & Schwartz-Barcott, 1993)

In technical action research it is the idea that is the source of power for action and since the idea often resides with the facilitator it is the facilitator who controls the power in the project (Grundy, 1982).

3.6.2 Mutual-collaborative, practical-deliberative-interpretive perspective

With this type of action research project the researcher and practitioners as a team together identify the problem, the underlying reasons for the problem and possible interventions to resolve the problem (Holter & Schwartz-Barcott, 1993). The problem is defined after negotiations between the researcher and practitioner and a mutual understanding of the problem and solution is reached.

As Grundy put it, "practical action research seeks to improve practice through the application of the personal wisdom of the participants" (Grundy, 1982:357). However, McKernan (1991) feels that the practical model of action research trades some measurement and control off against human interpretation, interactive communication, deliberation, negotiation and detailed description (McKernan, 1991:20). According to Grundy (1987), practical action research "fosters the development of professionalism by emphasising the part played by personal judgement in decisions to act for the good of the client" (Grundy, 1987:154).

After all, this form of action research allows for a more flexible approach not evident in the other two types of action research and "indicative of this flexibility is the frequent use of 'interpretive' as an umbrella term that comfortably accommodates interactive and phenomenological perspectives" (McCutcheon & Jung, 1990:146). In practical action research power is shared between a group of equal participants, but the emphasis is upon individual power for action (Grundy, 1982).

3.6.3 Enhancement approach, critical-emancipatory action research, critical science perspective

Emancipatory action research promotes emancipatory "praxis in the participating practitioners; that is, it promotes a critical consciousness which

exhibits itself in political as well as practical action to promote change" (Grundy, 1987:154). According to Holter & Schwartz-Barcott (1993) there are two main objectives to this type of action research:

- To increase the closeness between the actual problems encountered by practitioners in a specific setting and the theory used to explain and resolve the problem.
- To assist practitioners in identifying and making explicit fundamental problems by raising their collective consciousness.

Emancipated strategic action follows from the disposition of critical intent to motivate action and interaction at all stages of an emancipatory action research project. It is particularly important with such a research project that the theory, explanation and action are evident in the development of the theoretical perspective that informs and underpins the project's critical phases. This mode of emancipatory action research does not begin with theory and end with practice, but is informed by theory, and it is often confrontation with the theory that provides the initiative to undertake the practice. The dynamic relationship between theory and practice in emancipatory action research entails the expansion of both the theory and the practice during the project (Grundy, 1982).

In emancipatory action research the power resides within the group, not with the facilitator and not with the individuals in the group. It is often a change of power relationships within the group that causes a shift from one mode to another (Grundy, 1982).

3.6.4 Participatory action research

Participatory action research can be seen as a method of research where bringing about positive social change is the predominant driving force.

Participatory action research emerges from a social and educational

background and exists as one of the few research methods that embraces principles of participation, reflection, empowerment and emancipation of groups seeking to improve their social situation (Holter & Schwartz-Barcott, 1993). The term *action* indicates that the research is intended to contribute directly to efforts towards change on the part of the participants in specific situations. The term *research* indicates a systematic effort to generate knowledge.

However, the nature and format of participatory action research has changed considerably since researchers such as Kemmis & McTaggart (1990), Grundy (1986, 1987), Zuber-Skerritt (1991) and McKernan (1991) joined the ranks of earlier researchers such as Kurt Lewin in the 1940s (Holter & Schwartz-Barcott, 1993). Participatory action research can thus be seen as a "collective, self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social practice" (Kemmis & McTaggart, 1990:5). Participatory action research also functions in four phases, namely:

- reflection;
- planning;
- action;
- observation.

Kemmis & McTaggart (1990) have stated in addition that within participatory action research the "approach is only action research when it is collaborative, though it is important to realise that the action research of the group is achieved through the critically examined action of the individual group members" (Kemmis & McTaggart, 1990:5). One of the obvious intentions and differences with participatory action research is that the action or change is happening in reality and not as an experiment or to see if the proposed or implemented solution is working.

The term *participation* represents a thrust towards democratisation in research, especially in social science practice, that recognises the value of including practitioners, community members, citizens, employees and volunteers as essential to the generation of useful knowledge regarding major social, political, economic, technical, cultural and organisational problems.

Therefore participatory action research is a process of systematic inquiry, in which those who are experiencing a problematic situation in a community or workplace participate. The researcher and practitioner team up and participate in deciding the focus of knowledge generation, in collecting and analysing information and in taking action to manage, improve or solve the problem.

3.6.5 Participatory action research values

The following assumptions are drawn from the various traditions of participatory action research:

- The democratisation of knowledge production
- The ethnical fairness in the benefits of the knowledge generation process
- An ecological stance toward society and nature
- Appreciation of the capacity of humans to reflect, learn and change
- A commitment to non-violent social change

The community's interests are identified and defined as the starting point, rather than beginning with the interests of external researchers. The need for inquiry may come from several sources, including external persons or groups. However, the community's ownership of the focus of the research is essential and central to the problem identified (Stinger, 1996).

3.7 ACTION RESEARCH MODEL

In this section the researcher will focus on:

- Action research design
- Action research model
- Action research spirals
- Action research cycles

The action research design and model can be identified by the following essential characteristic cycles as described by Elliott (as cited in Hopkins, 1993; Figure 3.1):

Reconnaissance and general plan

- An initial exploratory stance is adopted. An understanding of the problem is developed and plans are made for some form of intervention and problem-solving strategy.

Action

- The interventions selected and developed are implemented and carried out in the work situation.

Observation

- During the implementation stage accurate monitoring of the results of the intervention is carried out in various formats.

Reflection and revision

- New intervention strategies are implemented. The cyclic process is repeated, continuing until sufficient understanding and improvement of the solution implemented has been achieved.

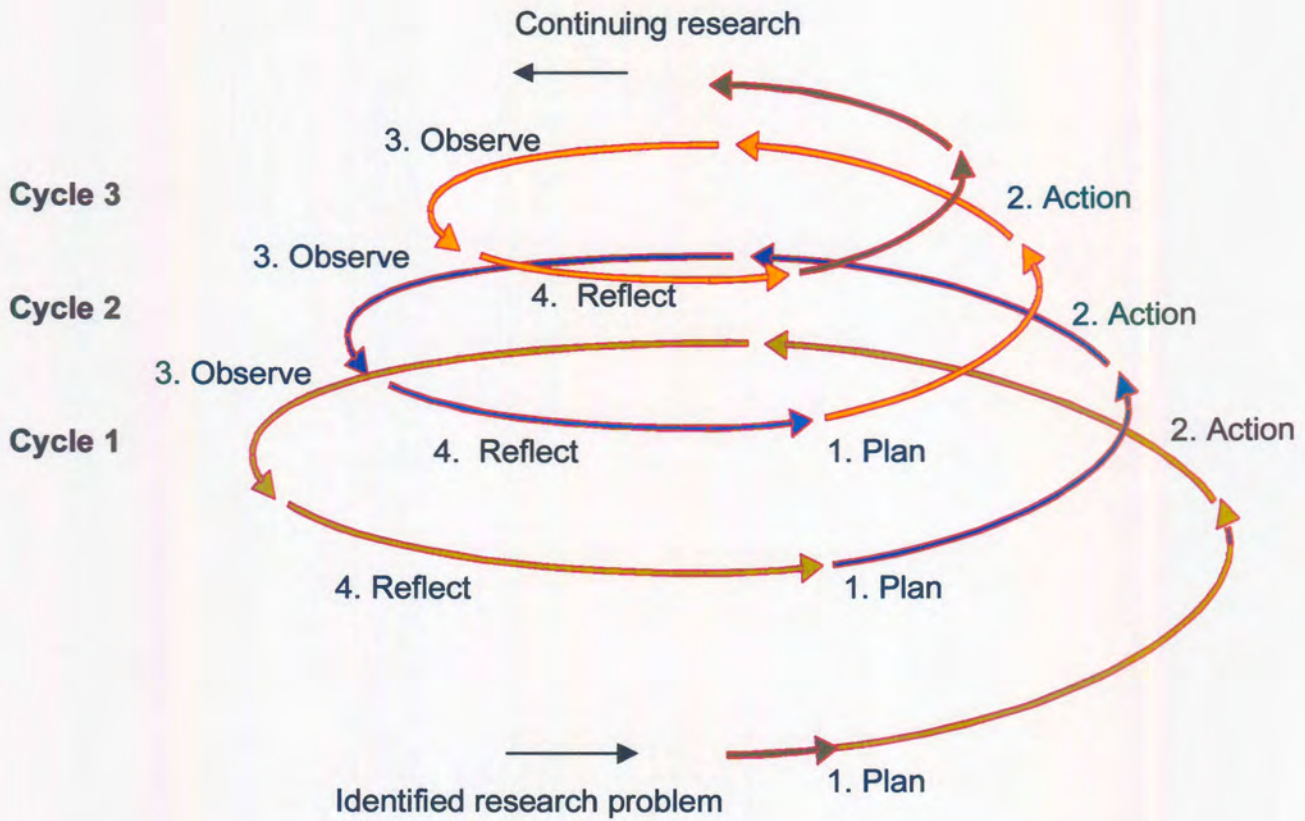


Figure 3.1 – Action research protocol (Hopkins, 1993)

Figure 3.1 illustrates the iterative nature of action research along with the major steps of planning, action, observation and reflection before the plan is revised.

Kolb (1984) extended this model to offer a view of the action research cycle as a learning process, where people learn and create knowledge by critically reflecting upon their own actions and experiences, forming abstract concepts and testing the implications of these concepts in new situations. Practitioners can create their own knowledge and understanding of a situation and act upon it, thereby improving practice and advancing knowledge in the work situation.

3.7.1 The action research spiral

The start of the action research spiral may be difficult to pinpoint and could conceivably begin with a casual discussion about a situation being experienced in the workplace (Stinger, 1996). Whatever the origins of the project, it will begin with a group acknowledging it as a shared concern. The group or individuals may not even be able to define their concern concretely, but the action research cycle has begun nonetheless (Figure 3.1).

- Planning phase**
- Planning in action research is constructive and arises during discussion by the participants (Kemmis & McTaggart, 1990:5). The plan must cover critically examined action by each of the participants and includes the methods of evaluating the changes implemented to solve the problem situation or concern.
- Action phase**
- Action is seen when the plan is put into practice and expectations regarding improvement to the situation occur. This action will be deliberate and strategic (Grundy, 1986:28).
- Observation phase**
- Observation of action research is the portion of action research where the changes outlined in the plan are observed to determine their effects on the contexts of the situation (Kemmis & McTaggart, 1990). In this phase the data gathering instruments such as questionnaires and observation methods can be utilised to ensure that proper scientific methods and triangulation of data were used and are implemented to provide meaningful results. Observation and action may occur simultaneously.
- Reflection phase**
- Within the reflection phase the research participants examine and construct, then evaluate and reconstruct

their concerns (Grundy, 1986). Reflection includes the pre-emptive discussions of participants where they identify a shared concern, problem or result and the outcomes of the solutions implemented.

The participants in action research identify a thematic concern through discussion and reflection and these concerns are integrated into a collective or common goal. The participants of the action research group are thus empowered to plan and act to bring about a change in the working environment. The changes in practice are effected and observed using an appropriate research validating and evaluation tool. The group critically evaluates the results and with this new knowledge theory and solutions may be developed and implemented (Stinger, 1996).

3.7.2 Action research cycles and phases

<i>Cycle</i>		<i>Phase</i>	<i>Actions</i>
One	1	<i>Reflection</i>	The group and problem are identified through discussion.
	2	<i>Plan</i>	The group plans to investigate the thematic concern and the social situation and implications in order to accurately define, describe and identify a solution to the problem.
	3 4	<i>Action and observation</i>	The proposed plan is put into action and the participants collect their observations and reconvene.
Two	1	<i>Reflection</i>	The group accurately reflects on their findings and defines their thematic concern. This reflection includes experiences encountered by the participants during the first cycle.
	2	<i>Plan</i>	The group plans changes in practice to improve the situation. These changes may include methods of critical examination to be utilized. Potential problems, approval and implementation plans are dealt with.

<i>Cycle</i>	<i>Phase</i>	<i>Actions</i>
3	<i>Action</i>	A change in practice is effected and the research is begun.
4	<i>Observation</i>	The consequences of the change in practice are observed by the use of the research method outlined in the plan for examining the results.
Three	1	<i>Reflection</i>
		The cycles continue until satisfactory outcomes are achieved. The possibility of the project not reaching an end is realistic. This does not mean the problem remains the same or the group never delivers satisfactory results. The changes implemented may result in different problems caused by other social and political influences.

Table 3.3 – Action research cycles

3.8 WHY ACTION RESEARCH IN THIS PROJECT?

This section considers:

- Why action research is used in this project
- The aim of this action research methodology
- The practitioner and action research
- Action research and professionalism

Action research has been used in many areas where an understanding of complex social situations has been sought in order to improve the quality of life and education, training and development in the workplace. Among these working environments are industrial, health and community work settings and requirements to adapt to social, political and employee demands. The belief is that an action research approach on this project can contribute extensively and positively to activities within the tertiary sector concerned with high quality training and development and with the national alignment of the National Qualifications Framework initiatives (South Africa, 1995a).

Zuber-Skerritt (1982) describes the action research approach as follows:

"Through systematic, controlled action research, higher education teachers can become more professional, more interested in pedagogical aspects of higher education and more motivated to integrate their research and teaching interests in a holistic way. This, in turn, can lead to greater job satisfaction, better academic programmes, improvement of student learning and practitioners' insights and contributions to the advancement of knowledge in higher education" (Zuber-Skerritt, 1982:15).

Despite the progress in understanding of the way in which people learn and the design of learning interventions and the learning environment, the methods of practitioners in tertiary and higher education often remain unaffected. We as reflective practitioners (Schon, 1993) need to achieve greater ownership of the training and development process and to evaluate the outcomes of the process systematically and in a self-assessing manner, feeding information into internal and external assessment processes.

Traditionally, practitioners have not been encouraged or developed to draw upon theoretical precepts as a means of improving curriculum design and the establishment of training and development interventions. However, more recently a number of initiatives at national and local levels have been implemented to create the conditions and climate for these training and development innovations. These innovations in training and development activities are being recognised as valid areas of enquiry for academics and practitioners across all disciplines, rather than as the unique preserve of specialists.

Action research methodology offers a systematic approach to introducing innovations in teaching and the learning environment. It seeks to do this by putting the practitioner in the dual role of producer of educational interventions and user of the theory and interventions he / she has designed and

developed. This is both a way of producing knowledge about educational theory and practices and a powerful way of improving learning and teaching in the workplace in practical applications. There is no need for separation between the design of a training and development process and the delivery of the training and development interventions on the one hand and the process of researching these activities on the other; the theory and practice can be brought together in the working environment.

3.8.1 Aim of this action research methodology

The aim of this research approach is to implement and apply the model offered by the action research cycle described by Kolb (1984) and Kemmis & McTaggart (1990). With this approach the intention is to achieve the following action research outcomes:

- An identified number of objectives and an initial working assumption about how to achieve them by providing an appropriate framework for experiential learning to encourage learner and practitioner ownership of the learning process.
- A planned curriculum model and identified learning materials and processes to support the learning interventions.
- On-the-job application of these newly acquired skills and competencies by the practitioner and the learner.
- Observations and evaluations of the effects of steps implemented by the participants in the research project. This feedback will include a range of on-going mechanisms for learner and practitioner feedback and debriefings.
- Reflection upon the results of the evaluation in preparation for modifying the practices planned for implementation in subsequent cycles.

The intention of these action research outcomes is to improve the quality of practitioners and learning interventions in further education, higher education and professional development within the constraints and practical considerations encountered during the research project and to seek solutions to the problems identified. Insights gained from the reflection on and analysis of practices will be fed back into practice. A consistent re-assessment of the learning interventions, frameworks and structures to assure continuous improvement in the workplace is maintained in the training and development process. In addition, systematic reflection on activities implemented in the process will support these assessments.

3.8.2 The practitioner and action research

The table below will briefly give the main features of practitioner involvement in action research and then spell out what this feature implies for the learning process.

<p><i>Practitioner action research development aim</i></p>	<ul style="list-style-type: none"> • Action research promotes a developmental aim that embodies a professional ideal and those who participate in the process are committed to actualising these aims in practice.
<p><i>Focus of development aim</i></p>	<ul style="list-style-type: none"> • Action research focuses on changing current and existing practices to align and make them more consistent with the developmental aim.
<p><i>Identified problem areas</i></p>	<ul style="list-style-type: none"> • Action research identifies and explains inconsistencies between aspiration and practice and enhances the assumptions,

theory and beliefs that tacitly underpin professional practice.

- Professional involvement**
- Action research involves professional practitioners in a process of generating and testing new forms of action for realising their aspirations and thereby enables them to reconstruct the theories that guide their practice.
- Developmental process**
- Action research is a developmental process characterised by reflexivity on the part of the practitioner. From an action research perspective, professional practice is a form of research and vice versa.

This main feature implies that good action research involves the practitioner and the administrator in the research project and is based on data that is grounded on the triangulation of data and such judgements.

3.8.3 Action research and professionalism

The action researcher is constantly involved in the training and development process and dealing with practitioners, learners, learning interventions and the product end users (clients). Nevertheless, researchers need to display a high level of professional values by initiating and supporting the integration of research and practice into the work situation. In addition, the action researcher must also develop and design the intended practices to enable the desired outcomes. In this process the researcher must also be reflective and reflexive in terms of the research results by making them public to the participants concerned and explaining the validation of data gathered during this process.

- **Action research and professional values**

Action research is informed by the values practitioners apply and realise in their practice. Professional values are ideas about what constitutes a professionally worthwhile process of working with learners and practitioners. They spell out and specify criteria for identifying appropriate modes of interaction and the relationship between the content of professional work, practitioners and their various product end users.

- **Integration of practice and research**

Action research integrates practice and research. These are not extrinsic tests, but ones that are continuously conducted within the process of the research itself by practitioners. Action research and practice are fused into a single activity that aims to realise values in practice by the generation of propositional knowledge in the search for practical and situational understanding.

- **Development and design of practices**

Action research is related to design and development practices in the workplace. The implied practices are never a set of statements about the content of activities; rather, action research always specifies a mode of interaction. Thus interaction will result in the deconstruction and reconstruction of both the content and form in specifying the content and will articulate general principles governing the form in which it is to be achieved.

- **Reflexive and reflective practice**

Action research implies reflexive practice and not simply reflective practice by the evidence about the mode of interaction. Evidence of action research results / outcomes does not in isolation constitute

evidence of practice quality. Outcomes need to be explained and the quality of immediate practice activities is only one possible explanation for success or failure. Other kinds of evidence need to be collected to triangulate and benchmark the outcomes measured.

- **Data gathering**

Action research involves the gathering of data about practices from different points of view. Evidence about the quality of practice can be gathered from a number of sources. This process of gathering data from multiple sources is called triangulation. There are three fundamental sources of evidence: the observers, the main participants and the product end users (clients). In a fully developed action research process, practitioners will be comparing and contrasting the accounts of the observers and clients and colleagues with their own.

- **Quality research indicators**

Action research defines rather than applies quality and performance indicators in the research project. These quality indicators are determined through action research and not in advance of it. Good action research acknowledges the fact that what constitutes quality in professional practice cannot be defined independently of the particular set of circumstances confronted by a practitioner and standardised responses may render the practitioner insensitive to context and lead to the substitution of standardised assessments of performance in place of action research.

3.9 SUMMARY

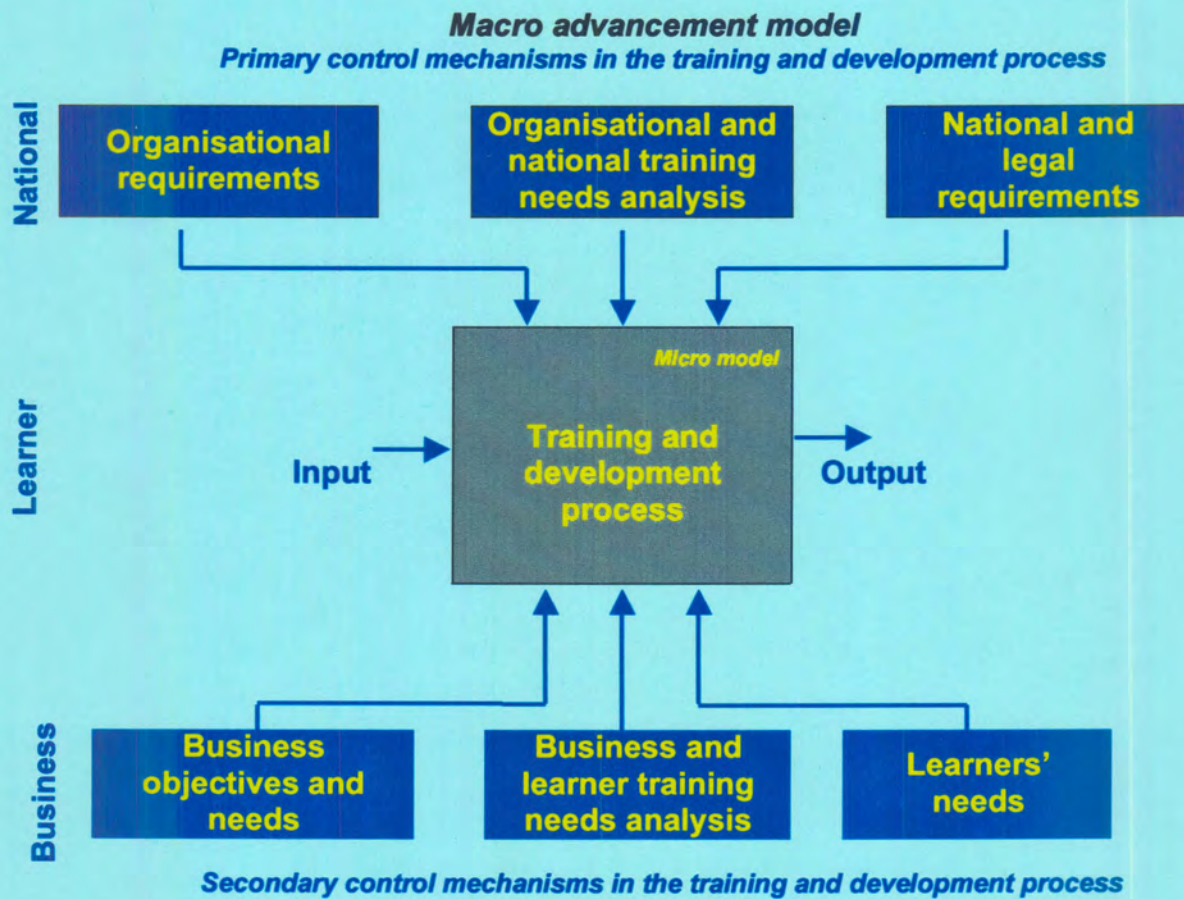
This chapter has investigated and reported on the research methodology and methods used in this study. It provided details on the history of action research and the perspective from which it is used for the project. The action

research spirals indicate the stages of planning, action, observation and reflection for each of the cycles involving the four focus areas for this research project. The chapter concluded with an overview of the practitioner's role and professionalism displayed during the process.

Chapter 4 focuses on the actual planning, development and implementation of the learning interventions and the way this was influenced by the literature review and the action research methods.



Chapter 4 Development



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

4 DEVELOPMENT

The purpose of the Skills Development Act is to develop the skills of the South African workforce to encourage the employers “to use the workplace as an active learning environment and to provide the employees with the opportunities to acquire new skills” (South Africa, 1998b: 8).

Chapter 3 reviewed the concept of action research and how it is implemented in a research environment. Chapter 4 explains how the literature and research methods influenced the development of the learning process for the advancement of the learners over the period 1995 to 1999. This chapter describes the processes and interventions developed by the researcher in order to investigate the main research question and the four subsidiary research questions.

Once the research problem and the motivation for this research project have been reviewed and the aim of the research established, this chapter will cover the design and development of the learning processes.

4.1 MOTIVATION FOR THIS STUDY

Prior to the publication of the *Green Paper on Skills Development* (South Africa, 1997a), a need emerged in industry to develop and implement a training and development delivery system that would provide learners with an opportunity for outcomes-based skills development. In addition, there is a need for a holistic development process to integrate the current training and development interventions in industry, as well as the related human resources practices that serve as a support mechanism for the system.

Currently training and development, human resources practices and administrative functions do not support one another as a system. The competencies acquired by the learner are not linked with any of the functions

or the alignment legally required at national and organisational level (Figure 4.1). Nonetheless, with the new legislative requirements as spelled out in the NQF (South Africa, 1995a), SAQA (South Africa, 1995a), the *Skills Development Bill* (South Africa, 1997a) and other national initiatives like the *Higher Education Bill* (1997b), the research proposal and solution to the problem can be identified in the context below and as illustrated in Figure 4.1.

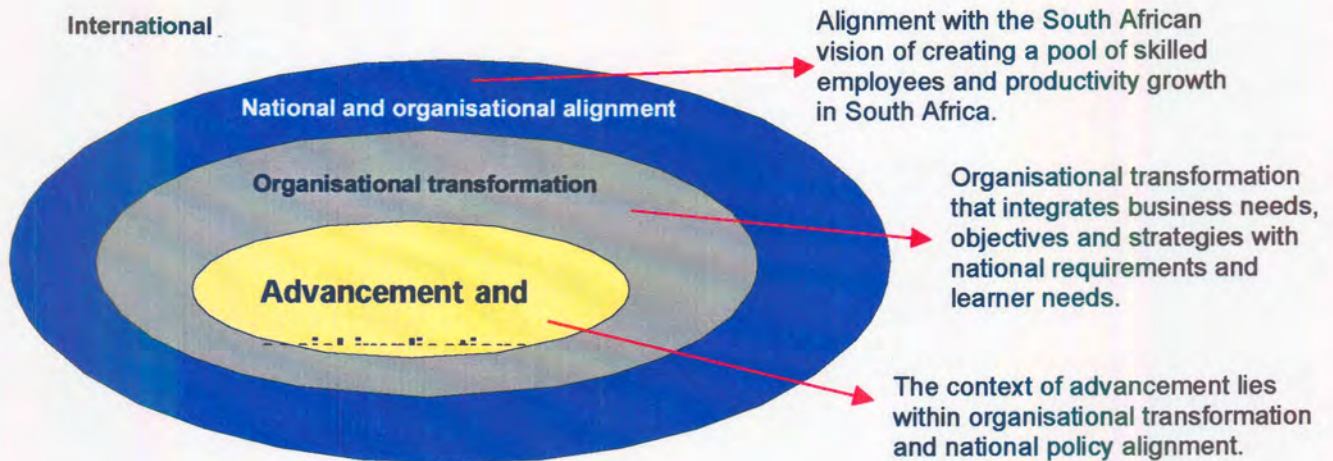


Figure 4.1 – An integrated and holistic view of this research proposal

As indicated in Figure 4.1, the training and development proposal originated at a national and legal level, incorporating the organisational transformational process to accommodate these changes and to develop and provide learning interventions to incorporate these changes into industry at three levels in practice.

National alignment sets out the legal requirements the organisation should address and with which it should align its business to fulfil the minimum requirements for competency development, assessment, declaration of competency and management of results (South Africa, 1995a; South Africa, 1995b; South Africa, 1998b). However, the advancement of outcomes-based training and development should occur within a training and development

process to ensure the integration of the organisational development process with the training and development process.

Although various competency-based training interventions were designed, developed and implemented by the researcher, the lack of a holistic and integrated process-driven outcomes-based development process for industry was identified as needing to be addressed within this context. While the researcher was planning training and development interventions for the learners, it became evident from the interviews and from informal observation and analyses that training and development practitioners at various levels had an explicit need for an outcomes-based career path and development (Appendix A). This should, however, occur in the context of the relevant experiential training requirements of the formalised and institutionalised sectors in the domains of general education, further education and higher education. In order to improve the training system for experiential training in industry, a number of interventions were initiated in the Eskom Transmission Group to enhance the development of an outcomes-based training and development process for technical skills.

At the end of 1995 and the beginning of 1996 the researcher designed and implemented various learning interventions and delivery structures by integrating the different components needed to deliver learning at various levels for the different disciplines in the Eskom Transmission Group. The delivery structures included various training interventions for the development of the learners, practitioners, equipment, facilities and learning material. As a consequence of the implementation of these training interventions, a number of lessons were learned and a number of thought-provoking questions were asked about:

- the *perception* of industry of the learning interventions designed and developed for the advancement of employees;

4.2 AIM OF THE RESEARCH

The aim of the research is to examine the experiential learning process and interventions in order to develop a theoretical training framework for enhancing the development of skills and competencies in the advancement of employees in industry. The focus is on the development of a work-related skills model to advance the effective utilisation and promotion of the employees in the working environment. Industry currently lacks a holistic training and development process to accommodate the enhancement of the required competencies (South Africa, 1997a; Eskom, 1997b).

The applicability of the components of the learning process determines the extent to which it will equip the learner and the practitioner with the skills necessary to complete the tasks expected of them in the processes concerned.

4.3 DEVELOPMENT CONTENT

The content of this chapter covers the development of the learning interventions in the following focus areas:

- | | |
|---|--|
| <i>National and organisational alignment</i> | <ul style="list-style-type: none">• This section covers the formulation of national policies and organisational alignment with these policies, taking in consideration the external forces that influence the process. |
| <i>Learner development</i> | <ul style="list-style-type: none">• This section covers the development of a competence menu with social integration to support employee advancement. |
| <i>Practitioner development</i> | <ul style="list-style-type: none">• This deals with essential development required for the practitioner to deliver the |

determines the extent to which it will equip the learner and the practitioner with the skills necessary to complete the tasks expected of them in the processes concerned.

4.3 DEVELOPMENT CONTENT

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- National and organisational alignment***
 - This section covers the formulation of national policies and organisational alignment with these policies, taking in consideration the external forces that influence the process.

- Learner development***
 - This section covers the development of a competence menu with social integration to support employee advancement.

- Practitioner development***
 - This deals with essential development required for the practitioner to deliver the learning interventions, and considers practitioner roles, skill levels and time commitment in the learning process.

- Learning process and systems***
 - This section considers learning process and system integration and the delivery of the learning interventions, as well as transformation of the process and project management support.

4.4 NATIONAL AND ORGANISATIONAL ALIGNMENT

This section on national and organisational alignment focuses on the following areas (Figure 4.2 and Figure 4.3):

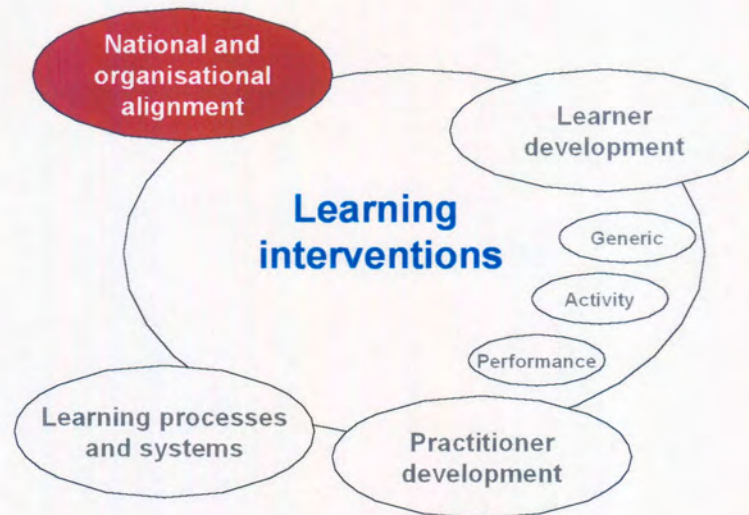


Figure 4.2 – Focus on alignment and legal requirements

- The formulation of the national alignment policies
- An organisational approach to accommodate the integration of the learning interventions with national policies
- Internal organisational alignment with the national policy requirements
- Eskom quality assurance assistance for learning interventions
- Social and learner alignment



Figure 4.3 – Overview of national and organisational alignment

As indicated in Figure 4.3, national and organisational alignment comprises five areas of development:

- The formulation of national alignment policies by aligning the organisation with the requirements prescribed by government legislation.
- An organisational approach to accommodating national policy alignment and integration as prescribed by legislation and the way the organisation aligns itself internally to comply with the legislative requirements.
- The organisation's (Eskom's) quality assurance interventions to support and ensure adherence to the requirements at a national and organisational level.
- The social development of the learner and the way in which national policies impact on him/her as a person.

However, the five developmental areas indicated in Figure 4.3 are not used as standalone units. The place and the validity of the alignment process are utilised in the context of the complete integrated system to support the other systems or processes. An integrated systems approach prevents the previously encountered silo-effect and eliminates individual or departmental initiatives encountered and evident in the training and development environment.

As shown in Figure 4.1, the research problem originated at national policy level, incorporating the organisational alignment transformation process to accommodate changes required by the *Skills Development Act* (South Africa, 1997a). The development and provision of an experiential learning process will bring about the required changes in industry in a practical way. Eskom will implement interventions at all three levels to achieve, integrate and align the dimensions described in Figure 4.1.

4.4.1 Formulation of national alignment policies

The alignment of the training process with national and legal requirements is founded on an outcomes-based approach. This addresses the integration and alignment at national level to comply with the legislative requirements laid down in various sources:

- The National Qualifications Framework (South Africa, 1995a)
- *The South African Qualifications Authority Act* (South Africa, 1995a)
- *The Skills Development Act* (South Africa, 1998b)
- Other national initiatives such as the *Employment Equity Act* (South Africa, 1998c)

The purpose of this legislation is to:

- increase the levels of resources in education and training (South Africa, 1998b);
- improve the return on the investment employers make in their employees (South Africa, 1998b);
- encourage workers to participate in learnerships and skills programmes (South Africa, 1998b);
- improve the quality of education and training in the workplace and to redress the inequities of the past (South Africa, 1998b);
- promote equal opportunities and fair treatment in the employment of workers (South Africa, 1998c).

Alignment with the national policies provides a guideline and structured framework for organisations to adhere to. This alignment ensures that purposeful and recognisable development with associated accredited qualifications is provided in the organisations.

4.4.2 Organisational approach to national policy alignment

Alignment at organisational level allows the organisation to develop structures and frameworks to enable it to comply with national policy guidelines and alignment with employees at a social level. Thus, organisational alignment works in two directions – alignment with national policies and alignment with the employee as a learner at a social level. The alignment of the process at organisational level comprises the following:

- The design, development, implementation and improvement of training and development interventions and frameworks (South Africa, 1998b)

- Modification of existing training and development infrastructure to comply with the national and legal requirements (Eskom, 1997b)
- The development of suitable, accredited, outcomes-based training and development interventions to the benefit of the employee (South Africa, 1998a)
- Recognition of prior learning (South Africa, 1998b)
- The development of skills programmes (South Africa, 1998b)
- The development of learnership programmes (South Africa, 1998b)
- The establishment of and participation by SETAs
- Provision for a skills levy (South Africa, 1998b)

In addition, the *Skills Development Act* (South Africa, 1998b) requires organisations to:

- use the workplace as an active learning environment;
- provide employees with opportunities to acquire new skills;
- provide opportunities for new entrants to the labour market to gain work experience;
- employ persons for whom it is difficult to find employment.

Organisational alignment and transformation complies with the above-mentioned requirements and aligns activities in order to integrate the organisation's business needs with national requirements. This alignment addresses not only the national requirements, but also the organisational business objectives and strategies. The integration of organisational transformation systems and requirements with these strategies serves to align the training and development process and organisational development change management interventions with national and legal requirements.

The national and organisational alignment incorporates the following elements into the experiential learning process and Eskom as an organisation complies with the legislation and legal requirements by addressing them:

- External forces
- Classification of fields of learning
- Alliances and partnerships
- SETA integration

4.4.2.1 External forces

The Skills Development Act (South Africa, 1998b) clearly authorises the establishment of the National Skills Authority (NSA) and Sector Education and Training Authorities (SETAs) in support of SAQA and NQF structures. Eskom as an organisation integrates the external influences and is forced to comply with the national requirements as indicated in Figure 4.4.

External forces: Departments of Education and Labour

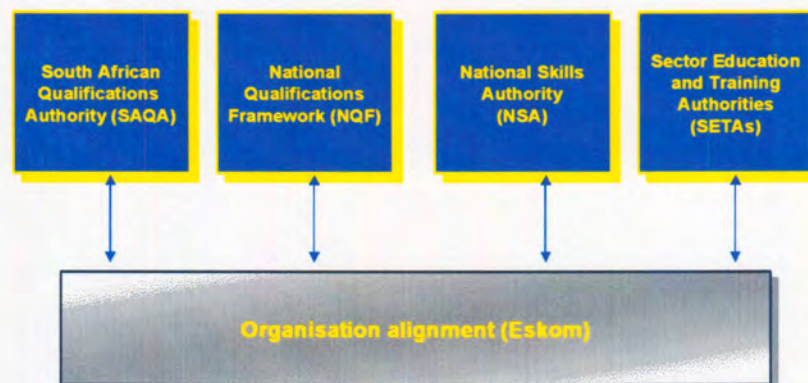


Figure 4.4 – External forces

As is evident from Figure 4.4, the external forces play an important role in industry in aligning training and development initiatives as required by the *Skills Development Act* (South Africa, 1998b), and so each of the external forces listed will be discussed. Once again, these external influences should be accommodated as a unit and not as individual entities.

- **SAQA influence on Eskom**

SAQA provides a framework within which to integrate the educational and vocational interventions in Eskom. The following functions were identified for the South African Qualifications Authority (SAQA) upon its establishment (African National Congress, 1994), and Eskom has aligned itself accordingly:

- Maintenance and quality assurance process in the qualifications system
- Accreditation, examination and certification authorities for all levels of education and training
- Continued and appropriate research and development programmes
- Co-ordination of all qualifications to an understandable level for the public and learners
- Establishment of mechanisms to oversee the regular review of standards
- Recognisable international and national qualifications

- **National Qualifications Framework influence on Eskom**

To develop sound, high quality education and training systems, industry needs to provide its employees with high levels of the skills and knowledge required by these systems. The National Qualifications Framework is designed to support the focus on and shift to quality.

Eskom's objectives under the National Qualifications Framework (South Africa, 1995a) are to:

- **accelerate education, training and employment opportunities in the organisation as a whole;**
- **contribute to the personal development of the employees as individual persons and learners;**
- **create an integrated framework for national learning achievements and recognition;**
- **enhance the quality of education and training in Eskom in relation to all levels of employees;**
- **provide elements within education, training and career paths to develop individual and personal development pathways.**

Eskom emphasises the future functions of a training and development learning system as follows:

- **The development with other organisations of a national curriculum based on integrated academic and vocational skills**
- **The development of a national standards and qualification structure that reflects the achievement of learning outcomes, defined at different levels from beginner to postgraduate, in terms of uniform national standards**
- **The integration of education and training systems at formal and non-formal levels**
- **The development of methods and systems for learners to accumulate credits for learning towards a national qualification and recognition**
- **Ensuring participation by all employees in the education and training system**

- Recognition for prior learning
- Recognition of the right to individual lifelong learning and the promotion of career paths

The qualifications and learning encountered by the employees are based on:

- defined learning pathways;
- qualifications for defined purposes and related to other qualifications;
- a proven system of history and record-keeping for flexibility, transferability of qualifications and progression within the system;
- recognised skills, knowledge, attitudes and values in all learners.

- **Role of the National Skills Authority (NSA)**

The Skills Development Act gives the following functions for the NSA (South Africa, 1998b):

- Development of the national skills development policy
- Development of the national skills development strategy
- Development of guidelines for the implementation of the above policy and strategy
- Allocation of subsidies from the National Skills Fund

In addition, the National Skills Authority also liaises with the Sector Education and Training Authorities in relation to (South Africa, 1998b):

- the national skills development policy;
- the national skills development strategy.

Eskom has adhered to the requirements by submitting a skills plan and strategy to the SETA as requested, indicating the various skills needed by Eskom. This skills plan also listed the critical skills identified in the organisation.

- **The role of Sector Education and Training Authorities (SETAs)**

The Skills Development Act lists the following functions for SETAs (South Africa, 1998b), which Eskom is complying with:

- Development of a sector skills plan in line with the framework of the national skills development strategy
- Implementation of the sector skills plan through the establishment of learnerships, approval of workplace skills plans, allocation of grants and monitoring of education and training in the sector
- Promotion of learnerships by identification of workplaces for practical experience, supporting the development of learning materials and improving the facilitation of learning in the organisations
- Registration of learnerships
- Collection and distribution of the skills development levies in its sector

The establishment and development of the SAQA and NQF infrastructures are at advanced stages, as the *SAQA Act* (South Africa, 1995a) came into force in 1995. However, members were appointed to the National Standards Bodies (NSBs) only in 1999.

4.4.2.2 Cross-departmental integration at national level

Three role-players are acknowledged in the national policy and organisational alignment for strategic planning of interventions and are accordingly incorporated into the Eskom structures. These role-players are the following (Figure 4.5):

- National standards bodies and standard generating bodies (NSBs and SGBs)
- Education and training quality assurers (ETQAs)
- Sector education and training authorities (SETAs)

The functions of these bodies are integrated with the guidelines and requirements of the National Qualifications Framework as outlined by the *SAQA Act (South Africa, 1995a)*. *The Skills Development Act (South Africa, 1998b)* also requires learnership programmes to include practical work experience of a specific nature and duration, as well as a structured learning component, which should be included in the organisation's curricula and training plans as part of the integration and cross-departmental initiatives.

As indicated in Figure 4.5, the NSBs and the SGBs provide the working standards at a national level and organisations need to realign their own training to accommodate these requirements. The ETQAs provide the necessary guidelines for the assessment and accreditation of training providers, moderators and verifiers to ensure an acceptable level of training and development in the workplace (South Africa, 1998b).

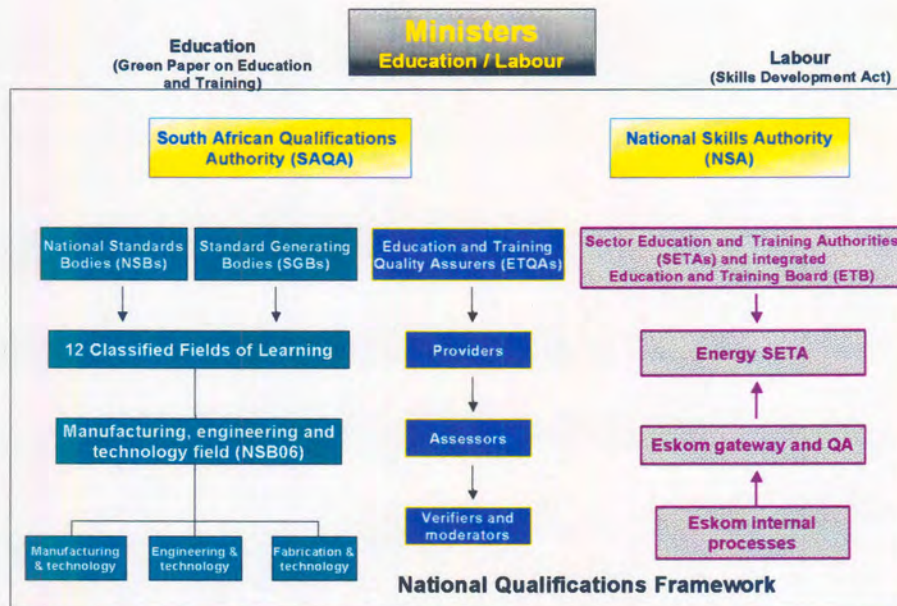


Figure 4.5 – Holistic view of SAQA, NQF and NSA integration (South Africa, 1995a; South Africa, 1995b; South Africa, 1998b)

Eskom, supported by its internal quality assurance bodies, has formed alliances and partnerships with other organisations in the manufacturing field co-ordinated by the SETAs. SAQA and the NSA are backed by the NQF, which acts as the assurer of quality between the Departments of Education and Labour.

4.4.2.3 Classification of 12 organising fields of learning

The classification of fields of learning provides a framework whereby the different occupations and work categories (South Africa, 1998a) are classified in 12 fields, as indicated in Figure 4.6.

Fields of learning

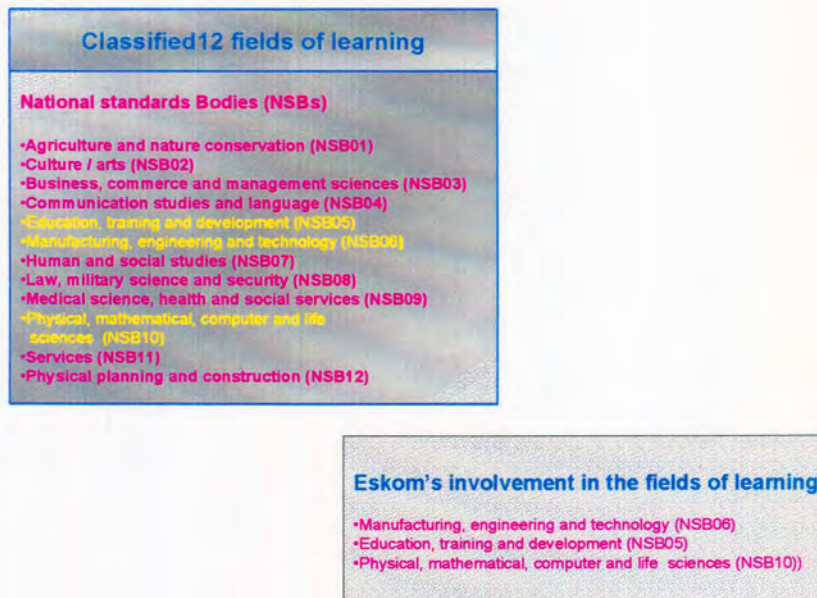


Figure 4.6 – Classification of the fields of learning

As indicated in Figure 4.6, Eskom is actively involved in three of the 12 organising fields of learning within the NQF (South Africa 1998a). The majority of the Eskom workforce falls into the following three main fields:

- Manufacturing, engineering and technology (NSB06)
- Education, training and development (NSB05)
- Physical, mathematical, computer and life sciences (NSB10)

Eskom is also active in other fields, but since its involvement in those fields is not significant it participates in them on an individual basis as necessary.

4.4.2.4 Alliances and partnerships

An organisation like Eskom establishes various alliances and partnerships with other organisations to reduce the workload and to prevent the rewriting or

reinvention of standards already in existence. In addition, this prevents Eskom from becoming dominant in other fields and enables smaller organisations with fewer resources to participate and contribute effectively. Eskom, for example, is not involved in the agriculture and nature conservation standards bodies, but contracts in any services it requires from the other standards bodies (South Africa, 1995a; South Africa, 1998b). The following are some of the benefits of these alliances and partnerships (South Africa, 1998a):

- Co-operation between government, organisations and other key stakeholders
- Development of a system to balance the roles of market-related skills and government and organisational initiatives
- Acceptance of the importance of inter-departmental co-operation between the partners and key stakeholders
- Information-sharing and consultation with one another

4.4.2.5 SETA participation

At present 27 SETAs have been identified, as indicated in Figure 4.7. SETAs are currently operating at three levels:

- Active and agreed
- Active but not agreed
- Development work required

The active and agreed SETAs are the groups and partners that are at an advanced level of establishment and development (South Africa, 1998b) on the basis of their:

- using similar materials, processes and technologies;
- making similar products;

- rendering similar services.



Figure 4.7 – Proposed SETAs

The active but not agreed SETAs and those requiring development work still need to establish the following (Figure 4.7):

- The potential of the proposed sector for coherent occupational structures, learnerships and career pathing
- The scope of any national strategies in the fields concerned
- Consensus between organised labour, organised employers and relevant government departments
- The financial and organisational ability of the proposed sector to support a SETA

4.4.3 Internal organisational alignment

4.4.3.1 Strategic and legislative level

Alignment at the strategic and legislative level relates to Eskom's approach to relevant legislation. The company set up special working groups to determine the impact of each of the relevant legal documents on Eskom as an organisation. The documents considered in this exercise were the following:

- *The SAQA Act* (South Africa, 1995a)
- *The Skills Development Act* (South Africa, 1998b)
- *The Employment Equity Act* (South Africa, 1998c)
- *The White Paper on Education and Training* (South Africa, 1995b)
- *The Higher Education Bill* (South Africa, 1997b)
- *The White Paper on a Programme for the Transformation of Higher Education* (South Africa, 1997d)

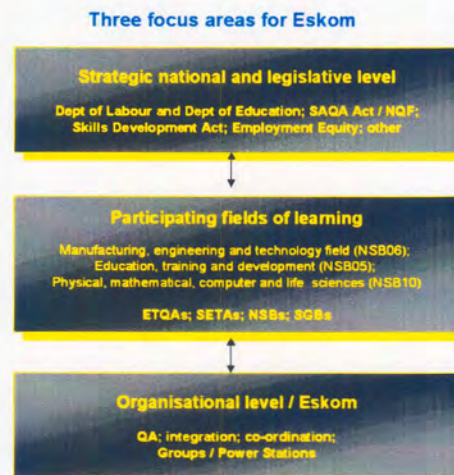


Figure 4.8 – Eskom focus areas

Figure 4.8 clearly illustrates the gap between the national and organisational level that needs to be bridged by means of participation in the other fields of learning, SETAs and the establishment of alliances and partnerships if national policy and organisational alignment is to be achieved.

4.4.3.2 Participation in the classified fields of learning

Eskom plays an active and leading part in certain of the classified fields of learning, as previously mentioned, as these are the fields into which the bulk of Eskom's employees fall. Eskom's participation features in the following fields in particular:

- Manufacturing, engineering and technology (NSB06)
- Education, training and development (NSB05)
- Physical, mathematical, computer and life sciences (NSB10)

Further participation by Eskom employees is encouraged in order to represent the minority employers in the other fields of learning.

4.4.3.3 Internal alignment with organisational objectives

South Africa is regarded as having one of the most biased distributions of income and skills in the world (BMI Issues Management, 1997). As BMI Issues Management puts it: "... the fastest growing part of the population falls into the unskilled labour category, compared with the much smaller skilled sector, which grows at a much slower rate" (BMI Issues Management, 1997:3).

This unequal distribution of skills leads to critical skill shortages in South Africa. According to BMI Issues Management (1997), the solution to this problem lies in education, training and development. South Africa has been taking steps towards solving the problem through the establishment of the National Qualifications Framework (NQF) and the South African Qualifications Authority (SAQA) and promulgation of the *Skills Development Act* in 1998. However, according to BMI Issues Management (1997), organisations and

businesses also need to work towards solving this problem by developing the systems and resources to do so.

As became clear from the literature review, organisations need to align their various training and development initiatives to comply with the following objectives indicated in the literature (South Africa, 1997a; South Africa, 1997b; South Africa, 1995b; ANC, 1994; BMI, 1997):

- To create an integrated national framework for learning achievements
- To facilitate access to training and development for all employees
- To enhance the quality of education, training and development

The National Qualifications Framework (NQF) acts as a facilitating body for the development, implementation and quality assurance of SAQA initiatives. The participants in this framework publicly register qualifications and unit standards to ensure similar standards in qualifications. The NQF has three structural elements (South Africa, 1995a):

- The South African Qualifications Authority (SAQA)
- National Standards Bodies (NSBs)
- Education and Training Qualifications Authorities (ETQAs)

Figure 4.9 indicates the approach Eskom is using to align the organisation with the national and legal requirements mentioned previously. The focus of this alignment falls on:

- the organisational context;
- the national context;
- learning systems;
- human resources initiatives.

A quality assurance body supports these focus areas by accommodating accreditation, assessment, evaluation and co-operation with the NSBs and ETQAs (Figure 4.9).

Eskom's national and organisational alignment complies with the legal requirements at the national and organisational levels (Figure 4.9) in relation to the NQF, *SAQA Act*, *Education Bill*, *Skills Development Act* and other national initiatives (South Africa, 1995a; South Africa, 1995b; South Africa, 1997b). Figure 4.9 illustrates the way in which the organisation addresses and aligns its business to ensure that it:

- complies with the minimum requirements for competence development;
- is able to assess practices and standards;
- can issue a declaration of competence;
- is in a position to manage results.

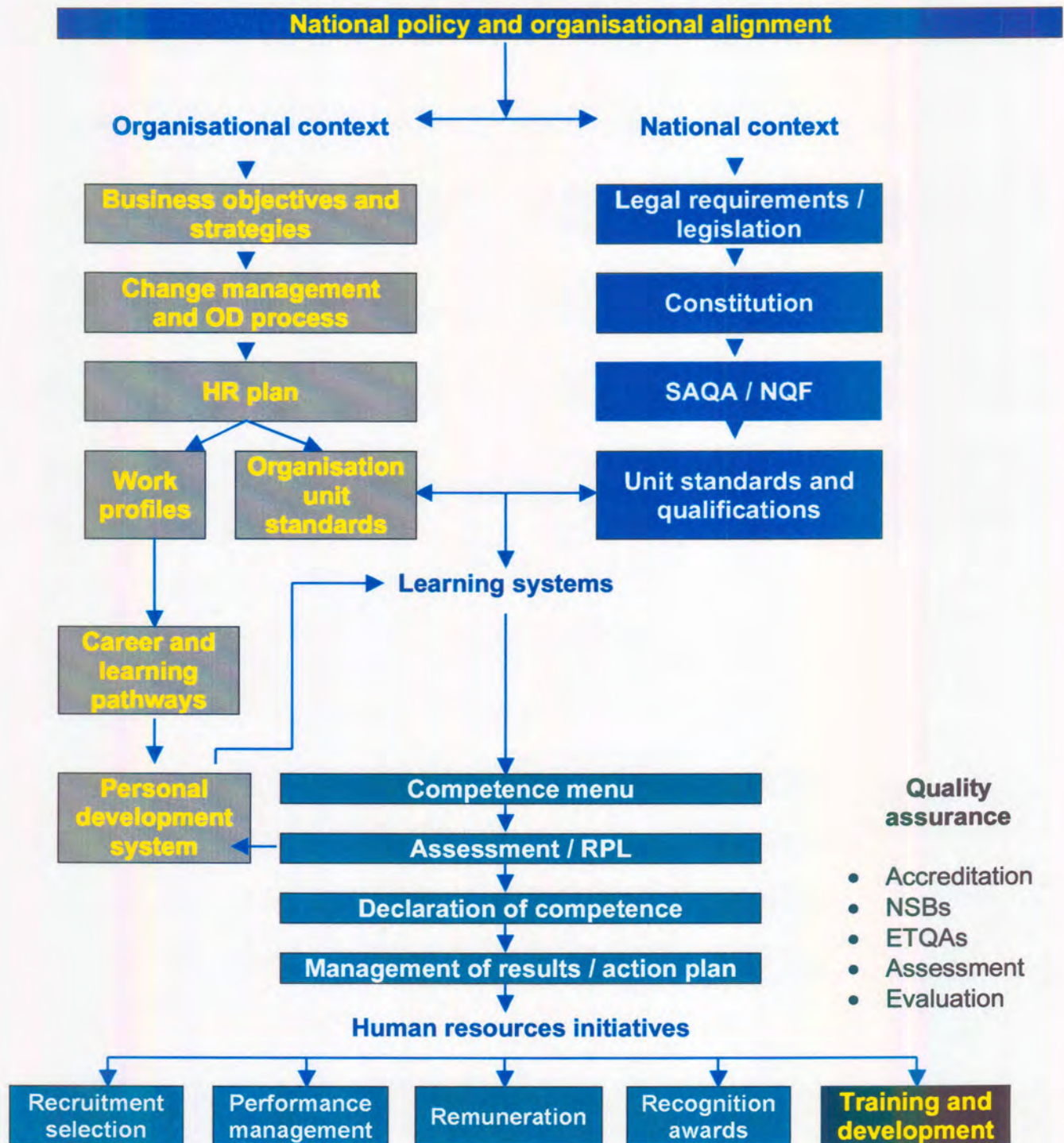


Figure 4.9 – Alignment and integration at national and organisational level, adapted from the *Eskom Practitioner Guide* (Eskom, 1997a)

The internal organisational alignment occurs in three phases (Figure 4.9):

- Organisational and national context
- Learning systems
- Human resource initiatives

- **Organisational and national context**

Eskom as a business has aligned itself with the national requirements and in relation to its business objectives and strategies by implementing appropriate change management and organisational processes to oversee transformation to the desired business and working culture. The national unit standards and qualifications were used to develop Eskom's internal standards and work profiles (Figure 4.9).

- **Learning systems**

The learning systems provide for career and learning pathways and personal development systems. The competence menu provides for assessment, recognition for prior learning, declaration of competence and the management of results and action plans. Eskom's internal quality assurance provides the standards, guidelines and procedures necessary to accommodate (Figure 4.9):

- accreditation;
- assessment;
- evaluation.

- **Human resource initiatives**

Recruitment and selection, performance management, remuneration and recognition awards fulfil an important role in the context of the business and organisational objectives by providing the necessary

opportunities for the development of a competent workforce. However, this outcomes-based training and development takes place within the framework of the training and development process in order to ensure the integration of the organisational and business objectives with the training and development process (Figure 4.9).

As indicated in Figure 4.9, Eskom as an organisation has aligned itself with the national and legal requirements and parallels this with its organisational and business goals. Once again illustrated by Figure 4.9, the various processes and systems cannot work independently from each other, but need to work as a unit to ensure correlation and interaction between the different departments and disciplines involved in the system.

4.4.3.4 Organisational transformational integration

Organisational transformational integration focuses on two domains in human resources development (Figure 4.10):



Figure 4.10 – Components of human resources development (Rothwell & Kazanas, 1994a)

The integration of organisational development and training and development are essential for business to succeed in implementing the national policy and legal requirements in an organisation (Rothwell & Kazanas, 1994a; Rothwell & Kazanas, 1994b) (Figure 4.11). The literature shows that attempts are often made to have development initiatives as independent entities, creating a silo

effect and interdepartmental initiatives. This type of practice does not support an integrated solution to training and development or human resources development initiatives.

The solution to the problem within Eskom was to integrate the various actions in a process and system that ensures co-operation between the different disciplines and departments, as indicated in Figure 4.11. The process was divided into two focus areas of responsibility:

- Organisational development and change management
- Training and development

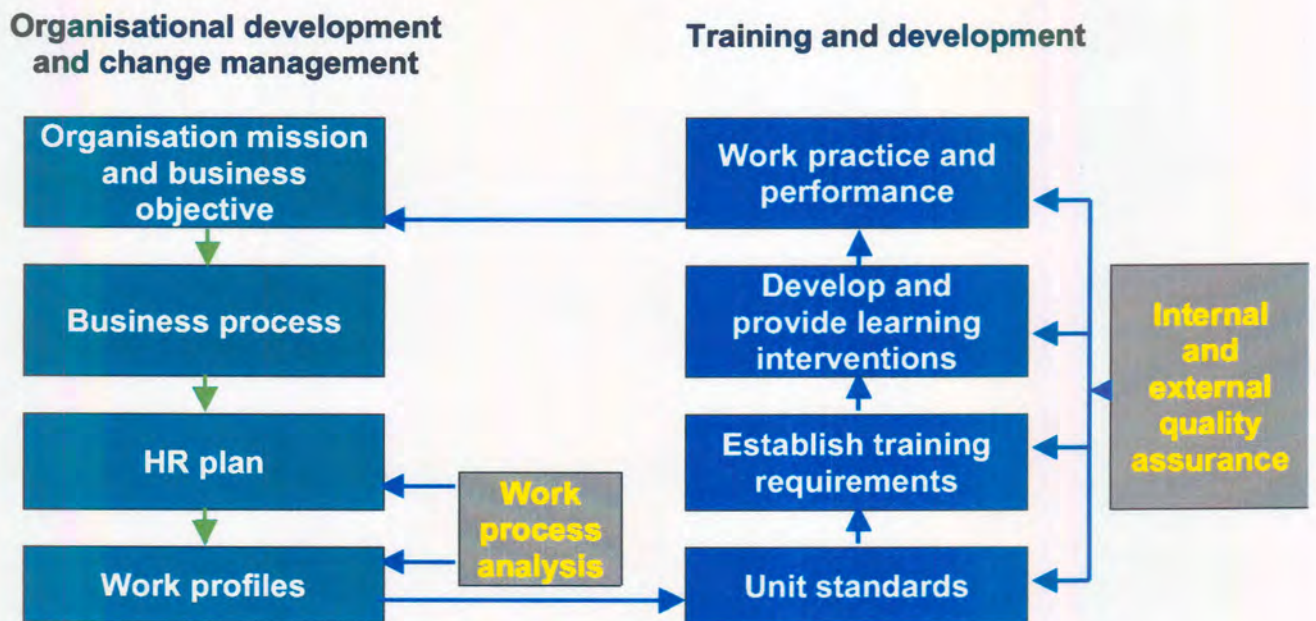


Figure 4.11 – Outcomes-based training and development map adapted from the *Eskom Practitioner Guide* (Eskom, 1997a)

These two focus areas incorporate the organisation's mission and business objectives. The business processes together with the human resources plan provides the framework for the development of generic and specific work and job profiles. From these, the work process analysis establishes the environment for training and development, providing the requirements for development of Eskom unit standards in line with the national unit standards

and the delivery of learning interventions. This approach results in the implementation of integrated work practices and performances. The training and development comply with the minimum requirement set by internal and external bodies to ensure that a high-quality service is provided.

4.4.4 Eskom quality assurance interventions

4.4.4.1 Eskom and national requirements integration

This research has identified two main components for external alignment (Figure 4.12) with national and organisational policies:

- Eskom requirements
- National requirements

The Eskom requirements include its internal quality assurance system and learnerships and skills programmes. The Eskom requirements thus have two legs: corporate quality assurance and learnerships / skills programmes. Corporate quality assurance covers corporate functions like the verifiers, moderators and uniformity of standards generated by Eskom, while the learnerships and skills programmes provide the necessary outcomes, Eskom unit standards, roles and work profiles for each discipline involved in the process. The national requirements include links to NSBs, SETAs and the National Qualifications Framework. The Eskom working unit standards have to pass assessment by a quality assurance body (Eskom gateway) to ensure an acceptable level of unit standards leaving the organisation and that these unit standards are in line with the national unit standards and link up with the NQF.

4.4.4.2 Eskom quality assurance alignment

The Eskom alignment requirements include the way in which the Eskom corporate department manages the alignment in terms of quality assurance and the development of the learning delivery instruments (Figure 4.12). This intervention includes Eskom quality assurance processes, procedures and directives. The corporate quality assurance function also oversees the development of the learnership and skills programmes. This unit ensures alignment and compliance with the NQF in relation to development work associated with the learnerships, skills programmes and the development of the practitioners responsible for the quality assurance function.

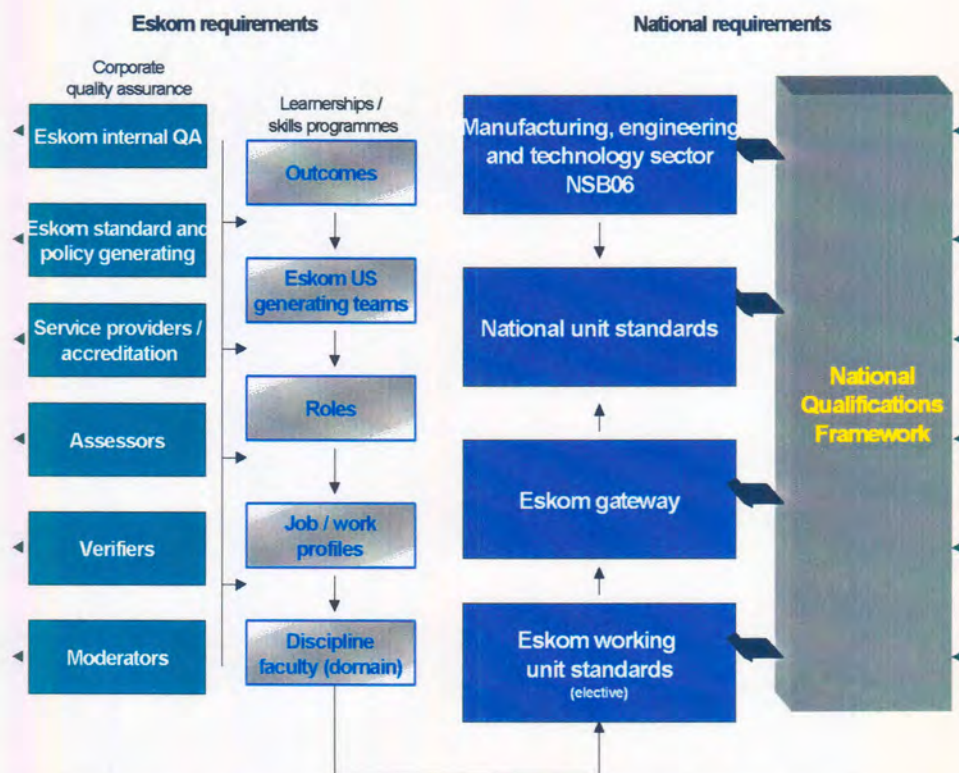


Figure 4.12 – Eskom QA and integration process

An important function of the quality assurance process is the evaluation, assessment and accreditation of the internal and external service-providers. This ensures that the learning material complies with minimum requirements

set by the NQF and the organisation. The quality assurance body also takes over the role of the former Eskom and Allied Industries Training Board (EAITB) in terms of making recommendations to the NSB and SETA regarding qualifications and certificates of competence for appropriately assessed employees.

- **Learnership and skills programmes**

The learnership programmes have the following crucial features (South Africa, 1998b) (Figure 4.12):

- They consist of structured learning elements.
- They include practical work experience of a specific nature and duration.
- Learnerships lead to a national qualification and are related to an occupation.

Features of the skills programmes include the following (South Africa, 1998b):

- Skills programmes are occupationally based.
- When completed, skills programmes contribute towards credits for a nationally recognised qualification.
- These programmes use recognised and accredited providers.

The Eskom quality assurance body has assessed and accredited the line groups as service-providers for the development and implementation of proposed learnership and skills programmes.

- **NSB, SETA and National Qualifications Framework links**

Eskom requirements are aligned with the national and SETA requirements in terms of skills development and include (South Africa, 1998b):

- research and analysis of the national and Eskom labour market and requirements;
- skills development in line with the SETA skills plan.

In addition, the national requirements include an interface with the National Qualifications Framework and the organisational (Eskom) requirements (Figure 4.12).

4.4.4.3 Eskom internal group integration and alignment

Eskom's internal group integration comprises the following elements (Figure 4.13):

- Eskom's corporate role
- Eskom and national integration
- Line group participation

Eskom QA and integration - corporate and line focus

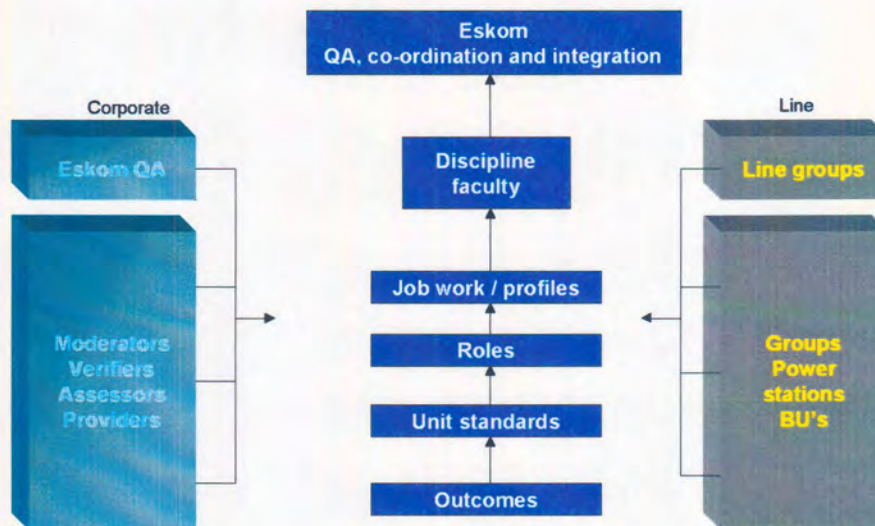


Figure 4.13 – Eskom internal group integration

As indicated in Figure 4.13, close relationships exist between corporate and line functions to ensure uniformity and quality assurance in Eskom.

- **Eskom’s corporate role**

As previously discussed, Eskom Corporate Services provides the necessary direction in terms of policies, guidelines and practices. Corporate Services provides the training and development for the moderators, verifiers and assessors and the accreditation of providers (Figure 4.13). This function ensures that the line groups comply with the requirements in relation to corporate quality assurance and alignment with national policy requirements.

Eskom provides a quality assurance service at a corporate level to ensure compliance at a national level as well as internally (Figure 4.13). As indicated in Figure 4.13, the quality assurance function provides for the setting of standards and generation of guidelines and

policies in Eskom. This includes the registration, training and development of the assessors, verifiers and moderators. The quality assurance function also monitors alignment with and participation by other bodies and organisations at a national level (South Africa, 1998b).

- **Line group participation**

The line groups and business units are responsible for the development of job and work profiles, roles, unit standards and specific outcomes in line with the corporate directives, policies and guidelines. The unit standards are submitted to the Eskom corporate quality assurance body for accreditation and compliance. This corporate function ensures equal and uniform standards within the organisation for the work developed by various groups and individuals (Figure 4.13).

4.4.5 Social and learner alignment

Social integration or employee advancement focuses on an outcomes-based process and the implementation of learning interventions developed to suit the social characteristics of the employee.

The Skills Development Act (South Africa, 1998b) emphasises involvement on the part of both the employer and the learner in relation to:

- participation in learnerships and other training programmes;
- assisting workers to participate in learnerships;
- participation in skills development programmes.

The integration of the training and development delivery process accommodates the social development needs of the learner. The main advantage of the alignment between social development and the employer is

the focus on self-development and lifelong learning as spelled out in the *Skills Development Act* (South Africa, 1998b) to the benefit of the learner. The development of a learning intervention framework focuses on the needs of the employee as a learner, results in higher quality of standards and methods applied within the development framework and enhances the social development of the employee within the organisation.

The main advantage of alignment between social development and the learner is integration and alignment with the organisational requirements and change management process to accommodate learner development. The alignment of social development and learner interventions results in a higher quality of standards and methods being applied within the training and development framework.

4.4.6 Action undertaken as part of the analysis and developments aimed at national and organisational alignment

The following interventions were analysed, designed, developed and/or implemented to align the organisation with national requirements:

- Provisional evaluation of the current status of training and development in the Eskom Transmission Group
- Eskom Transmission Group HRD strategic planning session
- Training needs analysis
- Strategic HRD session
- Eskom Transmission Group HRD strategic development and restructuring
- Eskom Transmission Group HRD strategy
- Analysis of the ABET environment in South Africa

4.4.7 Summary: National and organisational alignment

This section has described in detail the alignment initiatives undertaken over a five-year period to investigate and address current practices by assessing them in relation to external organisations and legislation and determining the training and development gap. The need for serious and radical changes in the way organisations handle their employees' personal training and development has been highlighted by descriptions of:

- the approach that should be taken in relation to national and organisational alignment and the context in which this should occur;
- the way in which an organisation should align its development objectives by taking external forces into consideration as a major partner in the alignment;
- cross-departmental dynamics at a national level between the Department of Education and Department of Labour;
- alliances and partnerships between the SETAs, NSBs, SAQA, NQF and other organisations;
- external alignment in relation to internal organisational alignment and the integration of these elements with current and new practices;
- the dual functionality of the internal organisational quality assurance function and its role in protecting the rights of the organisation and those of the employee by ensuring adherence to national legislative requirements;
- the establishment and implementation of learnership and skills programmes in the organisation.

Last, but not least, it was suggested that the social integration of the employee as a learner and alignment in this regard could be ensured by:

- reviewing the ABET environment and providing a framework for evaluating learner development in the organisation;
- provisional evaluation, strategic planning and analysis of training needs to determine the training and development gap in the organisation;
- using the group HRD strategic development and restructuring to develop a framework for organisational alignment;
- initiating working groups to implement national initiatives in the organisation;
- undertaking formative evaluation of training and development interventions that have been implemented.

4.5 LEARNER DEVELOPMENT

This section describes the interventions related to learner development that were developed by the researcher in order to investigate the second subsidiary research question (Table 4.14) on learner development.

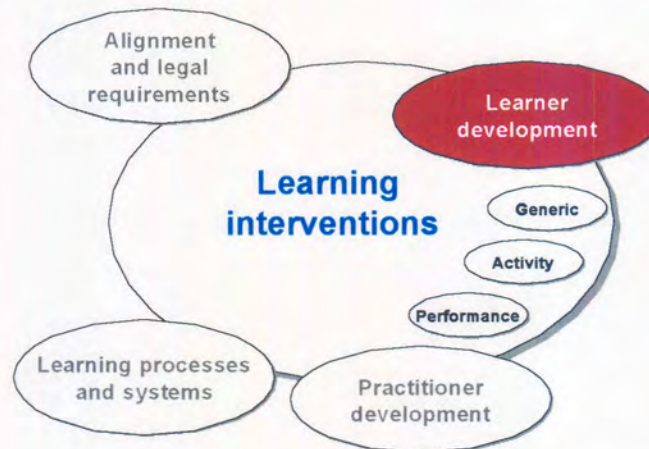


Figure 4.14 – Learner development

The focus in regard to learner development is on specific development of the learner and the type of interventions implemented to develop the employee as an individual (South Africa, 1998b). This learner development is also aimed at helping to create a culture of lifelong learning and getting the learner to take responsibility for his or her own development, as stipulated in the *Skills Development Act* (South Africa, 1998b). Learner development focuses on the learning pathways and skills development programmes, and includes development in five areas identified during the analysis, design, development and implementation of the different levels of learnership and skills programmes, namely (Figure 4.14 and Figure 4.15):

- Institutional
- Legal
- Personal growth objectives

- Leadership development
- Group and business unit-specific

The skill levels identified above are in turn each broken down further in terms of complexity and comprise (Figure 4.14 and Figure 4.15) –

- fundamental;
- core; and
- elective

levels of competence.

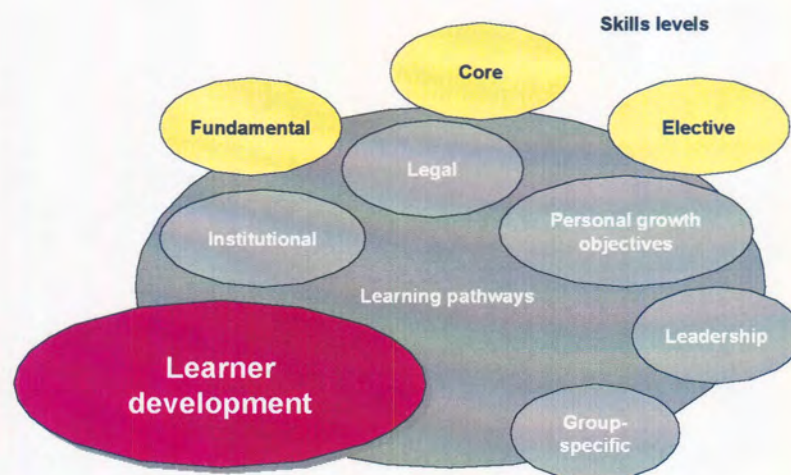


Figure 4.15 – Overview of learner development

In complying with the national policy and organisational requirements for specific training and development, the first two levels (fundamental, core) accommodate the national unit standards as registered with SAQA (South Africa, 1995a; South Africa, 1995b). The third level (elective) is a more specialised level to meet the needs of individual organisations and to cater for more specific equipment and work practices related to a certain working environment, culture or demographics.

Under the banner of learner development, the learning pathways, curricula, training programmes and training plans complement the development of the learner in his / her totality. The learning pathway development takes place at the levels discussed previously (Figure 4.15) and accommodates the requirements of the *Green Paper on Further Education and Training* (South Africa, 1998a). The following critical and development outcomes can be elicited from learner development programmes (South Africa, 1998a):

- Communication skills
- Cultural and aesthetic understanding
- Entrepreneurial skills
- Learning skills
- Problem-solving skills
- Research skills
- Self-responsibility
- Team work
- Technological and environmental literacy

4.5.1 Competency development menu

The learning pathway for the learnership and skills programmes designed to help develop Eskom employees' competency comprise the following levels (Figure 4.16):

- Competency development
- Social integration

Competency development focuses on the development of the learner in the workplace, while the social integration aspect provides the learner with skills that can be used in the workplace as well as in the social environment. The

social integration aspect also provides learners with skills that can be utilised to prepare for retirement. The qualification obtained by the learner fulfils the following criteria (South Africa, 1998a):

- It represents a planned combination of learning outcomes.
- It adds significant value to the qualifying learner.
- It provides benefits for society by enhancing citizenship.
- It complies with the objectives of the NQF.
- It has both specific and specialised cross-field outcomes that promote lifelong learning.
- It is internationally compatible and transferable where appropriate.

4.5.1.1 Competency development

Learning pathways have the following levels of skills:

- Fundamental level**
- The fundamental level addresses the development of a foundation for specific disciplines, but is still generic to other disciplines where applicable. As the *Green Paper on Further Education* (South Africa, 1998a: 4) states, "Fundamental learning forms the grounding or the basis needed to undertake the education, training or further learning required in obtaining a qualification".
- Core level**
- This level bridges the gap between the fundamental and elective levels, accommodating skills already mastered by the learners without any recognition being given for competencies applied and utilised in the workplace. *The Green Paper on Further Education* (South Africa, 1998a: 4) states, "Core

learning is compulsory in situations contextually relevant to the particular qualification" on a theoretical and practical basis.

Elective level

- The elective level addresses the development of the learner in a more specialised environment and this approach also accommodates the specific needs of the environment in which the learner is currently employed. Electives are selected additional credits at the NQF level specified, to ensure that the qualification is competency- and outcomes-based (South Africa, 1998a).

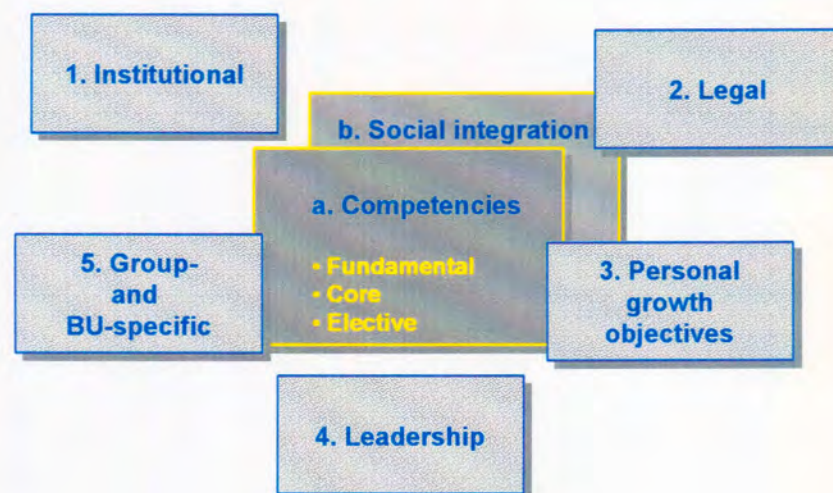


Figure 4.16 – Competence menu

Figure 4.16 shows a breakdown of the structure of the learner development process and focuses on two areas of development: learning pathways and skill levels, which are based on competencies applied and demonstrated in the workplace. The courses and development initiatives can take place in any

of the five categories and can provide training at a fundamental, core or elective level.

4.5.1.2 Social integration

Social integration training is not directly business or organisation-related, but aims to improve the personal life skills of the employee. This leads to empowered communities that in turn become powerful allies to organisations. Training in this regard is particularly relevant to employees who are nearing retirement. Below are some examples of courses of this type.

- Alcohol abuse
- Banking
- Cultural diversity
- Entrepreneurship
- Family relationships
- Financial
- Health and well-being
- Insurance: Medical short-term
- Interpersonal relationships
- Investments, annuities
- Personal budget
- Personal hygiene
- Small business development

Competency and social training can be accommodated simultaneously and there are no entry prerequisites for either of the two areas of development.

4.5.2 The development of the competency menu

The competency development menu comprises development at the five levels (institutional, legal, personal growth objectives, leadership development and group-specific) shown in Figure 4.16.

4.5.2.1 Institutional training

Institutional training accommodates the formal development of the learner, with service-providers within and external to Eskom providing the training. The learner can obtain a formal qualification from any one or a combination of institutions or providers. Most of the learning utilises a classroom-based approach. However, the practical application of the new skills obtained takes place in a Group and BU-specific context. Institutional training covers the following:

- ABET
- Bridging training
- Eskom College training
- Formalised training
- Technical college training
- Technikon courses
- Other training that might be identified

<i>Course type: Institutional training</i>	<i>Fundamental</i>	<i>Core</i>	<i>Elective</i>		
			<i>Generic</i>	<i>Activity</i>	<i>Performanc</i>
ABET level 1	●				
ABET level 2		●			
ABET level 3			●		
ABET level 4			●	●	
Basic safety	●	●	●		
Bridging training (pre-N1)				●	
Eskom College training (basic skills)			●	●	
Formalised training (electrical, mechanical courses)			●	●	
Technical college (N1; N2; N3)				●	●
Technikon (pre-S1; S1; S2; S3; S4)					●

Table 4.1 – Institutional training

As indicated in Table 4.1, institutional training and development accommodates learners from the level of no or low skills to an advanced level, where the learner can eventually attend a more formal institution such as a technikon or a university. The potential and enthusiasm of the learner determine the limit to which such a learner can progress. However, a careful balance should be maintained between the amount of formal training received and on-the-job experience on the part of the learner.

4.5.2.2 Legally required training

The legally required training is conducted in accordance with Eskom's, national and legal requirements. The training may either be Eskom generic training or apply only to a specific Group / BU. The following are examples of legally required training:

- Environmental courses
- Fire-fighting
- First aid

- Safety
- Other training that might be identified, for example driver training and AIDS awareness

<i>Course type: Legally required training</i>	<i>Fundamental</i>	<i>Core</i>	<i>Elective</i>		
			<i>Generic</i>	<i>Activity</i>	<i>Performance</i>
AIDS awareness training	●	●	●	●	●
Environmental courses	●	●			
Fire-fighting	●	●			
First aid	●	●	●		
Safety	●	●	●	●	●
Other, e.g. driver training, defensive driver training			●	●	●

Table 4.2 – Legally required training

The working environment and skills level (Table 4.2) of the learners concerned will dictate the different levels (fundamental, core and elective) of legally required development. Some areas may not require the learner to have a driver's licence, for example, while in other fields of work at least advanced or defensive driving skills may be expected of the learner. However, the majority of the courses listed have a minimum (fundamental) level set for organisations to comply with the national policy guidelines.

4.5.2.3 Personal growth objectives

Personal growth objectives develop the business, social and personal needs of the learner. This training supports social upliftment and benefits his / her own development. A natural outflow from those skills is transferred to his / her direct community environment. Personal growth objectives include training interventions like the following:

- Applied administration

- Changing world of work
- Computer literacy
- Conditions of service
- Cost awareness training
- Financial survival kit
- Performance management
- Social integration
- Other training that might be identified

<i>Course type: Personal growth objectives</i>	Fundamental		Elective		
	Core	Generic	Activity	Performance	
Applied administration	●	●	●		
Changing world of work		●		●	
Computer literacy	●	●	●		
Conditions of service			●		
Cost awareness training				●	
Financial survival kit				●	●
Performance management			●	●	●
Social integration	●	●	●	●	●

Table 4.3 – Personal growth objectives

Personal growth objectives enhance the learner's performance in his / her working environment and should influence his / her personal and home life as a direct spin-off from the training. As is evident from Table 4.3, the learner uses these courses mostly in his / her direct working environment. Social integration training caters for the more personal needs encountered by learners nearing retirement, as shown in the earlier discussion of social development.

4.5.2.4 Leadership development

Leadership development training interventions prepare the learner for a formal and focused leadership programme. The leadership development context is used as a screening process to identify future leaders and to direct their future development. In addition, this exposure aims to provide the learners with a better understanding of basic leadership principles and business processes. The leadership development component includes training interventions such as the following:

- Applied administration
- Conflict handling
- Financial skills
- Negotiation skills
- Performance management for teams
- Other training that might be identified

<i>Course type: Leadership development</i>	<i>Fundamental</i>	<i>Core</i>	<i>Elective</i>		
			<i>Generic</i>	<i>Activity</i>	<i>Performance</i>
Applied administration	●		●		
Conflict handling	●	●	●	●	
Financial skills	●	●	●	●	
Negotiation skills	●	●	●	●	●
Performance management for teams			●	●	●

Table 4.4 – Leadership development

The leadership development (Table 4.4) serves as an introduction to potential and future leaders.

4.5.2.5 Group / business unit (BU)-specific

The aim with this training is to provide learners with the opportunity to acquire specific Group / business unit (BU) skills, cultural attributes and work procedures related to their direct work environment. This type of training also provides the Groups and BUs with the flexibility and ownership to develop the skills and needs required. Group and business unit-specific training interventions include elements such as the following:

- Business unit environmental performance
- Business unit induction
- Disciplinary code and procedures
- Grievance procedures
- Group / business unit policies
- Performance outputs
- Work procedures
- Other training that might be identified

<i>Course type: Group and business unit-specific</i>	<i>Fundamental</i>	<i>Core</i>	<i>Elective</i>		
			<i>Generic</i>	<i>Activity</i>	<i>Performance</i>
Business unit environmental performance	●	●	●	●	●
Business unit induction			●	●	
Disciplinary code and procedures			●	●	
Grievance procedures			●	●	
Group / business unit policies			●	●	
Performance outputs			●	●	●
Work procedures			●	●	●

Table 4.5 – Group and business unit-specific training

The group and business unit-specific training (Table 4.5) provides the learner with the development required for working in and contributing to his / her direct working environment. The training provided will depend on the specific application of the learner's skills and potential and expected performance.

4.5.3 Learnership development

Development by means of a learnership accommodates learners from diverse entry points in relation to work experience and qualifications. Each level includes development at the fundamental, core and elective levels. In addition, each of the levels covers the five focus areas of institutional, legal, personal growth objectives, leadership and group and business unit-specific training and development (Figure 4.17).

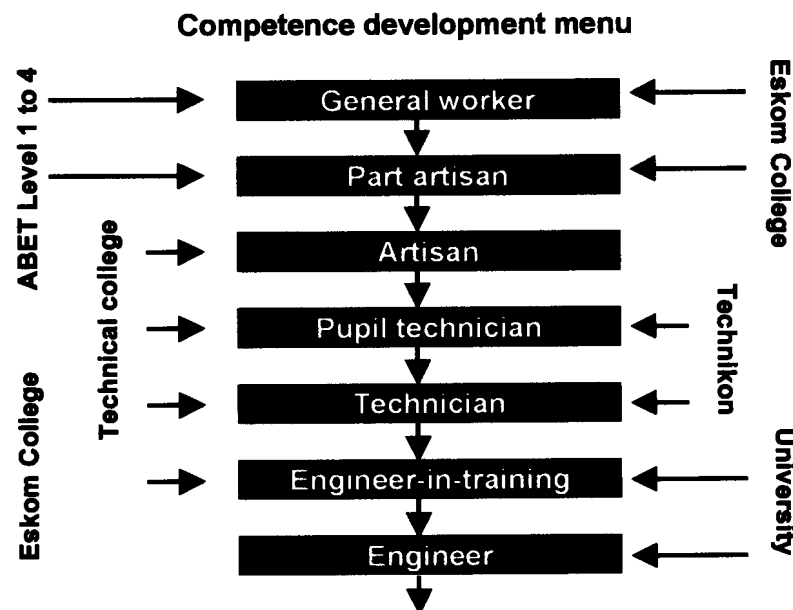


Figure 4.17 – Learnership development programme

The training and development are provided from different sources and are compatible with each other. As shown in Figure 4.17, the employee enters as a learner at a given and pre-assessed entry point and can exit at whatever level his or her ability and potential allow. The development is supported by

formal institutions such as Eskom College, technical colleges, technikons and universities.

4.5.4 Interventions implemented as part of the analysis of learner development

The following interventions was developed and implemented as part of the learner development initiative:

- Competence development for Engineering Resources
- Eskom Transmission Group A and B band development
- Engineering technician development
- Engineer development

4.5.5 Summary: Learner development

This section has described the situations that directly involve the learner and are the most tangible and perceptible to the learner, which include the following:

- Development of a competency development programme with five focus areas: institutional, legal, personal growth objectives, leadership development and Group and business unit-specific training and development
- Development of three levels of complexity for learning in each of the focus areas: fundamental, core and elective learning
- Social integration and preparedness of the learner
- A holistic approach to career path development

The following interventions formed part of the research related to learner development:

- **Analysis of different disciplines and profiles**
- **Design of curricula, training plans and programmes**
- **Development of learning interventions with working groups from the line organisation**
- **Implementation of interventions for different disciplines and employees**
- **Formative evaluation and assessment of progress made by employees and within learning systems**

4.6 PRACTITIONER DEVELOPMENT

This section describes the ETD practitioner development that was developed by the researcher in order to investigate the third subsidiary research question (Figure 4.18) on practitioner development.

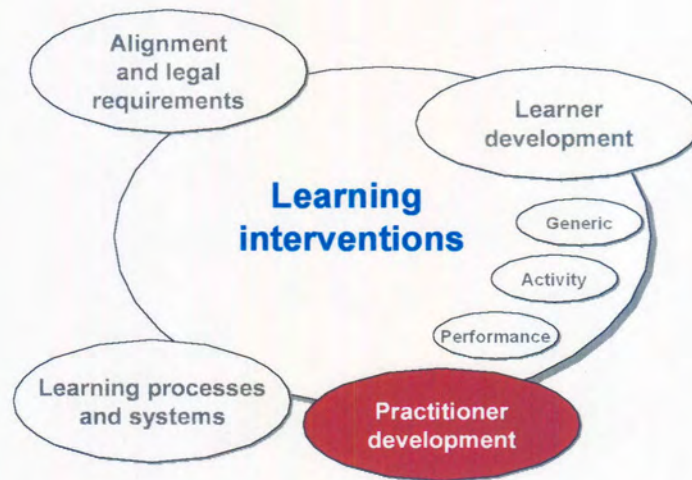


Figure 4.18 – Focus on practitioner development

The focus in relation to practitioner development falls on the following (Figure 4.18 and Figure 4.19):

- Essential development
- Practitioner roles
- Requirements regarding skills and knowledge
- Time utilisation
- Development matrix

Figures 4.18 and 4.19 show  practitioner and distinguish between the learning pathways and skill levels. These competencies and skills are applied and demonstrated in the workplace. The practitioner furthermore acts as the catalyst in the learning process and the necessary integrator of the learning processes.

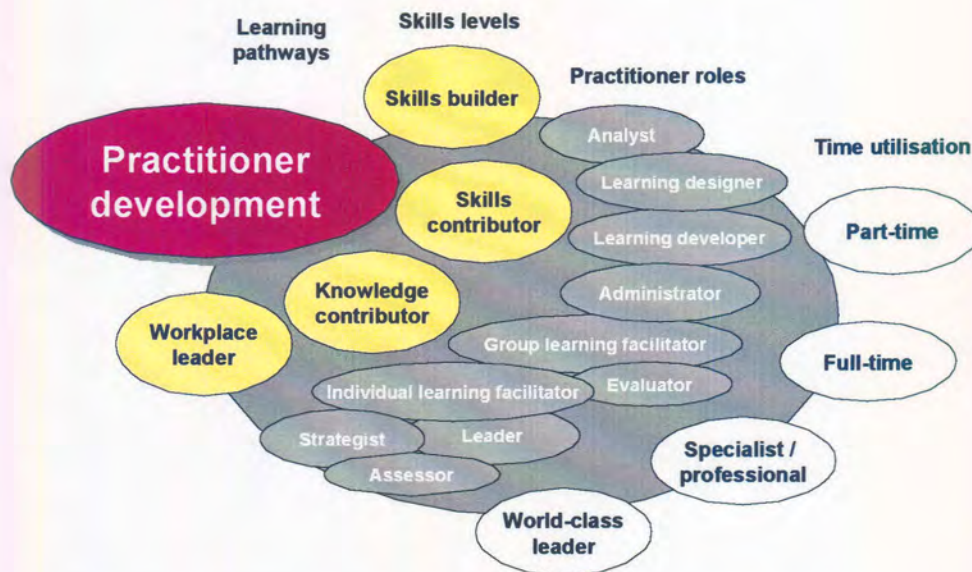


Figure 4.19 – Practitioner development

4.6.1 Essential development of practitioners for the delivery of the learning interventions

The practitioners involved in the training and development of previously disadvantaged employees need specific skills and competencies in order to deliver the required training and development interventions. The practitioners as agents of change integrate the three main elements for triangulation in the training and development process, i.e. the learners, the learning material and the practitioners – the people who implement and maintain the training and development interventions (Figure 4.20).

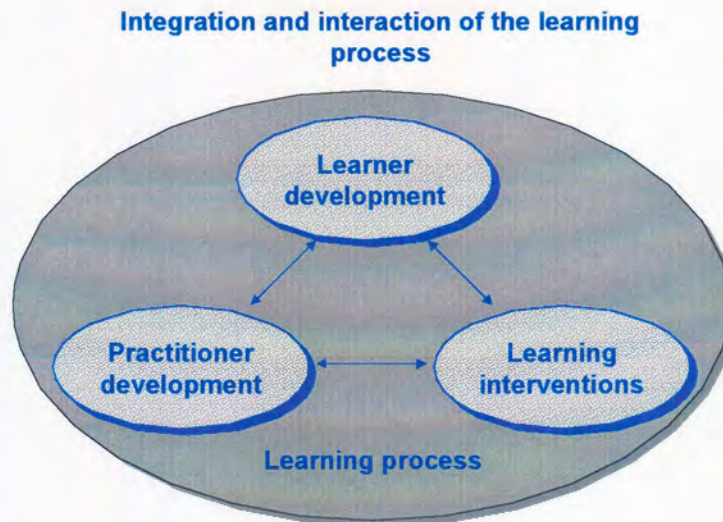


Figure 4.20 – The relationship between the learner, the learning material and the practitioner

4.6.2 Practitioners' roles

In line with national requirements, the roles of practitioners can be classified as follows (National training Board, 1994):

1. Administrator	6. Learning opportunity designer
2. Assessor	7. Learning material developer
3. Evaluator	8. Manager / leader
4. Group learning facilitator	9. Needs analyst
5. Individual learning facilitator	10. Strategist

Table 4.6 – Practitioners' roles (National Training Board, 1994: 138)

Practitioners in practice combine a certain number of the roles shown in Table 4.6 for maximum utilisation and in line with the individual's specific capabilities and potential. The variety of roles allows flexibility for the practitioner to develop competencies as needed. In addition, the practitioner is able to build up his / her own personal development portfolio as required by the line training and development needs.

4.6.3 Practitioners' skill levels

Practitioners' skills and competencies can be grouped according to the following levels to enable them to provide the required and negotiated outputs for the development process (Table 4.7, Figure 4.18):

- Skills builder
- Skills contributor
- Knowledge contributor
- Workplace leader

The advantage of such a categorisation of skill levels is that it provides the line employees who are involved in training and development initiatives with opportunities for HRD development. It in addition provides the employees with HRD practitioner development skills without their having to make career changes.

4.6.3.1 Skills builder

A skills builder is an employee with limited experience and is utilised in a coaching (individual learning facilitator or on-the-job training) capacity and in the practical application of specific skills. This skills builder (coach) trains the learner on specific equipment or in specific practices and procedures. The ideal situation is one-on-one interaction, but with the current demand for skills builders this is not always possible. The skills builder works directly with the learner and so shares the responsibility for the learning outcomes. The skills builder teaches system tasks in the working environment (e.g. electrical systems) and the learner obtains hands-on experience rather than learning the theory in a classroom situation with no interface with the plant and equipment. The learner is evaluated and declared competent in that specific task or outcome. The profile of the skills builder should include at least two of the 10 practitioner roles.

4.6.3.2 Skills contributor

The skills contributor (group learning facilitator or mentor) is responsible for various skills builders (coaches) and acts at a level of greater experience and plant and system knowledge. One of the duties of the skills contributor is to assist and lead the less experienced skills builder. The skills contributor should be in a position to organise and control various skills builders under his / her supervision and maintain the learning environment in the organisation, plant or workplace for a specific discipline (e.g. electrical, mechanical, technicians, etc). The skills contributor has a good understanding of the theoretical and practical application of skills in the working environment. The profile of the skills contributor should include at least four of the 10 practitioner roles.

4.6.3.3 Knowledge contributor

The knowledge contributor should have a more in-depth knowledge of theory, education, processes and systems. This includes the skills and competencies of the skills builder and skills contributor. The knowledge contributor should be able to design, develop, implement and maintain a training system in a working environment using an acceptable educational approach. The design, development and implementation of training and development interventions and systems are the most important outputs of a knowledge contributor, who is not directly involved with the actual training of the learners. However, the knowledge contributor should still have interaction with the learners in a leadership capacity and for purposes of employee well-being and may become involved in the training in a specialist capacity. The skills profile of the knowledge contributor should include at least eight of the 10 practitioner roles.

4.6.3.4 Workplace leader

The workplace leader or world-class leader demonstrates superior educational philosophies and theoretical and practical application of skills in the training and development environment. The world-class leader is able to maintain and manage a cross-discipline training and development environment and to integrate the four focus areas of this research into the development of human capital.

4.6.4 Time utilisation of practitioners in this research project

The involvement of practitioners in this project can be classified as follows:

- **Part-time trainer**

A part-time trainer is utilised in a specialised capacity to provide outputs on an individual basis. These specialised outputs may range from assessment through evaluation, individual and group learning facilitation, learning opportunity design and learning material development to work in a specialist capacity. Skills builders and skills contributors may be utilised as part-time trainers. In this way they enjoy exposure to development as HRD practitioners without having to make a career change.

- **Full-time trainer**

A full-time trainer is a human resources development (HRD) or education, training and development (ETD) practitioner with the necessary educational background and experience to apply his or her skills and knowledge in the development of learning interventions. Skills contributors fall into this category and may be recruited from a line function and developed to become full-time skills contributors.

- **Specialist**

The specialist practitioner contributes specific knowledge, skills and work-related experience to the HRD field. In this application the HRD / ETD specialist functions as a knowledge contributor and subject matter expert in the design and development of learning interventions.

- **World-class leader**

The world-class leader is prominent in workplace leadership, providing philosophical, theoretical and practical applications of skills and competencies as the creator of total learning interventions and systems.

4.6.5 Practitioner skill and knowledge requirements

Table 4.7 indicates the skill level, application and profile of the practitioner involved in the training and development process. The contents of the profile column indicate the components required for and applicable to the utilisation of the practitioner's skills and competencies in the workplace in terms of elements, unit standards, practitioner role, NQF level, work skills and certification relating to the level of application. The difference in the elements at the various levels is an indication of the level of involvement of the practitioner in the training and development process.

An ETD practitioner can thus be defined as an employee who acts as a part-time or full-time lecturer, specialist or world-class leader in performing a combination of ETD/HRD roles as described by the researcher in Chapter 4 and produces outputs as a skills builder, skills contributor, knowledge contributor or workplace leader that will result in learning outcomes that are clearly demonstrated at or after the end of an learning intervention experience.



Application	Level	Profile	Roles
<p>The time application of the practitioner for the different levels (skills builder, skills contributor, knowledge contributor and workplace leader) can be either:</p> <ul style="list-style-type: none"> • Part time • Full-time • Specialist • World-class leader <p>Part-time trainer (Single application of skills in the workplace, e.g. coach, mentor, assessor, module writer, etc)</p> <p>Full-time trainer (As a HRD / ETD practitioner, mentor, coach, assessor, writer)</p> <p>Specialist / professional (As a specialist / professional in a specific field of expertise)</p> <p>World-class leader (Creator, integrator of theory and practice)</p>	<p>1. Skills builder</p> <ul style="list-style-type: none"> • Elements: 20 • Unit standards: XX • Practitioner roles: 2 (two out of seven roles) • NQF level 3 • Work skills level 1: practical application of skills • Certification: certificate 	<ul style="list-style-type: none"> • Administrator* • Assessor • Evaluator • Group learning facilitator • Individual learning facilitator • Learning opportunity designer • Learning material developer 	
	<p>2. Skills contributor</p> <ul style="list-style-type: none"> • Elements: 80 • Unit standards: XX • Practitioner roles: 4 (four out of 10 roles) • NQF level 4 • Work skills level 2: theoretical and practical application of skills • Certification: silver 	<ul style="list-style-type: none"> • Administrator* • Assessor • Evaluator • Group learning facilitator • Individual learning facilitator • Learning opportunity designer • Learning material developer • Manager / leader • Needs analyst • Strategist 	
	<p>3. Knowledge contributor</p> <ul style="list-style-type: none"> • Elements: 80 • Unit standards: XX • Practitioner roles: 8 (eight out of 10 roles) • NQF level 5 • Work skills level 3: design, development and implementation of interventions and systems • Certification: gold 	<ul style="list-style-type: none"> • Administrator* • Assessor • Evaluator • Group learning facilitator • Individual learning facilitator • Learning opportunity designer • Learning material developer • Manager / leader • Needs analyst • Strategist 	
	<p>4. Workplace leadership</p> <ul style="list-style-type: none"> • Elements: 120 • Unit standards: XX • Practitioner roles: 10 (10 out of 10 roles) • NQF level 8 • Work skills level 4: philosophical, theoretical and practical application of skills • Certification: master's, PhD and doctoral degrees 	<ul style="list-style-type: none"> • Administrator* • Assessor • Evaluator • Group learning facilitator • Individual learning facilitator • Learning opportunity designer • Learning material developer • Manager / leader • Needs analyst • Strategist 	

Table 4.7 – Practitioner skill and knowledge requirements

4.6.6 Practitioner development matrix

Table 4.8 indicates the relationship between the roles and skill levels required for the development of the practitioner. The National Qualifications Framework (National Training Board, 1994) identifies the 10 roles applicable to the practitioner’s profile, which form the basis for the development of the individual in terms of this research project.

<i>Practitioner development</i>		<i>Skills levels</i>				
		<i>Skills builder</i>	<i>Skills contributor</i>	<i>Knowledge contributor</i>	<i>Workplace leader</i>	
<i>Individual roles</i>	<i>Roles</i>					
	1. Assessor	F	C	E	C	
	2. Evaluator	F	C	E	C	
	3. Individual learning facilitator	F	C	E	C	
	4. Group learning facilitator	F	C	E	C	
	5. Learning opportunity designer	C	C	E	C	
	6. Learning material developer	C	C	E	C	
	7. Administrator*	F	C	E	C	
	8. Needs analyst	F	C	E	E	
	9. Strategist	F	C	E	E	
10. Manager / leader	F	C	E	E		

F = Fundamental C = Core E = Elective
 * *Practitioner Guide*: Training compulsory for all in the administrator role

Table 4.8 – Practitioner development matrix

The role of administrator is compulsory for all practitioners. However, the content of the administrator role is presented at the fundamental, core and specialised levels in order to emphasise the importance of the role, which includes the development of the practitioner for applications other than the development of previously disadvantaged workers. The administrator role provides essential development relating to administrative duties, data capturing, planning and history-keeping in relation to the learner. The roles of needs analyst, strategist and manager / leader are reserved for specific

developmental purposes in relation to specially identified, appropriate candidates.

4.6.7 Practitioner development

Practitioner development focuses on the development of the practitioner on the path to professionalism. The development of the practitioner relates to the 10 roles of a practitioner as prescribed by the National Qualifications Framework (NQF). This development addresses the skill levels of the practitioner, i.e. the following levels:

- Skills builder
- Skills contributor
- Knowledge contributor
- World-class leader

Each of these skill levels is in turn developed at a *core, fundamental* and *elective* level to allow assessment of the required level of competency in a specific area of application in the workplace.

As previously mentioned in relation to the development of the learner, the development of practitioners must also be in line with the SAQA and NQF requirements (South Africa, 1998b; South Africa, 1995b). This includes development at the fundamental and elective levels in accordance with national policy requirements and at the elective level to accommodate Eskom Human Resources development for practitioners.

4.6.8 Interventions implemented as part of the analysis of practitioner development

The following interventions were analysed, designed, developed and implemented to support practitioner development:

- HRD analysis toolbox
- HRD management toolbox
- HRD guideline 1998
- Student administrator development
- Mentorship development and implementation
- Individual and group learning facilitator development
- Practitioner development

4.6.9 Summary: Practitioner development

This section has described the essential development required to enable an ETD practitioner to integrate the various elements in training related to the learner, learning interventions and the learning environment. It has also emphasised the importance of the practitioner roles and the skill levels required by practitioners. The time allocation and utilisation of the practitioner is crucial when it comes to time commitment and the delivery of negotiated outputs. Practitioner development relates to the development of the practitioner in the various development roles and whether he / she is utilised as a skills builder, skills contributor, knowledge contributor or workplace leader. Various projects on ETD practitioner development are currently in progress and includes the following:

- The aboriginal ETD practitioner development initiated by McLagan (1989)
- The ETD practitioner development work undertaken by the American Society for Training and Development (McLagan & Bedrick, 1983)
- Unedited ETD practitioner roles published by NSB05 in October 1999 for public comments

4.7 LEARNING PROCESS AND SYSTEMS

This section describes the learning processes and systems that were developed by the researcher in order to investigate the fourth subsidiary research question on learning interventions (Figure 4.21).

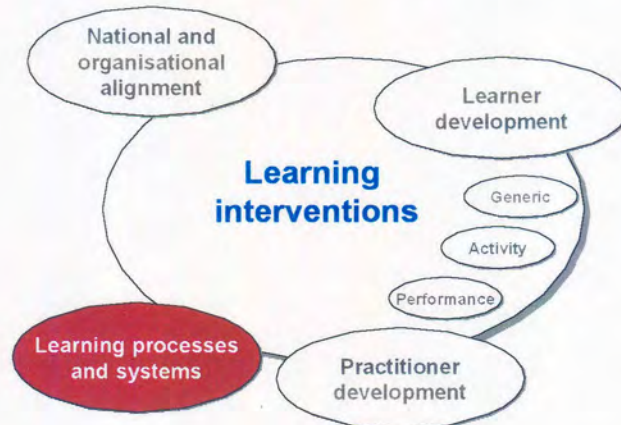


Figure 4.21 – Learning processes and systems

The field of learning processes and systems includes the development of a framework to support the domain of learning interventions, which in turn has four elements (Figure 4.21 and Figure 4.22):

- Delivery of learning interventions
- Transformation
- Project support
- Management and information systems

The processes related to the *delivery of learning interventions* provide the framework for the development of all interventions, learning, materials and infrastructures. The *transformation* process generates the framework and cultural changes required within the process. The *project support* provides the necessary development and implementation supports at a national level. This includes the integration and alignment of the processes with the required

framework and provides for learning interventions to support the process. The activities related to *management and information systems* are the backbone of the process of supporting, capturing and gathering data and information on the relevant systems and processes (Figure 4.22).

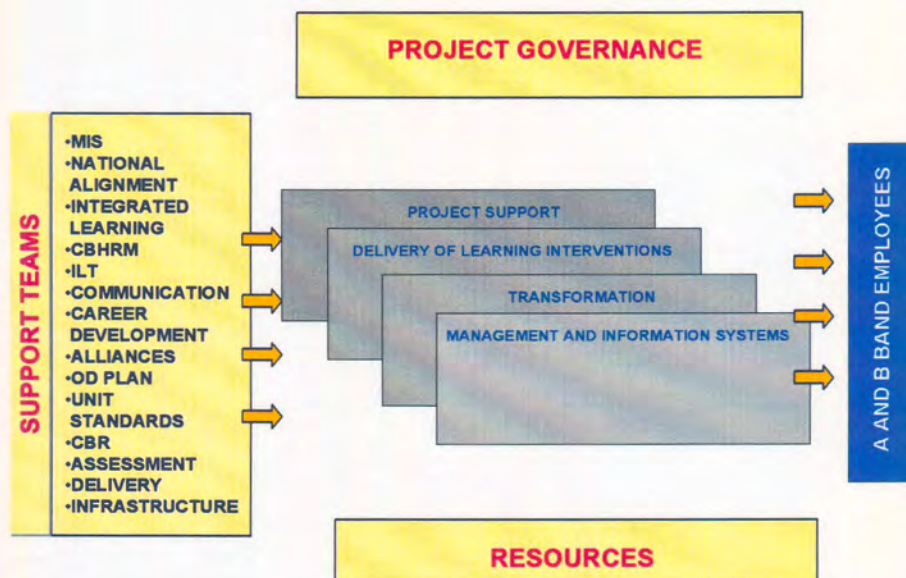


Figure 4.22 – Overview of the learning processes and systems

As indicated in Figure 4.22 the learning processes and systems form an integral part of the development process and accommodate the means to provide the learning processes with the necessary backup and support. This support includes the systems and networks necessary to provide logistical assistance for the advancement process.

4.7.1 Learning process and system integration

The integration of elements of the learning process and system assembles other initiatives currently in progress within the various business units and composes these initiatives in a uniform manner to support the advancement project (Figure 4.23).

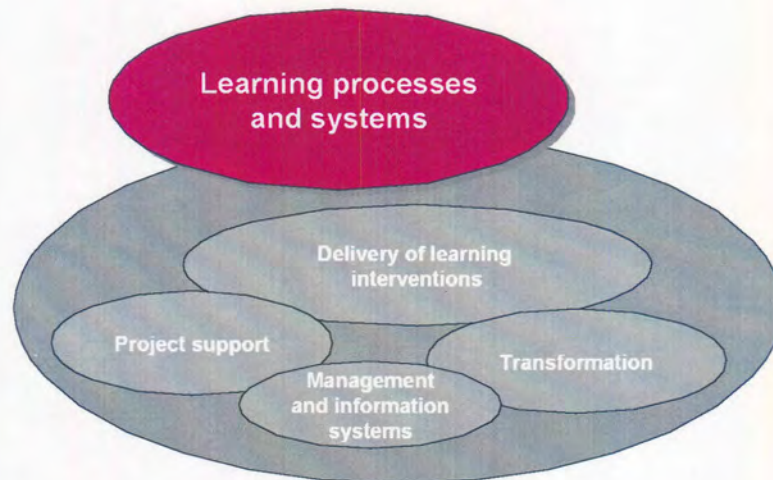


Figure 4.23 – Project processes

Four process teams are envisaged, working to achieve the following:

- The delivery of learning systems provides the framework for the development of all interventions, learning materials and infrastructure.
- The transformation and organisational development process generates the framework for the system-wide application of practices to create and reinforce strategies, structures and processes congruent with and in support of the learning system.
- The project support to the learning systems provides the requirements for integration and environmental alignment.
- The management and information systems activities are the backbone for providing support and capturing and gathering data and information on the relevant systems and processes.

4.7.2 Delivery of learning interventions

The delivery of the learning interventions is based on project management standards, with a project management framework that guides the organisation in implementing the project, and is depicted as follows:

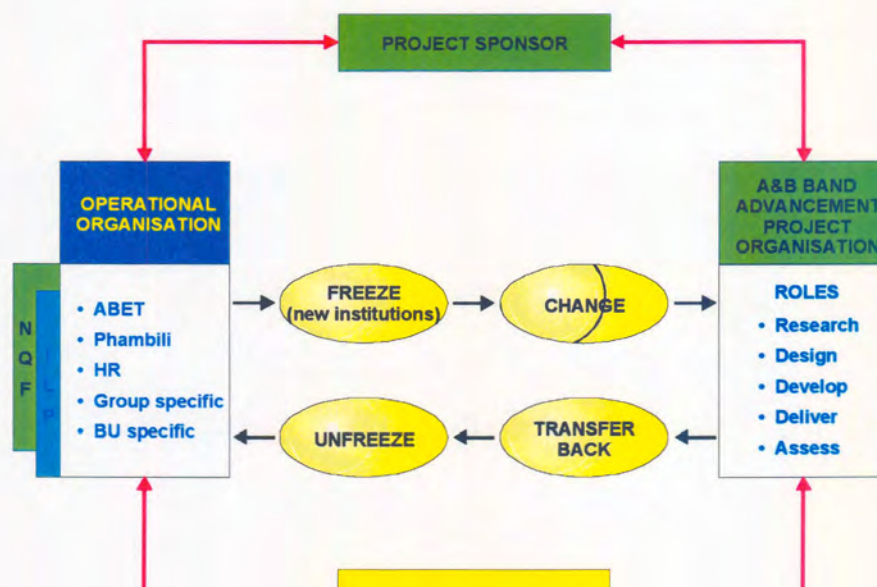


Figure 4.24 – Project management framework (Eskom, 1998a)

During the project organisation phase, current operational initiatives are analysed, evaluated and reviewed to enable the design and development of enhanced, aligned and co-ordinated strategies and processes. These strategies and processes are then transferred back to the operational organisation phase, where they are implemented in conjunction with the process managers of the project. The following principles apply to the delivery of the learning interventions:

- The project focuses on processes, not functional management accountabilities.

- Management of the project functions independently of organisational functional roles.

The delivery of the learning interventions is also based on change management principles (Figure 4.24):

- Freeze
- Change (through research and design)
- Transfer back
- Unfreeze and application

The intention is to enhance, not to stop, current initiatives, and to integrate and support the sub-processes. A strong project-specific focus exists, with the transfer of knowledge and skills as the core element for the development of the practitioners and participants in the project. Project management is supported through appropriate software, with monthly feedback meetings with the project sponsor. The project management team assumes full responsibility for the project and provides the sponsor with final products in accordance with negotiated outcomes in terms of time, quality and resources.

4.7.3 Transformation

The operation of the change drivers that necessitate transformation in the organisation in relation to the utilisation of human resources and the advancement of employees can be illustrated as follows (Figure 4.25):



Figure 4.25 – The transformation process

South Africa is currently in transition. The state of transition is defined as the conditions and activities that are implemented to reach a future desired state. The interdependence between the transitional and transformational states and the future state and new reality can be illustrated as follows (Figure 4.26):

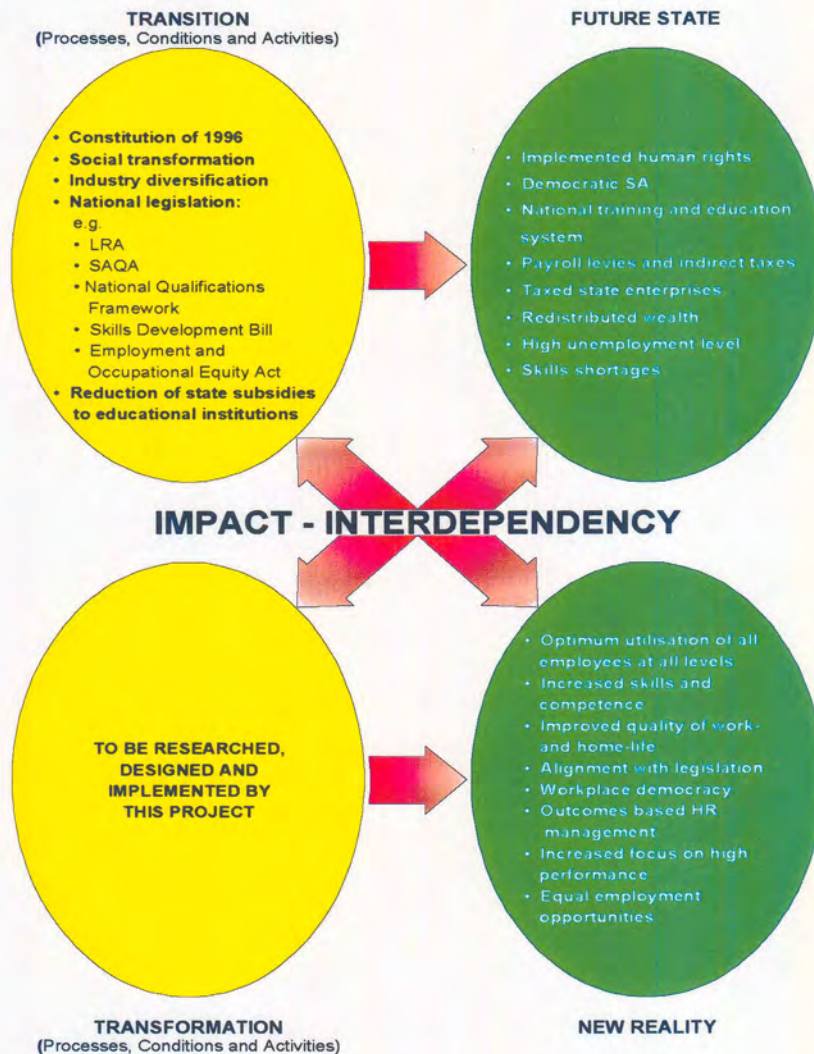


Figure 4.26 – Organisational transition (Eskom, 1998a)

The impact of the transitional processes and activities creates a new reality in organisations as a result of the interdependency of the national state and the organisational reality. The transitional processes and activities, such as the implementation of new legislation and social transformation, necessitate the

organisation revisiting its current realities and transforming in accordance with the national transition.

The process of transformation within the organisation requires it to integrate, reposition and enhance the advancement strategies promoted by the implementation of change management interventions. The facilitation of the change management process can be illustrated as follows (Figure 4.27) (Eskom, 1998a):

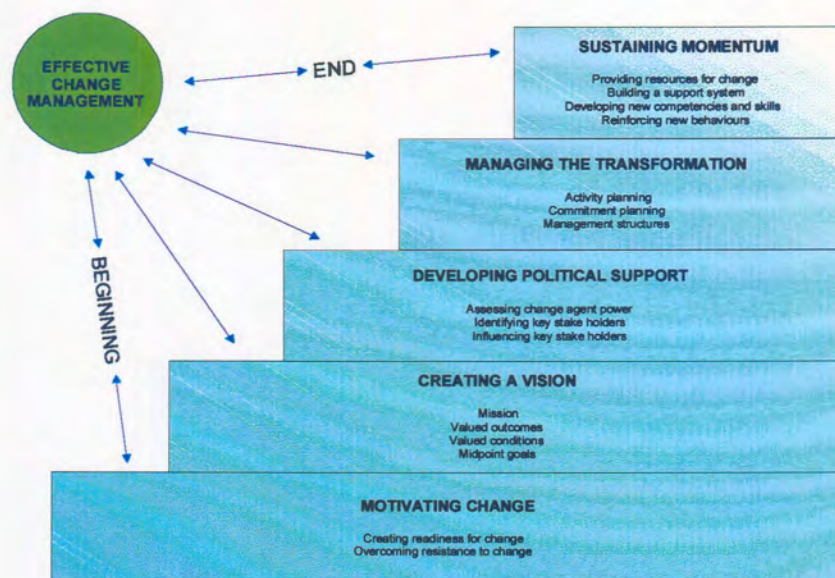


Figure 4.27 – Activities for effective change management (Eskom, 1998a)

4.7.3.1 Motivating change

Motivating change includes creating a readiness for change among the employees of the organisation and helping them to overcome resistance to change. This involves creating an environment where employees accept the need for change and commit physical and psychological energy to it. Motivation is a critical issue in starting change, as employees seek to preserve the status quo and are willing to change only when there are compelling reasons to do so. An appropriate organisational development

intervention to use is an organisation-wide conference meeting with all stakeholders in the current learning system.

4.7.3.2 Creating a vision

Creating a vision for the desired future state and implementation of the learning systems provides the scope for future training and development. The vision also provides a direction for change and serves as a benchmark for assessing progress.

4.7.3.3 Developing political support

The development of political support for change entails the assessment of the power of influential stakeholders and the involvement of powerful individuals.

4.7.3.4 Managing the transformation

The management of the transformation process from the current state to the desired future state involves creating a plan for managing the change activities as well as planning management structures for operating the organisation during the transformation period.

4.7.3.5 Sustaining momentum

The momentum for change must be sustained to the point of completion of the project. One of the most important activities in this phase is the provision of resources for change and the development of new competencies and skills.

4.7.4 Project support

The deliverables of the advancement project are supported by the 17 sub-projects in the list below aimed at enhancing the development of the learner.

Sub-project	Final deliverable/outcome
1. Organisational development plan	<ul style="list-style-type: none"> • Change management plan in support of conceptual framework
2. Outcomes-based approach to people management	<ul style="list-style-type: none"> • Competency-based human resource management (CBHRM) plan together with implementation requirements and organisational model
3. Career and learning pathways	<ul style="list-style-type: none"> • Directive, together with processes
4. Competency-based remuneration (CBR)	<ul style="list-style-type: none"> • Competency-based remuneration (CBR) directive
5. Competence profiling	<ul style="list-style-type: none"> • Directive and corporate guidelines
6. Competency-based assessment	<ul style="list-style-type: none"> • Directives, procedures and guidelines
7. HRD / ETD practitioner development	<ul style="list-style-type: none"> • HRD practitioner development framework aligned with HR roles
8. Integrated learning systems	<ul style="list-style-type: none"> • Learning interventions and resources plan together with implementation requirements
9. Unit standards and accreditation	<ul style="list-style-type: none"> • Directive for NQF implementation
10. Delivery infrastructure	<ul style="list-style-type: none"> • Integration model
11. National alignment	<ul style="list-style-type: none"> • Directives aligning all organisational processes
12. Application of learning technology	<ul style="list-style-type: none"> • Support plan together with implementation requirements covering recommendations for all learning interventions
13. Communication and marketing	<ul style="list-style-type: none"> • Communication and marketing plan together with implementation requirements and critical success factors
14. Alliances and partnerships	<ul style="list-style-type: none"> • Document containing potential providers, description of services and recommendations regarding possible associations
15. Quality assurance	<ul style="list-style-type: none"> • Audit reports
16. Management and information systems	<ul style="list-style-type: none"> • Directive for HR targeted management systems together with processes including management and information systems (MIS).
17. Train the trainer	<ul style="list-style-type: none"> • Training, development and repositioning of ETD / HRD practitioner

Table 4.9 – Project breakdown

4.7.5 Management and information systems

Information technology plays an essential enabling role in the implementation of the advancement project as discussed. The overall abilities and benefits of the management and information systems are as follows:

- Accurate record-keeping of learning interventions
- Record-keeping of training interventions completed by learners
- Record-keeping of available interventions
- Establishment of a course catalogue and menus for course selection
- Capturing of financial cost
- Record-keeping in relation to accredited service-providers and products
- Critical support source for driving and supporting human performance

As part of the management and information system, the registrar creates the following process systems and databases:

- Career paths
- Job and competency profiles
- Learning resource guide
- Cyber databank of learning interventions
- NQF accreditation
- Personal development plans

In addition, the management information systems utilise a register that provides the following detailed information about the learning interventions:

- Information on the learner
- Glossary of terms

- Policies and directives
- Learning information support
- Learning intervention directories
- Costing facility

The *learning processes and systems* provide the support, framework and infrastructure to develop, implement and evaluate the *learning interventions*. These *learning processes and systems* are articulated into the following sub-systems and sub-processes:

Delivery of learning interventions

- The processes related to the *delivery of learning interventions* provide the framework for the analysis, design, development and implementation of learning interventions on a practical and physical basis. This is used to analyse, align and integrate learning interventions currently utilised in the working and learning environment.

Transformation

- The *transformation process* develops and implements the necessary framework for an appropriate organisational culture and linkages to other systems and processes within the organisation (e.g. pay links, recognition for prior learning, assessment, etc.).

Project support

The processes related to *project support* provide the framework and support for the following:

- National alignment

- Communication and marketing
- Alliances, partnerships and commercialisation
- Application of learning technologies

Management and information systems

- The *management and information systems* are the most important link between the sub-processes and sub-systems. They provide the necessary support and framework to accommodate the capturing of all data, the registration of interventions and the training and development intervention events taking place within the research project.

4.7.6 Interventions implemented as part of the analysis of the learning processes and systems

The following interventions were analysed, designed, developed and implemented to support the development of learning processes and systems:

- External ABET survey
- Eskom ABET audit
- Evaluation of ABET service-providers
- Experiential process development
- Transmission School of Technology
- Induction programme development
- Eskom Transmission Group HRD Web-site
- Eskom Transmission Group profile

4.7.7 Summary: Development of learning processes and systems

The essence of the learning processes and systems lies with the four focus areas identified:

- Delivery of learning interventions
- Transformation
- Project support
- Management and information systems

The demarcation of the focus areas led to the integration of 16 independent and individual initiatives and projects within the organisation. The learning processes and systems provide the basis for a generic framework and approach to practitioners involved in the project by applying the “freeze, change, transfer back and unfreeze” methodology. The change drivers establish the climate and culture for transformation in the organisation. Predefined sub-project deliverables provide the participants with clear negotiated objectives supported by the management and information systems.

4.8 LEARNING INTERVENTIONS

This section describes the learning interventions that were developed by the researcher in order to investigate the main research question (Figure 4.28) on learning interventions.

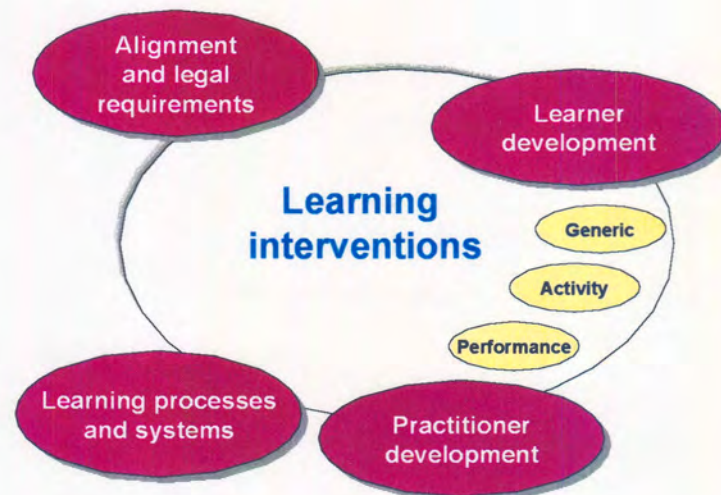


Figure 4.28 – Learning interventions and focus for this research

4.8.1 Philosophy for education, training and development

A philosophy for education, training and development is concerned with examining the practice and such a philosophy takes as its purpose the examination of the form which human reason assumes in the practice. In addition, a philosophy of education examines concepts of education, teaching and learning and the person who practices it. McClellan (1976) examines the concept of education and argues that:

- it is possible to differentiate the concept from that of a value neutral to a social scientific concept;

- we should be critical of the actual educational arrangements in the educational environment of the economically developed nations;
- the essence of a concept of education has become a penetration of the contemporary social consciousness;
- it is bound to deliberate efforts to help people become better persons in ways which actively engage cognitive processes and avoid indoctrination as sophistry.

Learning interventions serve as the integrator of and catalyst for the learning processes and systems, as discussed below, and include elements related to national and organisational alignment, learner development, practitioner development and learning processes and systems.

4.8.2 Blueprint for the training and development process

A blueprint for the development of learning interventions indicates the roles and places of the various elements in the integrated training and development process, including the relevant alliances that influence the training and development outcomes. Previously disadvantaged employees constitute the input into the process, as unskilled workers, and exit the process as competent and skilled workers, as shown in Figure 4.29. The macro advancement model comprises a learning process with the following components:

- Input
- Micro model and process
- Output
- Primary and secondary control and external influences

• **Micro model**

The training and development (micro model) process provides the system with the required training plans and curricula. The training programmes that have been implemented are assessed against the learners' performance and benchmarked against the unit standards developed for the specific learning interventions.

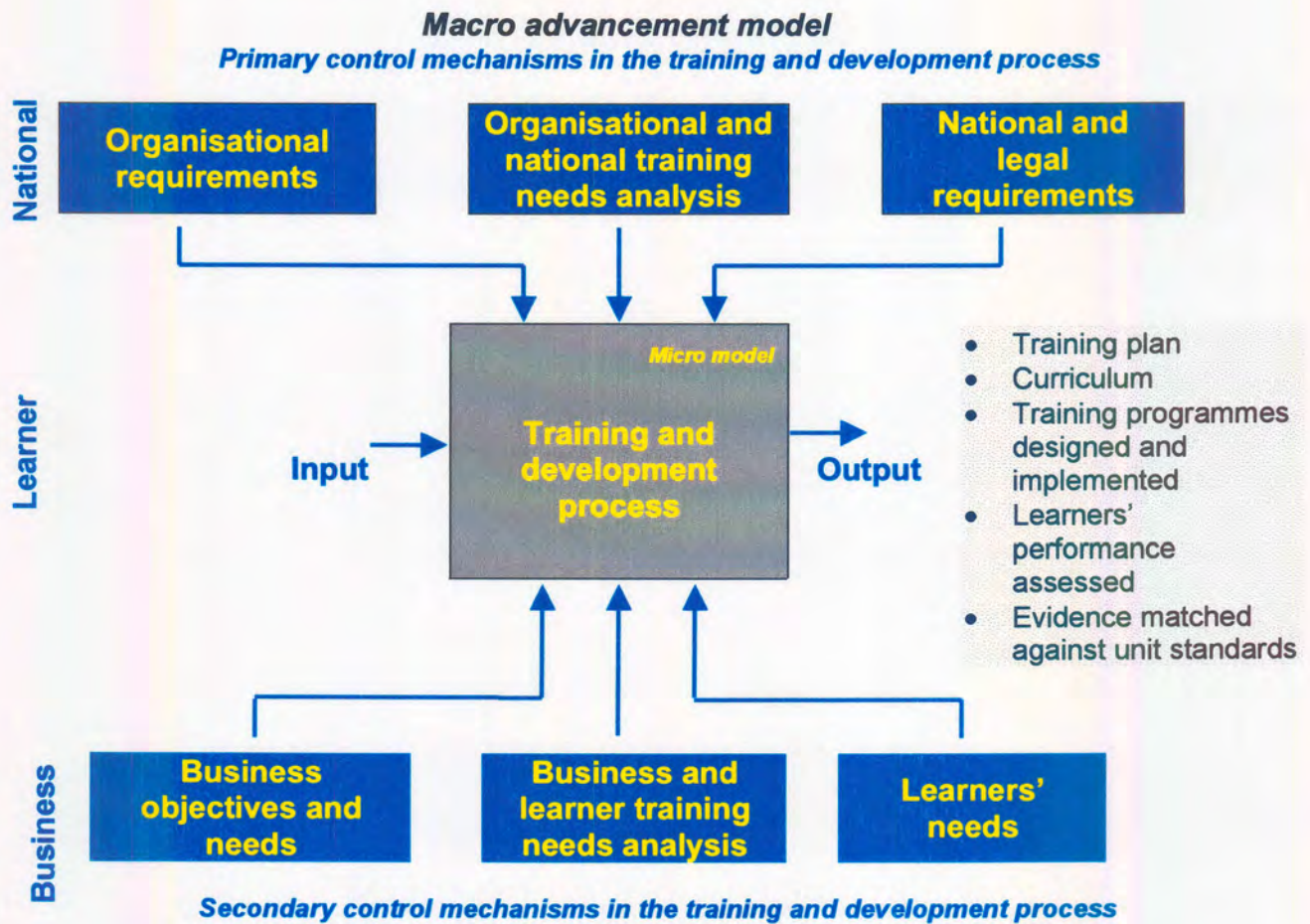


Figure 4.29 – Training and development blueprint

• **Primary and secondary mechanisms**

The primary control mechanisms (employer business objectives, training needs analysis, and national requirements and legislation) influence the learning interventions required by the employer, who is

responsible for the training and development of the employees. These primary control mechanisms include national alignment initiatives, and most of these legal requirements are not negotiable for the employer and represent the minimum requirements.

On the other hand, the secondary control mechanisms (learners' needs, unit standards and organisational transformation requirements) serve as control mechanisms to align the process with national standards and organisational requirements. These secondary control mechanisms provide the employer with more flexibility for aligning the organisational objectives and the employees' needs with one another. These secondary control mechanisms are highly negotiable as long as the employer and employee are accommodating the organisational business objectives and national requirements.

The primary and secondary control mechanisms support the learner as an individual and play a critical role in the learning outcomes (Figure 4.29). The input into the learning process also accommodates the integration of previous training and development interventions, which are used to support the learning environment.

4.8.3 Delivery of training and development interventions

The blueprint for the training and development processes actualised the micro model in the following four phases (Figure 4.30):

- Research and design
- Development
- Delivery
- Assessment

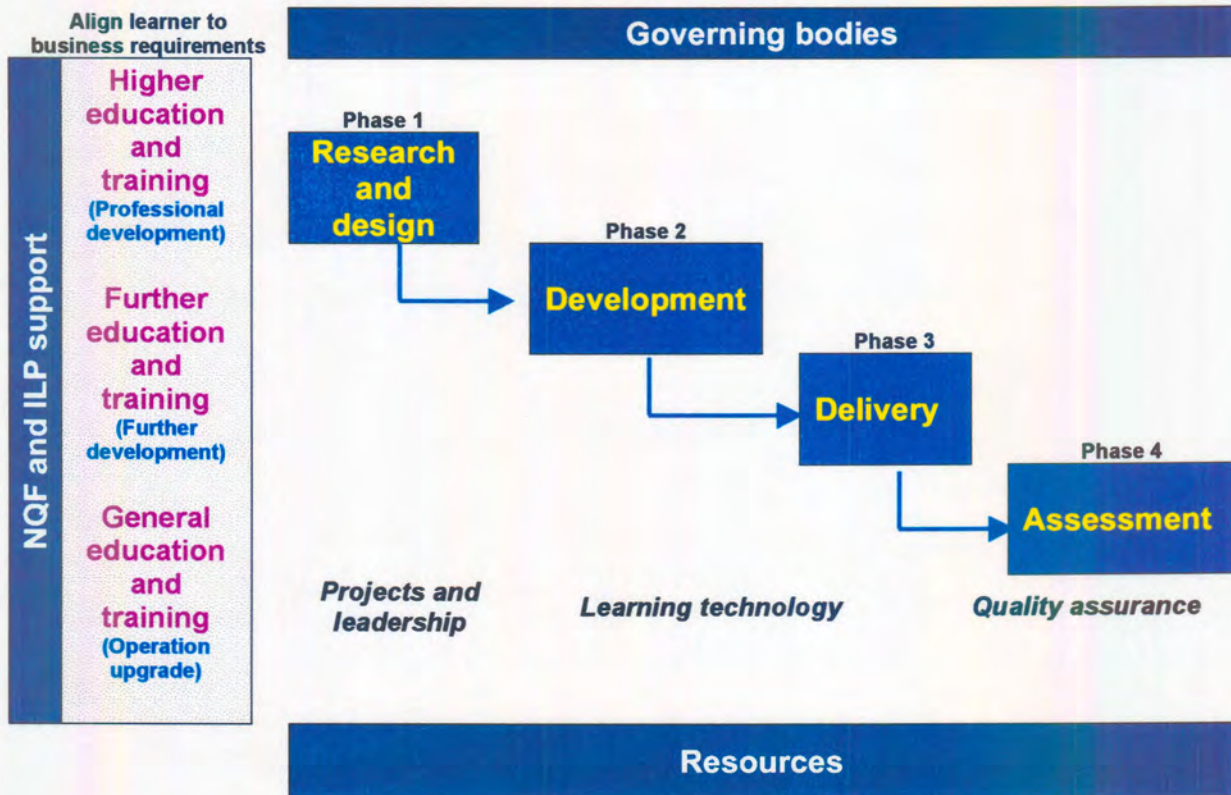


Figure 4.30 – Micro advancement model

- **Research and design**

In the research and design phase the practitioner focuses on the requirements and business objectives of the employer, based on a training needs analysis, to align the learning process with the business requirements.

- **Development**

Based on the above-mentioned requirements, the practitioner develops the specified and required learning interventions to meet the particular business needs of the employer.

- **Delivery**

In the delivery phase the interventions are developed to provide the training and development of the learners to achieve predetermined outcomes.

- **Assessment**

The outcomes-based assessment is done using various modes, including theoretical, practical and on-the-job assessment and evaluation and a demonstration of the required competence.

- **Resources**

To support the four phases, the governing bodies and the relevant resources provide the required manpower and financial support for the training development process.

- **Support**

The National Qualifications Framework (NQF) and Integrated Learning Programme (ILP) accommodate the general, further and higher education and training interventions at a national level to support the alignment of this process.

Through the *development and provision of learning interventions* the delivery of training interventions is brought into line with the National Qualifications Framework (NQF) requirements supported by the human resources development interventions specific to an organisation.

- **Governance**

The governance and resources within the organisation provide the necessary mechanisms for delivery of the interventions in order to ensure delivery and the quality of the products.

- **Underlying principles**

The micro advancement model and process are driven by project management support, learning technology support and quality assurance to provide the necessary frameworks, guidelines and support to monitor the quality of the products delivered and learning outcomes.

4.8.4 The purpose of the learning environment

The purpose of the learning environment is to develop training and development interventions that are aligned with the national requirements (South Africa, 1997c) and that provide the learner with focused training, including recognition for skills gained and applied in the workplace. The framework for the learning environment is supplemented by unit standards and credits achieved in the learning process. The assessors and internal verifiers (Figure 4.31) assess the credits achieved in the learning process against the unit standards.

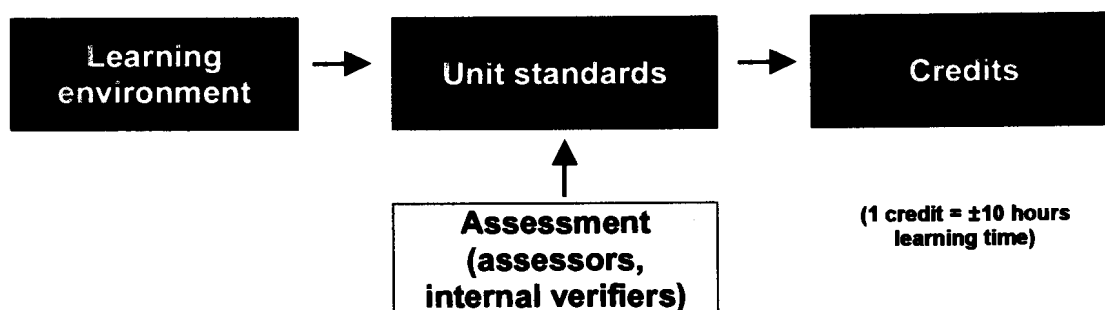


Figure 4.31 – Purpose of the learning environment

The purpose of the learning environment as indicated in Figure 4.31 is eventually to lead to the holistic development of the learner. The credits are obtained by demonstrating competencies and skills gained in the learning process and form the basis for progress to the next development level to fulfil

the required identified outcomes per role and then per job or work profile (Figure 4.31).

4.8.5 Foundation of the integrated learning process

The integrated learning process is based on a holistic approach to the development of previously disadvantaged employees. In training and development, the development is structured in such a way that the learner develops and builds up the skills required (Figure 4.32). As shown in Figure 4.31, the training and development promotes the fundamental, core and elective levels of competencies and outcomes required by a specific job and the work involved. The job or work profile of the learner includes a range of outcomes, unit standards and roles.

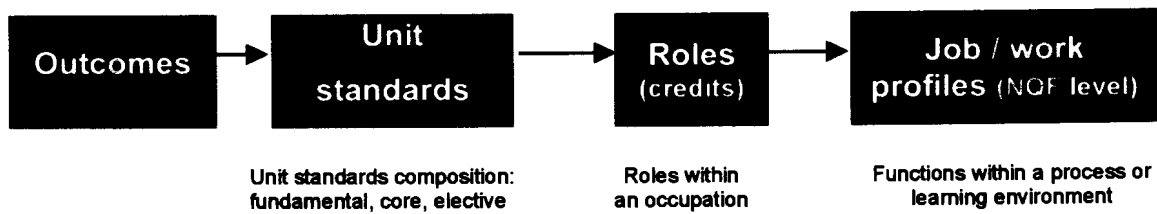


Figure 4.32 – Foundations of the learning process

As shown in Figure 4.32, the unit standards comprise competencies varying from:

- fundamental (basic skills requirements); and
- core (generic or intermediate skills requirements); to
- elective (advanced and specialised skill requirements).

The roles (or credits acquired) are applicable to a specific occupation, which functions within a specific working environment or learning process.

4.8.6 Fundamentals of the learning process

The fundamental components of the learning environment and process involve the development of the learner in such a way that he or she is able to select a range of outcomes from a competency menu to cater for specific work requirements.

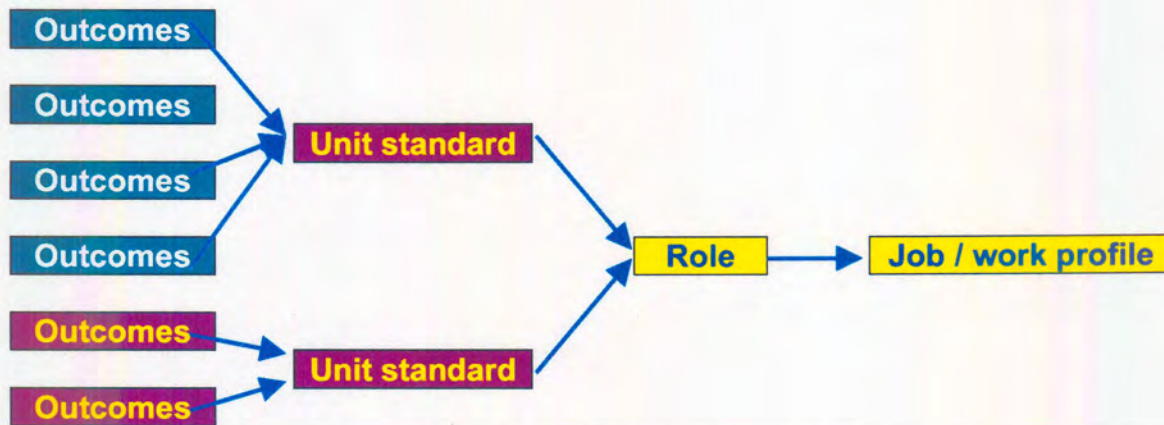


Figure 4.33 – Fundamentals of the learning process

As shown in Figure 4.33, the learner selects and acquires the necessary skills from a range of outcomes, which result in credits that form a unit standard. These unit standards result in the various roles the learner performs in the work environment. The work profile consists of roles applicable to a specific job or task, required as outputs of the learner’s daily tasks.

4.8.7 Impact of the training and development process

The impact of the training and development process is evident in the demonstration of skills and competencies in the workplace and the alignment with the NQF. As shown in Figures 4.34 and 4.35, the development of the learner’s skills occurs in the following phases:

- Generic
- Activity
- Performance

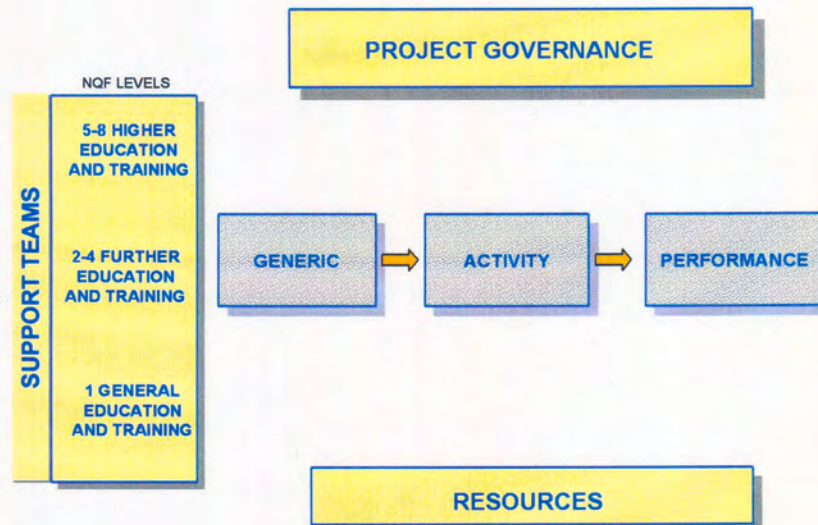


Figure 4.34 – Impact of the training and development phases

4.8.8 The focus of the training and development process

The focus of the training and development process influences the three phases shown above, i.e. the generic, activity and performance phases.



Figure 4.35 – Focus of the training and development phases

- **Generic training phase focus**

With generic training and development the learner complies with the requirements specified by the legal bodies with regard to formalised and experiential training and development (Figure 4.34). The learner obtains a formal qualification on completion of formal training and fulfilment of the requirements specified by the technical colleges and the Manpower Act for the training of apprentices. Technician training and development fulfils the requirements specified by the technikons for the training of a technician and those specified by the universities for the training and development of an engineer.

- **Activity training phase focus**

As soon as the learner has qualified in a specified discipline, the focus of the training and development shifts to the activity phase (Figure 4.34). The learner is exposed to the work environment as a qualified person, but not as a competent worker. This implies that the learner can apply the necessary skills under the direct and close supervision of a coach or mentor. If and when the learner has obtained the necessary skills, attitude and knowledge in the workplace by means of on-the-job training and exposure, the focus shifts to performance training.

- **Performance training phase focus**

Performance training focuses on the development of the learner to render an improved and quality service to the employer (Figure 4.34). As soon as the learner is in a position to accomplish performance activities, the outcomes have an impact on the business, leading to a reduction in costs and an improvement in process results.

4.8.9 Interventions implemented as part of the analysis relating to learning interventions

The following interventions were analysed, designed, developed and implemented to support the development of learning interventions:

- HRD transformation
- A and B band project report
- Practitioner development
- Implementation of the *Skills Development Act*

4.8.10 Summary: Learning interventions

The learning interventions developed provide a focused view of the integration of training and development interventions from a macro to micro level.

- The design focused on a macro advancement model with a related educational philosophy and the means to integrate the diverse national interventions into the organisation.
- The development phases included the delivery of the learning interventions through the application of design, development, delivery and assessment processes.
- The utilisation of the learning environment was based on unit standards and credits, with appropriate assessment measures.
- The foundations on which the learning process is based and the substructure on which the fundamentals of the learning interventions are established were illustrated.
- The impact of the learning interventions on the employee in terms of generic, activity and performance training were highlighted.

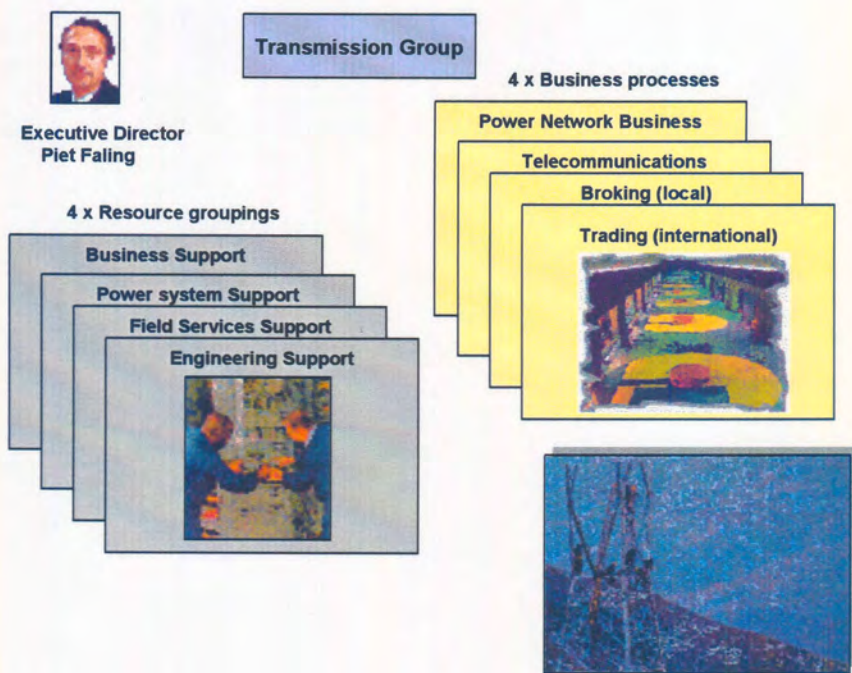
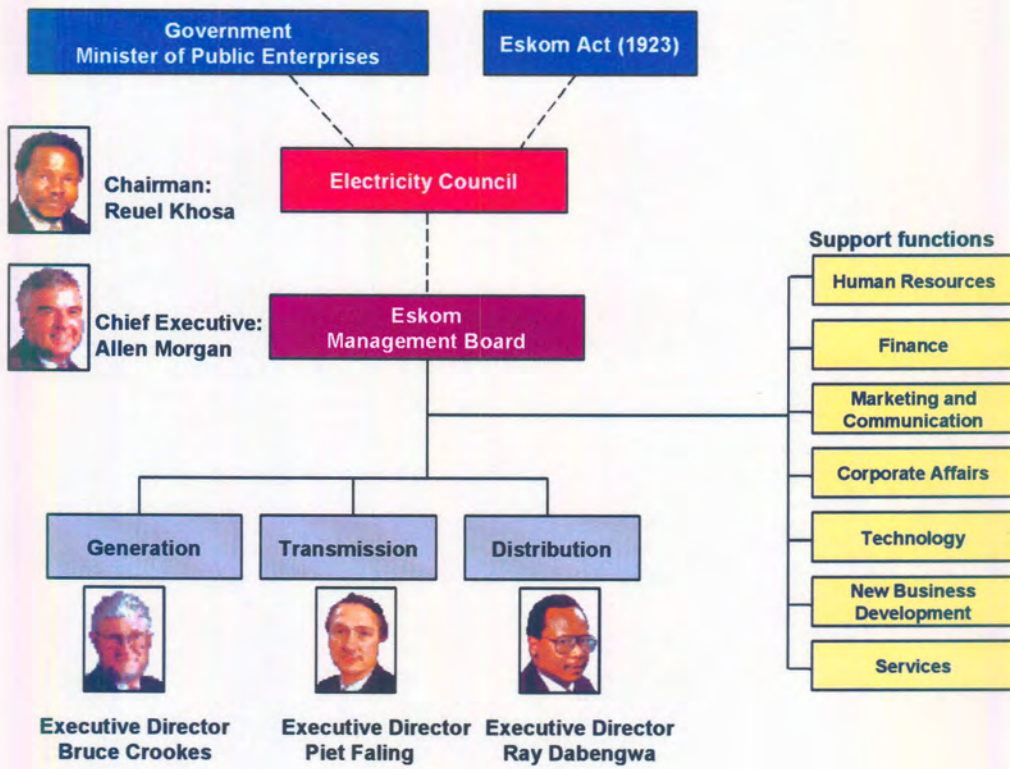


4.9 SUMMARY

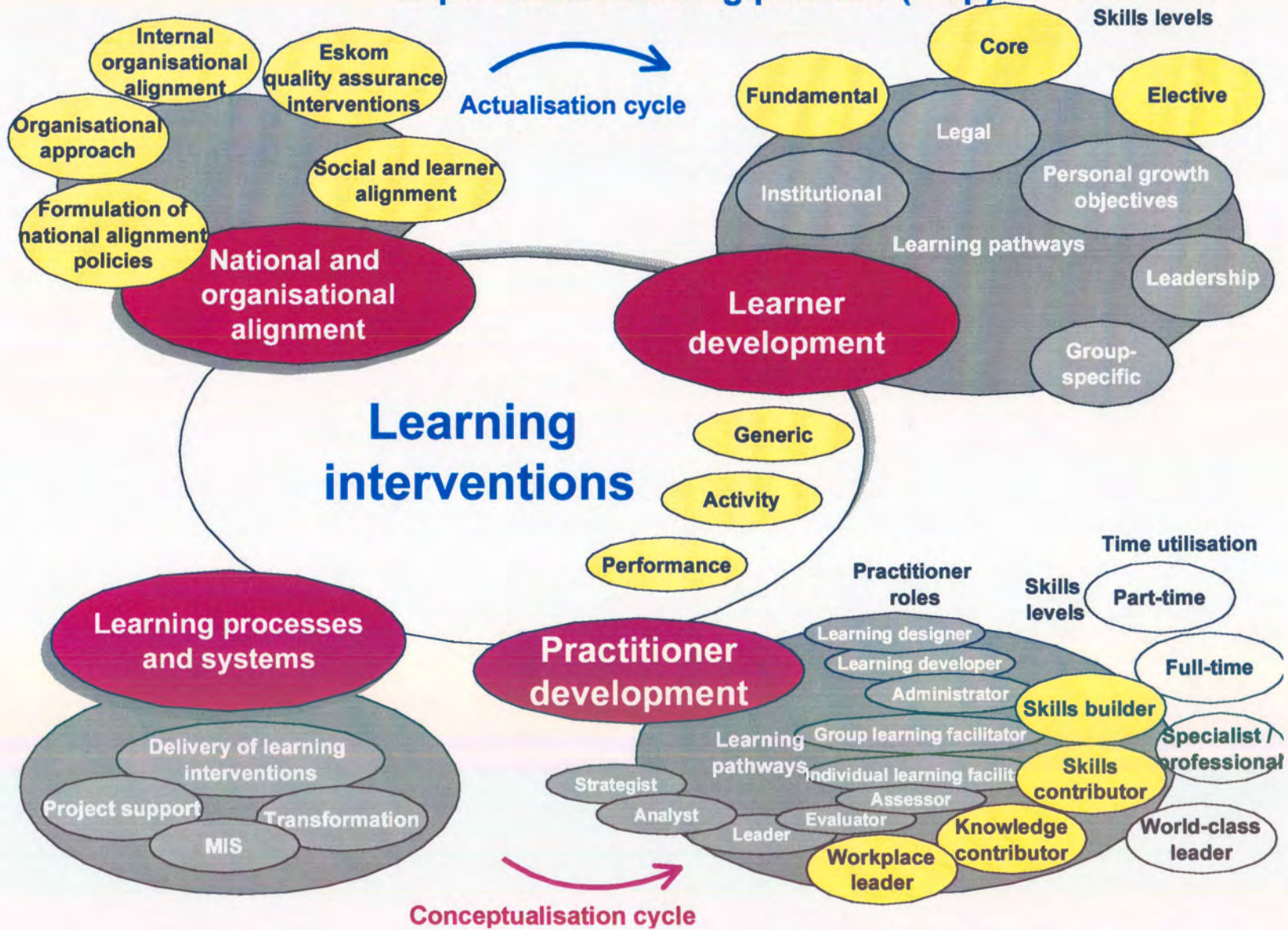
This chapter has described the five-year action research project undertaken by the researcher and the diverse teams assisting in the process to investigate, design, develop, implement and evaluate a macro learning process. This research was supported by different analyses conducted during the different phases of the project evident in the data collection plan (Table 5.3). The way in which each of the focus areas interfaces with and influences the others was revealed and the development of the micro processes and the integration of many individual sub-projects into an assemblage were traced. In addition, this chapter highlights the consequences of national influences on each of the interventions developed and the building of competencies from outcomes right through to unit standards that form part of a work profile. The assessment of and recognition for prior learning on the part of the employee are supported by personal development plans and programmes, which also have benefits in social development and integration.

This chapter highlights the variety of roles, responsibilities and accountabilities of the researcher and individuals participating in the process. For example, the researcher was not only responsible for the sub-process of *project support*, but also for the management and integration of the whole learning process and systems (Chapter 4.7.1; Appendix B; Appendix C). An open door policy and participative management style were used to obtain maximum participation and support during the various processes.

The research findings elicited from this project are discussed in the next chapter.

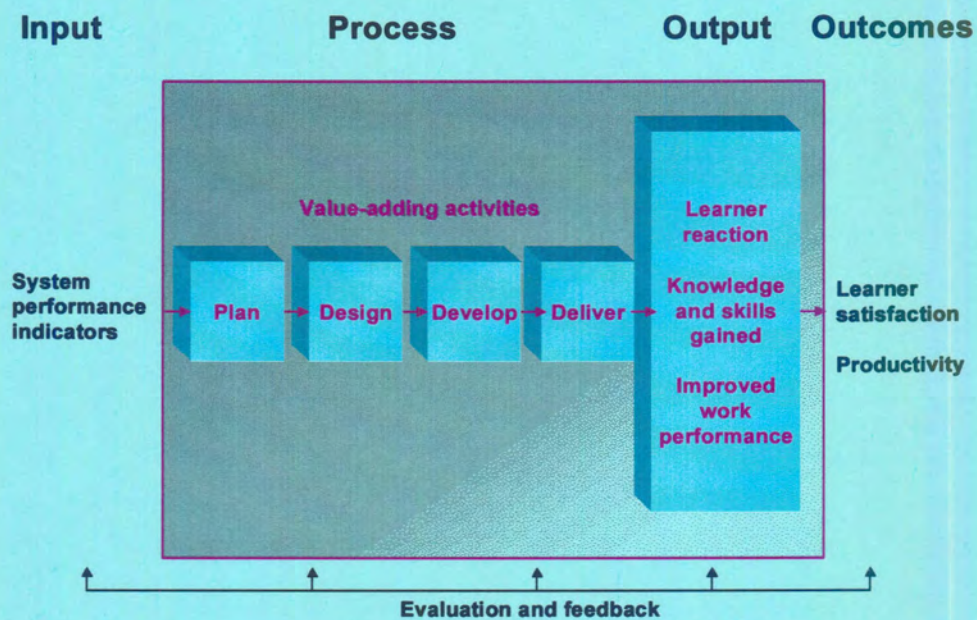


Experiential learning process (map)





Chapter 5 Findings



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers



5 IMPLEMENTATION AND FINDINGS

Implementation is the "process of turning plans into actions. Without careful forethought about what actions to take, when to take them and who should take them, no strategy will ever be successful" (Rothwell & Kazanas, 1994: 201).

5.1 INTRODUCTION

The development of the experiential learning process was ultimately affected by a wider social climate of self-help (Fukuyama, 1992), career uncertainties (Schein, 1994), post-modernist culture and ethics (Connor, 1989; Harvey, 1990; Best & Kellner, 1991; Bauman, 1993) and increasing competitiveness (Peters, 1992), as well as the emergence of the knowledge economy (Toffler, 1990; Drucker, 1992).

These created dynamics that made the construction of the experiential learning process a particularly arduous task for those concerned. The development of the learning process made an excellent comprehensive research project in terms of handling ambiguities, complexity, conflict, culture change and teamwork.

The findings of the research conducted over the period 1995 to 1999 are presented as follows:

- Data collection methods and instruments used to obtain the research results
- Findings of various training and development action and processes implemented during the different action research cycles

5.2 DATA COLLECTION METHODS AND INSTRUMENTS

5.2.1 Data collection methods and instruments used in this research

Data collection methods and instruments are used to gather the information needed for a research project. The methods and instruments used in this research project are listed in Table 5.1 and are separated into qualitative and quantitative measures. As Leedy (1980: 71) argues, "Research seeks, through data, to discover what is true absolutely. In a sense, research is a constant pursuit after the complete meaning of the data. Data do not constitute absolute truth, but merely a behavioural manifestation of the truth".

	<i>Methods</i>	<i>Instruments</i>
Qualitative measures	Survey	Questionnaires
	Journal	Researcher's journal
	Interviews	Interview schedules
	Focus group	Formal and informal discussions
	Electronic mail	Messages generated by participants
Quantitative measures	HR database	Computer-generated results
	Practical training programmes and plans	Training programmes and guidelines

Table 5.1 – Data collection methods and instruments

As indicated in Table 5.1, the qualitative measures utilised surveys, journals, interviews and focus groups as the main sources of information, while the quantitative measures include mainly data obtained from the Eskom HR database and practical training programmes and plans used for the duration of this research project.

5.2.2 Qualitative measures

Qualitative data collection methods include surveys, journals, interviews, focus group discussions and electronic mail.

5.2.2.1 Surveys

The surveys used in this research project mainly took the form of interviews that provided descriptive information relating to the nature of existing conditions at national level and at organisational level in Eskom. The format for the surveys used in this research project involved one or more of the following techniques (Cohen & Manion, 1998):

- Structured interviews
- Semi-structured interviews
- Self-completion interviews

5.2.2.2 Research journal

Throughout the period the experiential learning process was under development, and in accordance with the principles of the action research being used, the researcher charted his own experiences and learning. He used a research journal to record ideas and the development of the process. In addition, data from the ETD practitioners and learners concerning their experiences in relation to the process and implementation were collected. Special emphasis was given to the ethics of education as an integral part of the development.

Many articles, products and guidelines were collected, developed and kept in the course of the development of the learning process. Discussions on the process were held with fellow ETD practitioners, drawing on their experience as ETD practitioners, and this information was used to influence the processes. Ground theory approaches (Glaser & Straus, 1967) were used to

generate theory that might help fellow ETD practitioners in the area of ethics in training and development (conceptual framework) and education.

Products, guidelines and theories developed during the research and circulated among stakeholders provided opportunities for critical feedback and, where appropriate, validation of the claims made by the researcher. Most of the information generated is available on the Eskom Transmission HRD Intranet Web-site and provision was made for the process, documents and guidelines to be downloaded for personal work-related use and improvement.

5.2.2.3 Focus group discussions and group interviews

Pre-arranged focus group discussions and interviews were utilised for the purpose of meaningful input with the minimum of disruption to the development process. Dynamic participation from these groups provided effective contributions to the project. However, disruptions did occasionally prevent the flow in the group interviews. The main input came from participants with an adequate foundation of experience and theoretical knowledge (Cohen & Manion, 1998).

5.2.2.4 Electronic mail

Electronic mail (GroupWise) was used as the main medium of written communication during the research project. Messages generated were printed and filed for analysis and referencing purposes.

5.2.3 Quantitative measures

Sources of quantitative data include the Eskom Human Resources database and practical training programmes and plans.

5.2.3.1 Eskom HR database

The Eskom Human Resources information systems, containing employee records, performance evaluations, qualifications, grading and compensation information, were used for the analysis of the Eskom Transmission Group profile. Special authorisation was granted for viewing sensitive and confidential information relating to employees. In addition, the Eskom HR database was used for the analysis of the B band employees and organisational profiles.

5.2.3.2 Practical training programmes and plans

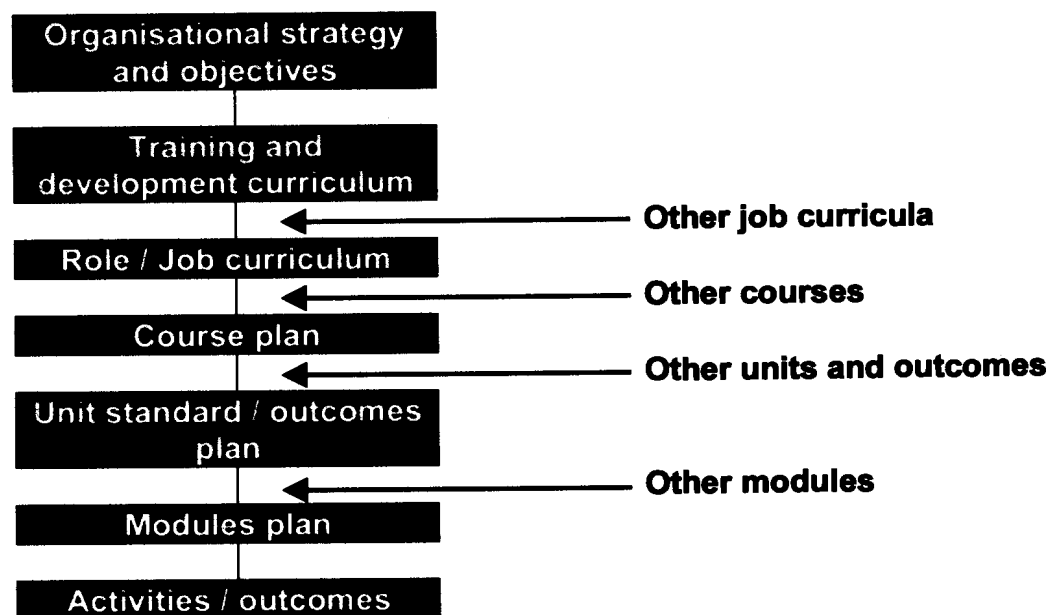


Figure 5.1 – Practical learning process flow chart

The practical training programmes and plans developed for this research utilised a generic approach to achieve a formal structure and consistency and included the following overarching elements:

- Participation in a learning environment
- Programme of unit standards and outcomes plan
- Credits obtainable

- Recognition for competency
- Achievement of organisational goals and objectives

The comprehensive practical training plan and chronological flow used for this research is illustrated in Figure 5.1. As the figure shows, the training plan and programme was based on a chronological flow of events where activities in the learning environment and workplace form part of modules in a unit standard plan. The unit standard plan supports the course and job curriculum and the organisational objectives and goals.

5.2.4 Triangulation

Triangulation was used to validate the research approach utilised (Mouton & Marais, 1996). Cohen & Manion (1998: 233) state that triangulation may be defined as "the use of two or more methods of data collection in the study of some aspect of human behaviour. It is a technique of research to which many subscribe in principle, but which only a minority use in practice".

5.2.5 Action research cycles

The aim of the researcher and various teams during this project was to design and deliver a process-orientated training and development system for a process-driven organisation in line with national requirements and leading to nationally recognised qualifications. In so doing, various problems relating to aspects of the training and development model were encountered in each of the action research cycles. Each of the research cycles utilised the elements of –

- planning;
- action;
- observation; and

- evaluation

to substantiate and validate the research methods and approach used in the research project between 1995 and 1999 (Figure 3.1).

5.3 ACTION RESEARCH FINDINGS

The action research findings are derived from the main research question on learning interventions:

How can national and organisational alignment, learner development, practitioner development, and learning processes and systems be integrated into an experiential learning process for the design of learning interventions?

The main research question is supported by the following subsidiary research questions (Table 5.2):

Focus area	Subsidiary research questions
<i>National and organisational alignment</i>	<ul style="list-style-type: none"> • How <i>closely</i> is the learning environment aligned with the national and organisational policy requirements?
<i>Learner development</i>	<ul style="list-style-type: none"> • How <i>efficient</i> is the delivery of training interventions?
<i>Practitioner development</i>	<ul style="list-style-type: none"> • How does practitioner development influence the <i>quality of learning</i>?
<i>Learning processes and systems</i>	<ul style="list-style-type: none"> • How <i>can</i> the learning interventions assist in the advancement of employees?

Table 5.2 – Focus areas and subsidiary research questions

The findings from the research on training and development conducted during the period 1995 to 1999 were obtained and presented as shown in the data collection plan in Table 5.3.

5.3.1 Data collection plan

Focus area	Research interventions	Research cycle				
		1	2	3	4	5
National and organisational alignment	<ul style="list-style-type: none"> Provisional evaluation of the current status of training and development in the Eskom Transmission Group Eskom Transmission Group HRD strategic planning session Training needs analysis HRD workshop Eskom Transmission Group HRD strategic development and restructuring Eskom Transmission Group HRD strategy ABET environment in South Africa 	●	●	●	●	●
Learner development	<ul style="list-style-type: none"> Competence development in Engineering Resources Eskom Transmission Group A and B band development Technician development Engineer development ABET environment in South Africa A and B band profile 	●	●	●	●	●
Practitioner development	<ul style="list-style-type: none"> HRD analysis toolbox HRD management toolbox HRD guideline 1998 Student administrator development Mentorship development and implementation Individual and group learning facilitator development Practitioner development 	●	●	●	●	●
Learning processes and systems	<ul style="list-style-type: none"> External ABET survey Eskom ABET audit ABET service-provider evaluation Experiential process development Transmission School of Technology Induction programme development Eskom Transmission Group HRD Web-site Eskom Transmission Group profile 	●	●	●	●	●
Learning interventions	<ul style="list-style-type: none"> A and B band project report Practitioner development Implementation of the Skills Development Act 	●	●	●	●	●

Table 5.3 – Data collection plan for the period 1995 to 1999

5.4 NATIONAL AND ORGANISATIONAL ALIGNMENT

5.4.1 Subsidiary research question

The following subsidiary research question was used for the research on national and organisational alignment:

Subsidiary research question

How *closely* is the learning environment aligned with the national and organisational policy requirements?

5.4.2 Data gathering instruments

The following data gathering methods and instruments were used to gather information relating to national and organisational alignment (Table 5.4):

		Instruments used					
		Questionnaires	Researcher's journal	Interview schedules	Formal and informal discussions	Messages generated by participants	Computer-generated results
National and organisational alignment							
How <i>closely</i> is the learning environment aligned with the national and organisational policy requirements?							
Methods	Surveys	●					
	Journals		●				
	Interviews			●			
	Focus groups				●		
	Electronic mail						
	HR database						
	Practical training programmes						

Table 5.4 – Methods and instruments used in relation to national and organisational alignment

Only the surveys, journals, interviews and focus group discussions were used to gather information in relation to the national and organisational alignment,

as can be seen from Table 5.4. Various actions and interventions were implemented to obtain information on national and organisational alignment. To obtain the national alignment findings, interviews were conducted with a variety of industries and bodies, including the following:

- Metal
- Electronics
- Minerals
- Manufacturing
- Training and development
- SAQA

It was found that different alignment initiatives have been pursued by these organisations and valuable progress has been made in developing generic competency models for technical disciplines.

- Noteworthy is the excellent work and contributions made towards the development of the electrical profiles.
- Although the organisations were involved with various other SETAs (South Africa, 1998b; South Africa, 1995a) and different classified fields of learning, there was an absence of a generic or common framework on how to approach and integrate the different initiatives with one another.
- No notable interaction between the mining groups, steel manufacturing organisations and ferrous or non-ferrous metal companies was detected, even though a certain level of work should be generic to any discipline.
- The interpretation of the levy payable under the *Skills Development Act* (South Africa, 1998b) and the rebate that can be reclaimed for accredited training was interpreted differently by each of the organisations.

The following findings were a direct result of the visits to the different industries. The implemented interventions in Eskom provided the following findings:

- Eskom established a task team to implement the *Skills Development Act* and the *Green Paper on Further Education and Training* (South Africa, 1998a; South Africa, 1998b) within the organisation.
- Eskom Corporate HRD was responsible for the implementation of the Act in the organisation.
- Each of the Groups within Eskom provided representatives who were responsible for the implementation and delivery of negotiated outputs.
- Various sub-teams have been established to address the development of the following items from the task teams:
 - Competency profiles
 - Learning delivery
 - Accreditation standards
 - Quality assurance mechanisms
 - Skills planning
 - Capacity-building

5.4.3 Action research process

Table 5.5 indicates the different research interventions undertaken during the different action research cycles. Some of the interventions continued in the subsequent cycles.

Focus area	Research interventions	Research cycle				
		1	2	3	4	5
National and organisational alignment	• Provisional evaluation of the current status of training and development in the Eskom Transmission Group	•				
	• Eskom Transmission Group HRD strategic planning session	•				
	• Training needs analysis		•			
	• HRD workshop		•			
	• Eskom Transmission Group HRD strategic development and restructuring			•		
	• Eskom Transmission Group HRD strategy			•	•	
	• ABET environment in South Africa			•	•	

Table 5.5 – Research interventions in relation to national and organisational alignment

The following section of the research project reports on the findings of individual research interventions implemented as listed in Table 5.5.

5.4.3.1 Provisional evaluation of the current status of training and development in the Eskom Transmission Group

A preliminary training needs analysis was conducted at the end on 1995 to identify specific training needs within the Eskom Transmission Group, with a view to conducting a comprehensive training needs analysis in 1996. Among the subjects investigated in this provisional evaluation were the following:

- Transmission HRD strategic direction
- Competence development at various levels
- Trainee, learner, student and bursar administration (employee well-being)
- Development of the ETD practitioners
- External influences, for example the implementation of the NQF, Eskom Corporate policies and directives, ABET performance and the competence development drive in Eskom

The provisional analysis showed that the following steps were required to assist in the alignment of training with national organisational requirements:

- an in-depth training needs analysis, comprehensive HRD strategic planning session;
- a workshop with the key stakeholders;
- the establishment of various working groups to address A and B band competence development, and
- the assessment and development of learning opportunities in the organisation.

In addition, the provisional evaluation of current training and development in Transmission revealed that the HRD department was faced with various problems. Determining the purpose of the HRD function in the Transmission Group formed part of the provisional evaluation of the training and development interventions. The issues identified were clustered into generic areas of interest and included:

- Transmission HRD direction and related issues;
- competence development and employee well-being;
- general training issues and practitioner development; and
- external influences.

The table below gives an indication of the generic clustering of the types of problems encountered in the different focus areas by the training department (Cilliers, 1998a) (Table 5.6):

<i>Area</i>	<i>Lack of</i>
<i>Transmission HRD direction</i>	<ul style="list-style-type: none"> • HRD policies, strategy, vision, mission and business plan
<i>HRD-related issues</i>	<ul style="list-style-type: none"> • Training and development under one framework (fragmented); • integrated training system (holistic approach); • integrated accelerated development, apprentice co-ordination; and • integrated training plans and a comprehensive training needs analysis.
<i>Competence development</i>	<ul style="list-style-type: none"> • Assessment tool development, competency assessment and RPL • Job profiling, competency-based modules
<i>Employee well-being</i>	<ul style="list-style-type: none"> • Engineer training and development • Pupil technician development • Retraining of employees • Mentorship • Accreditation standards and implementation
<i>General training issues</i>	<ul style="list-style-type: none"> • HRD communications system • Transmission training centre • Menu / catalogue / guideline for available Transmission training • Accredited training modules • Transmission ABET audit • A and B band development and assessment • Transmission safety and legislative training • Development and implementation of a learning process approach
<i>Transmission ETD practitioners</i>	<ul style="list-style-type: none"> • Transmission roles and accountabilities for ETD practitioners • Project manager / leader • Training of mentors, coaches and instructors
<i>External influences</i>	<ul style="list-style-type: none"> • Implementation of the NQF • Implementation of job profiles

Table 5.6 – Provisional evaluation findings

As found and indicated above the HRD direction strategy could fail, as Pastin (1986: 50) argues, "because managers are not sufficiently concerned with the present. For a map to be useful, it must have an 'X' marking the present location. The best map in the world will not keep you from getting lost if you don't know the location from which you are starting. In the same way strategic (business) planning must start with an assessment of where the organisation is and whether it is aligned with its present goals". As a direct result for the provisional evaluation findings a strategic HRD planning session was

conducted to address the findings and to prepare for an in-depth training needs analysis with the involvement of the key stakeholders.

5.4.3.2 HRD strategic planning session (Appendix I)

An HRD strategic planning session with a small focus group took place as an outcome of the provisional evaluation. The objective was to analyse and plan an approach and scheme in terms of how to address the training needs analysis and other critical training and development priorities identified and highlighted by the provisional training needs analysis.

The findings of the HRD strategic planning session resulted in a scheme of how to address the needs for:

- the establishment of a training cycle; and
- the strategic planning session with the key stakeholders.

The findings and actions as a result of the HRD strategic session are indicated in the table below (Table 5.7):

<i>Findings</i>	<i>Actions</i>
<i>Need for the establishment of a training cycle</i>	<ul style="list-style-type: none"> • Identified Eskom Transmission Group process training needs; • analysis of the training needs; • planned HRD training strategy; • planned HRD training business plan and strategy; • designed training process model and system; and • implementation of an approved training system.
<i>Need for a strategic HRD session with key stakeholders</i>	<ul style="list-style-type: none"> • Determined HRD mission, vision and strategy; • identified the kind of core businesses (product lines) in which HRD wishes to be involved; • specified training and development objectives emerged from the strategic business plan and strategy of the Eskom Transmission Group; • allocation of financial and manpower resources; • specify strategic guidelines required for policies and direction in the management and business planning processes; • formulation of a training and development mission and vision; and • alignment of the above mission into the Eskom Transmission Group's vision and its five-year and ten-year strategic business plan and values.

Table 5.7 – Results of the HRD strategic planning session

A detailed action plan (see Appendix I) with performance indicators and target dates was drawn up and implemented to involve the key stakeholders and training needs analysis as part of the next phase in the process of national and organisational alignment.

5.4.3.3 Training needs analysis (Appendix I)

The findings uncovered during the HRD strategic session included the involvement of management, employees and organised labour. The Eskom Transmission training needs analysis targeted the key stakeholders and organised labour. The key stakeholders comprised senior managers in the organisation and key targeted people from the different regions in the Eskom Transmission Group. Organised labour comprised the recognised unions active in Eskom:

- Eskom Employers Association
- South Africa Workers Union
- Mine Workers Union
- NUM and NUMSA

Interviews were conducted with representatives of each of the trade unions and realistic expectations were incorporated into a draft HRD business plan as identified in the HRD strategic session (Table 5.7) and training needs analysis. Specific training needs were identified and prioritised by means of interviews, focus group discussions and questionnaires. The results of the questionnaires provided a basic framework for the planned HRD strategic session with a few selected key stakeholders that followed to focus the HRD interventions.

The comprehensive training needs analysis entailed a broad systematic examination of the training and development conditions in the Eskom Transmission Group conducted for the purpose of identifying general differences between what employees should know or do and what they actually know or do. The findings of the training needs analysis provided information and inputs in relation to the following focus areas (Table 5.8):

<i>Focus area</i>	<i>Findings</i>
<i>Clients/customers</i>	<ul style="list-style-type: none"> • what is the involvement and perception of the key stakeholders and organised labour in the HRD interventions
<i>Training needs</i>	<ul style="list-style-type: none"> • identified training needs from the key stakeholders • prioritised training needs and action plans to address the training needs
<i>Process analysis and data collection</i>	<ul style="list-style-type: none"> • analysis and incorporation of the questionnaire interviews • utilisation of existing data and training material • identification of immediate deliverables • identified HRD projects that need immediate attention
<i>Strategic issues</i>	<ul style="list-style-type: none"> • incorporation of HRD strategic session inputs into the draft HRD business plan • finalisation of the HRD session

Table 5.8 – Findings of the HRD training needs analysis

The results of the HRD training needs analysis resolved in a draft HRD business plan and strategy that was used for the strategic HRD session with senior management and key stakeholders.

5.4.3.4 HRD workshop (Appendix I)

The HRD workshop was based on the findings of the:

- provisional evaluation of the training and development status;
- HRD strategic planning session; and
- training needs analysis.

The participants of the HRD planning session were supplied with a draft HRD business plan and strategy to initiate and structure the session. Focus group discussions took place in break-a-way groups to modify and cultivate the HRD business plan and strategy. The HRD workshop resulted in:

- a preview and review of the results of the training needs analysis and identified training interventions;
- expected training cycle; and
- expectations from line management, employees and the trade unions.

The following issues form part of the results of the HRD strategic session and were used to finalise the HRD business plan and strategy and to keep the direction of the future development process on track (Table 5.9):

<i>Focus area</i>	<i>Findings</i>
<i>Organisational goals and objectives</i>	<ul style="list-style-type: none"> • what the training and development emphasis should be • where the emphasis of the development should be placed • the provision of normative standards for both direction and expected impact (performance training) which would highlight any deviations from objectives and performance problems
<i>Manpower planning</i>	<ul style="list-style-type: none"> • the manpower planning involvement to determine the gaps that needed to be filled as a result of retirement, turnover, age and voluntary separation packages • the provision of important inputs into the demographics database regarding possible training needs and the placement of qualified employees in respective demographic areas
<i>Skills inventory</i>	<ul style="list-style-type: none"> • the provision of a number of employees in each skills group • knowledge and skills levels and training time per job and • information provided to estimate the magnitude of specific training needs and helps with cost-benefit analyses for training projects
<i>Organisational climate</i>	<ul style="list-style-type: none"> • the quality of work life and employee well-being as indicators on feature organisation behaviour • the focus on identified problem areas • aspects investigated include labour strikes, grievances, turnover, absenteeism and observation of employee behaviour
<i>Analysis of efficiencies</i>	<ul style="list-style-type: none"> • cost accounting concepts that represent the ratio between actual performance and desired or standard performance
<i>Changes in systems and sub-systems</i>	<ul style="list-style-type: none"> • new process approaches and changed equipment that presented training problems

Table 5.9 – Strategic HRD session findings

An approach and framework for the HRD business plan and strategy were established as the next phase based on the findings of the previous interventions.

5.4.3.5 Eskom Transmission Group HRD strategic development and restructuring (Appendix I)

After the HRD workshop, the restructuring process was implemented. Actions identified during the previous interventions were implemented to develop with the Transmission HRD business plan and strategy. Focus groups and a SWOT analysis (strengths, weaknesses, opportunities and threats) approach

was used to define the identified training needs from the previous sessions that existed in the organisation. The focus was to finalise the:

- HRD vision, mission and HRD customer definition;
- major development areas as HRD product lines; and
- strategic HRD actions.

The HRD strategic development and restructuring resulted in the finalisation of the HRD business plan and strategy with the required HRD vision, mission and strategy. In addition, product lines were identified and strategic actions were determined as part of the restructuring. Important findings that arose from the HRD strategic action session included the following (Table 5.10):

<i>Actions identified based on the findings</i>
<ul style="list-style-type: none"> • the financial accountability for training and development • to define the roles and responsibilities of ETD practitioners and customers to eliminate duplication • the requirements that are needed for business education development • clear communication and involvement of staff, customers and stakeholders in HRD direction and product lines • determine the required KPIs (key performance indicators) for the HRD different product lines • development of a HRD guideline and curricula in respect of available courses and modules for employees • design all development on the basis of competency- and outcomes-based education and development in the organisation including the service providers • established a profile for ETD practitioners • evaluation of the existing ETD practitioners' profiles • capture and register ongoing HRD projects in the Eskom Transmission Group • the need to investigate the possibility of using an HRD information management system that integrates the development needs with the required HRD environment and provide an accurate account of financial expenditure on training and development interventions per region and for the Eskom Transmission Group

Table 5.10 – HRD strategic development and restructuring findings

The HRD strategic development and restructuring findings prompted the investigation of the ABET environment in South Africa as the next phase.

5.4.3.6 ABET environment in South Africa (Appendix F)

Findings in the previous sessions prompted the investigation of the ABET environment in Eskom and in South Africa. This section describes the investigation results of the findings that could be used as a benchmark to evaluate the ABET environment in Eskom.

The ABET environment in South Africa was investigated to establish the relevance of current initiatives being pursued by the Eskom Transmission Group and Eskom as a whole. The investigation included examining current and new legislation and determining whether these influence the current initiatives. It was found that the objectives of ABET training in South Africa is to:

- raise the basic educational level in the organisation;
- increase the quality and quantity of relevant and appropriate learning available to adults who were unable to access adequate education in the past;
- to create a culture of lifelong learning;
- redress past training and development inequalities; and
- improve access to education and training.

These objectives are in line with the Government's commitment to lifelong learning, to redressing past inequalities and improving access to education and training (South Africa, 1998b; South Africa, 1995a; South Africa, 1995b). It was found that in the effort to achieve this objective to improve the educational foundation of people in South Africa, two key performance indicators have been set:

- a significant increase in learner enrolments and involvement in programmes and the use of learning services; and
- a substantial increase in learner achievement.

The challenge to provide an integrated programme for education and training to enable learners to participate and make use of recognised qualifications is more crucial than ever before. The following initiatives were undertaken as a result of the investigation of the ABET environment in South Africa to ascertain the current ABET interventions envisaged and in use by various organisations in South Africa and by Eskom:

- Eskom ABET audit
- External ABET survey
- ABET service-provider evaluation

The findings obtained during the national and organisational alignment interventions influenced the development of the other research focus areas (learner development, practitioner development and learning processes and systems).

The findings concerning the second research area, learner development, are discussed in the next section (5.5) of this research report.

5.4.4 National and organisational alignment findings

The national and organisational alignment findings provided the basis for the development and refinement of Eskom to enable it to align itself with the relevant legislation. It was founded that this alignment included the formulation of the advancement by the organisation towards fulfilling the different legal development requirements and purposeful implementation of accredited training and development for its employees. The following explicit findings were made during the investigation and included the organisational approach and the internal organisational alignment.

5.4.4.1 Organisational approach

The findings made on the organisational approach included taking cognisance of the external forces determining the direction an organisation should take to align itself with the minimum legal requirements. The following forces were identified:

- SAQA influence on the organisation
- NQF influence on the organisation
- The roles of the NSA
- The roles of the SETA

In addition, it was found that the cross-sectional alignment between various government departments caused confusion, and the relationships between these departments were eventually settled with the establishment of working groups to work out the interaction between them. The findings indicated that progress in the 12 fields of learning was characterised by the three types of co-operation between the 28 identified SETAs (Table 5.11):

<i>Type of SETA cooperation</i>	<i>Number of SETAs involved</i>
Active and agreed	7
Active but not agreed	11
Development work required	10
Total:	28

Table 5.11 – SETA cooperation and involvement

5.4.4.2 Internal organisational alignment

It was found that the internal organisational alignment was characterised by three elements during the development:

- Actions and participation at a strategic legislative level
- The organisation's interest in the classification of fields of learning

- **Internal organisational alignment to bring the above-mentioned elements together**

This resulted in the implementation of an alignment integration process, in which the organisation focused on four major alignment areas (Figure 4.9):

- **Organisational context**
- **National context**
- **Learning processes and systems**
- **Human resources initiatives**

The results indicated that each of these major alignment areas was supported by various other sub-processes and systems such as:

- **Outcomes-based training and development map (Figure 4.11);**
- **the organisation's quality assurance interventions to ensure compliance with national and internal organisational requirements;**
and
- **most significantly, the development of learnerships and social upliftment programmes for the employees in the organisation.**

5.5 LEARNER DEVELOPMENT

5.5.1 Subsidiary research question

The following subsidiary research question was used for the research on learner development:

Subsidiary research question

How *efficient* is the delivery of training interventions?

5.5.2 Data gathering instruments

The following data gathering methods and instruments were used to gather information related to learner development (Table 5.12):

		Instruments used						
		Questionnaires	Researchers' journal	Interview schedules	Formal and informal discussions	Messages generated by participants	Computer-generated results	Training programmes and guidelines
<i>Learner development</i> How <i>efficient</i> is the delivery of training interventions?								
Methods	Surveys	●						
	Journals							
	Interviews			●				
	Focus groups				●			
	Electronic mail							
	HR database						●	
	Practical training programmes							●

Table 5.12 – Methods and instruments used in relation to learner development

Only interviews, discussions, the HR database and practical training programmes were used in relation to learner development, as is evident from Table 5.12. Various training programmes and guidelines were designed,

developed and implemented. The learner development methods and instruments were developed and utilised to cultivate employees in line with the organisation's, HRD and work group needs and objectives. As Nadler (1979: 88) says, "Employee development is concerned with preparing employees so that they can move with the organisation as it develops, changes and grows". It thus makes the individual employees and learners change agents in the organisation.

5.5.3 Action research process

Table 5.13 indicates the different research interventions initiated in relation to learner development during the various action research cycles. Employee and learner development is an extension of externally orientated instruction. It helps the employees in the organisation to adapt to changes taking place externally. Learner development prepares employees for these external changes and transformation.

Focus area	Research interventions	Research cycle				
		1	2	3	4	5
Learner development	• Competence development in Engineering Resources		•			
	• A and B band profile					•
	• Eskom Transmission Group A and B band development		•	•	•	
	• Technician development		•		•	
	• Engineer development		•			

Table 5.13 – Research interventions in relation to learner development

The findings obtained during the national and organisational alignment process (5.5.3) were matched to the needs of the learners. The needs assessment process (Gardner, 1963; Hague, 1974; Pedler & Boydell, 1980) included:

- Identification of various work groups, disciplines and skills clusters;

- clarification of the purpose, activities and responsibilities of the groups, disciplines and skills clusters;
- planning of changes in the purpose, activities and responsibilities of the groups, disciplines and skills clusters;
- determination of how many and what kind of employees were available; and
- planning of how many and what kind of employees were needed.

It was found that the long-term, formal and informal mentoring programs that were designed, developed and implemented ensured that the learners and employees on the development programmes were supervised by an experienced and often higher-placed individuals who established special relationships with others as is shown by Rothwell & Kazanas, (1994a).

The following interventions were designed, developed and implemented to support the learner development.

5.5.3.1 Competence development for Engineering Resources (Appendix J)

A pilot project was implemented in one business unit. The Engineering Resources Business Unit in the Eskom Transmission Group consists mainly of highly technically skilled employees and comprises more than 35% of the employees in Transmission. The A and B band Engineering Resources career path and curriculum was developed to accommodate career path development for employees from A band to C upper level to ensure continuity in the development and learning process (Cilliers, 1996a).

It was found that the use of the supervisors and specialists in the various fields of departments involved in the development of the departmental curricula streamlined the process, increased the acceptability and credibility of the programmes. Organised labour was involved in the process to ensure

transparency and the participation of all stakeholders when required. It took more than a year to develop and finalise the nine departmental curricula and have them accepted by management and the trade unions. The department's involved in this exercise were (Cilliers, 1996a):

- Measurement and control test and support
- Cable services
- High voltage laboratories
- Installation services
- Protection supervisory services and panel shop
- DC supplies
- CAD drawing office
- Technical services
- Subscriber field services

The development of the competencies is unique within Eskom and in the Eskom Transmission Group. The scarcity of these skills in the organisation meant it was difficult to validate the skills and competencies against other competencies and skill clusters during the development process. In support of the work group, uniformity and supervision, supervisors were provided with an additional list of competency definitions to ensure a uniform understanding of specific skills and requirements (Cilliers, 1996a).

The identified A band employees underwent screening to establish their ABET literacy and numeracy levels. The employees were enrolled on the appropriate ABET courses provided locally by the Eskom Corporate ABET Business Unit. Placement and career path development was implemented. Various courses were modified to incorporate a practical approach to accommodate the illiterate employees in the Eskom Transmission Group.

The modified courses were used to motivate the employees to enrol for ABET. The courses were made available to employees at various levels with no entry requirements. Some employees had left the programme owing to a lack of motivation, commitment or future applicability of skills and competencies. It was found that the modified courses were useful to motivate them to rejoin the programme. As a tangible reward, each of the employees who participated and completed the courses received a standard equipped toolbox.

Practical training programmes were developed and presented to A band employees. It was found that these programmes were so successful and well received by the stakeholders that various identified B band employees were put through the same courses to improve their skills and competencies. This included comprehensive career pathing, personal development plans and training plans. The plans developed for the A and B band employees consisted of outcomes, modules, unit standards and course plans and were so designed that the completion of one level lead to the next level. This resulted in the following macro career path (Figure 5.2).

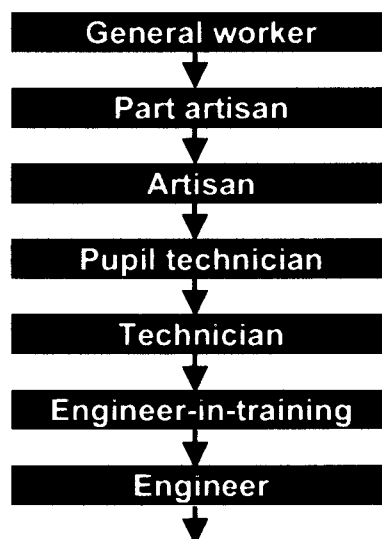


Figure 5.2 – Progressive career path planning

As indicated in Figure 5.2 it was found that employees were not limited after completing a skills, competency or training plan. It was agreed with

management that employees should be allowed to develop multiple skills as long as this was required to enhance their current competency profiles.

The success of the programme was based on the feedback received from the line managers and supervisors as well as follow-up and exit interviews with the employees. The subsequent progress reports and assessments after completion of the assignments also supported the findings.

5.5.3.2 Eskom Transmission Group's A and B band development (Appendix K)

The career path that was implemented for the nine engineering resources departments in the pilot project proved so successful that it was decided to implement the same system for the entire A and B band training in the Transmission Group.

The development of A and B band level employees in the Transmission Group took place on the basis of perceived potential. The concept of 'from floor sweeper to qualified engineer' was applied. The career path development was structured in such a way that an employee could progress from being a floor sweeper to an artisan (electrician), technician and eventually even an engineer.

It was found that the implementation of the learnership programme, skills development and competency development menu resulted in the establishment and development of generic, activity and impact training later called performance training, and is described in Table 5.14:

<i>Training focus</i>	<i>Findings</i>
<i>Generic training</i>	<ul style="list-style-type: none"> The generic training provided the basic development to enhance skills and bring all the employees to the same level of skill and competence. The ABET and technical skills were integrated to motivate and ensure participation by the employees. The basic skills courses was redesigned to accommodate and motivate the illiterate employees at this level
<i>Activity training</i>	<ul style="list-style-type: none"> The activity training provided the employees with technical and theoretical exposure and took them from a bridging course through to fourth-year apprenticeship level. A mentor and coach were appointed for each employee.
<i>Performance training</i>	<ul style="list-style-type: none"> Performance training enabled employees to work in their own working environment and to make an impact on the organisation. These employees started to participate as coaches to less experienced employees.

Table 5.14 – A and B band development focus

A more detailed description of the training and development undergone by the employees is given below. The development for the A and B band employees was designed progressively. The training was divided into six phases to make the management process (Cilliers, 1998f) (Table 5.15):

<i>Phase</i>	<i>Activities during the phase</i>
<i>Phase one</i>	<ul style="list-style-type: none"> Generic skills development. This phase develops the employees to a certain level of basic competencies. There are no prerequisites for entry to this level. One of the objectives is to allow any person to attend this level, especially persons who have stopped attending the ABET classes. However, these employees are not allowed to continue the training if they do not complete ABET to at least level three. Further training requires the candidates to be fluent in English as a conversational language. This first phase is used as a motivational course to convince the students to complete their literacy training.
<i>Phase two</i>	<ul style="list-style-type: none"> Phase two provides for specialised training in the specific areas in which the learners are working and prepares them for the next level of training. In this phase the focus is on the development of specific skills in the individuals. A pre-N1 course is part of the preparation for the next level. New initiatives for the future include a 3-4 week training session at the Transmission School of Technology for all Transmission A and B band employees.

<i>Phase three</i>	<ul style="list-style-type: none"> • First-year electrical apprentice curriculum, N1 technical college training and specific on-the-job training in the students' respective working environments.
<i>Phase four</i>	<ul style="list-style-type: none"> • Second-year electrical apprentice curriculum, N2 technical college training and specific on-the-job training in the students' respective working environments.
<i>Phase five</i>	<ul style="list-style-type: none"> • Third-year electrical apprentice curriculum, with on- the-job training. Students have the opportunity to attend a further technical college session, this being determined by the student's potential.
<i>Phase six</i>	<ul style="list-style-type: none"> • Trade test preparation and trade test. The students have the opportunity to do an Article 28 trade test to qualify as an electrician.

Table 5.15 – A and B band career path development

The main advantage of the A and B band development programme was that it made provision for various exit points for employees who do not have the potential or cannot master the required skills to continue, yet they still receive recognition for what they have achieved. After phases three, four and five, employees received recognition as a 'trade assistant level one, two or three' respectively, which is in line with the national trend for giving recognition for skills acquired and applied in the work environment and the National Qualifications Framework (South Africa, 1998a). The development phases are not related to any time frames and depend entirely on the potential and progress of the employee. It was also found that the acceptance and participation of the trade unions in this event and the support given during the development of the curricula motivated the employees to stay on the programme. The implementation of the A and B band development was significant in:

- the development of the generic, activity phases;
- the development of the career path development in six phases or stages; and
- management and ownership of the practical development plans by the employees themselves

The A and B band employees were provided with practical personal development plans they managed themselves as part of the empowerment and accountability of employees to take ownership of their own development (South Africa, 1998b). It was found that they commit themselves to the development and were very eager to proceed with the next phase after completion of the current phase.

The A and B band employees were interviewed by an evaluation panel, assessed, rated and promoted where they were found to be competent. Employees who were not yet competent were provided with additional training and development. In 1995 there were 164 A band employees and all but two employees went through the development programme and were promoted between 1995 and 1999.

The focus is now on the development of the B band employees. Various training and development programmes and interventions are scheduled at Eskom College and in the Transmission School of Technology together with practical on the job training. It was found that the keen interest and success on the A and B band development prompted the development of the technician career path as discussed in the next section. In addition it was evident that the development and promotion of the A banders to B band created expectations from the other employees to receive the same development opportunities.

5.5.3.3 Engineering technician development

The technician development was a direct result of the findings made in the national and organisational alignment and of success of the A and B band development. The development of competencies for the A and B band employees led to promotions to the next grade which initiated the development of the engineering technician career path. The technician development (Cilliers, 1996a) forms part of the career development for an

engineering technician. The same 'from floor sweeper to engineer' approach was applied to the engineering technician career paths. The development of the engineering technicians is a high priority in the Transmission Group because of the high technological requirements with the maintenance, installation and repairs of the primary and secondary plant. The findings made during the training needs analysis and interviews with key stakeholders in the organisation and external bodies steered the engineering technician development in the following direction (Cilliers, 1996a):

- Career path development
- Curriculum development
- Experiential training development

The reorganisation of pupil (learner) technicians' development was undertaken during the action research cycles between 1996 and 1998. This included the redesign of the training in Transmission for the pupil (learner) technicians. The technician development focused on the following (Cilliers, 1996b; Cilliers, 1996c; Cilliers, 1996d; Cilliers 1996e):

- A. Technician career path
- B. Primary and secondary plant curricula
- C. Experiential training record
- D. Guideline for the experiential training record

A. Technician career path (Appendix L)

The technician career path (Cilliers, 1996b) implied a holistic approach to the development and retraining of the existing technicians in the Transmission Group. The research concentrated on a generic approach and interventions aimed at the personal development of employees. Research also revealed that various employees in technical positions did not have adequate qualifications for their positions. Each technician was treated as an individual. They decided on the extent of participation themselves and were supported by

management in their decisions. The technician development identified and addressed the following (Cilliers; 1996b):

- Definition and understanding of what a technician is
- Identification of the required roles
- Expected outputs from the technician
- Required competencies
- Behavioural profile in a technical environment
- Engineering technician practical training programme

It was found that engineering technicians needed support and information on:

- Technikon theoretical training curricula
- Technikon experiential training curricula
- Assistance with professional registration
- Development matrix

The engineering technician development paved the way for a generic development. It was also found to provide the employee with the necessary primary and secondary plant curricula for ownership and development purposes as discussed in the next section.

B. Primary and secondary plant curricula (Appendix M)

The primary and secondary plant curricula (Cilliers, 1996c) addressed the development of the technicians in the Transmission Group. However, only 20% of this development focused on the specific Transmission skills required in the organisation, while the other 80% focused on the development of the technician in line with the minimum requirements of the technikon and the professional registration body, ECSA (Engineering Council of South Africa). An additional element in the development was the inclusion of a further two phases (phase 4 and phase 5) that could be undertaken by the learners.

Figure 5.3 (Cilliers, 1996c) details the content of the engineering technician development. The employee can enter at any point determined by personal development, discussions and assessment.

As is evident from Figure 5.3, the development in phases 1 to 3 complies with the minimum requirements of the technikons. Phase 4 and phase 5 are for further development and are specialised, focusing on specific equipment utilised in the organisation. In addition, phases 4 and 5 also introduce the technician to leadership and managerial skills. The engineering technician can register as a professional technician after a minimum period of two years of acceptable, work-related experience.

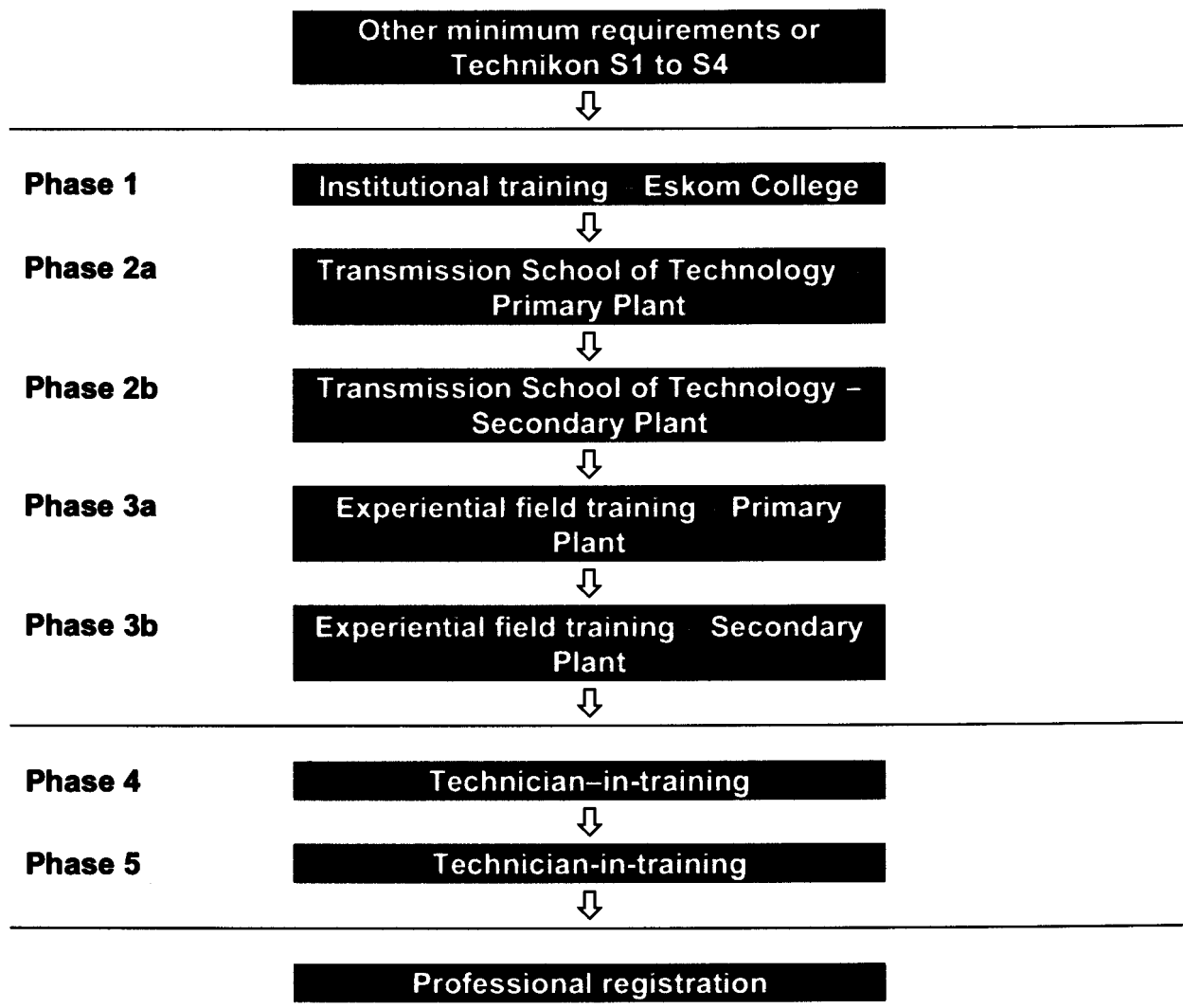


Figure 5.3 – Engineering technician career path

It was found necessary to further develop the engineering technician career path and to make provision for a bridging course at the entry point to accommodate the A and B band employee who had progressed to this level. In addition it was also found that the development of phase 4 and 5 was necessary to accommodate the needs of the progressing technician on a higher level. This improvement on the programme also provided the facility for retraining of the existing staff who needed the development.

C. Guideline for the experiential training record (Appendix O)

The guideline for the experiential training record (Cilliers, 1996e) provided the pupil (learner) technician with fundamental information on what was expected and how to comply with the requirements of the organisation during his/her experiential training. This document includes the following (Cilliers, 1996e):

- General information on development and career path
- Duties and responsibilities of the student, employer and technician
- Technical report format
- Structure of the course and syllabus
- Evaluation criteria

The guideline for the experiential training record was to support the completion and record keeping of the experiential training record as discussed below.

D. Experiential training record (Appendix N)

Assessment and exit interviews in the initial stages uncovered the need for an explicit guideline to help the employee and the practitioner to keep record of courses completed and the progress of the employee. The experiential training record (Cilliers, 1996d) was introduced to provide the employee with a framework for the necessary record-keeping, assessment and progress

reports during the development phase. This document includes the following (Cilliers, 1996d):

- Summary sheet of evaluated topics
- Evaluation in the final exit interview
- Evaluation of an integrated technical and theoretical approach
- Reports on the primary plant and secondary plant
- Reports on the experiential field training in primary and secondary plant

A review of the practicality and use of the experiential record resulted in the revision of the first implemented experiential training record. The modification of the experiential training record addressed an outcomes-based educational approach whereby the employee reported on a whole project and not on individual tasks. Joint and individual assignments formed part of the reports (Spady, 1994).

The engineering technician development programme was introduced in Transmission in 1998 and since then more than 167 pupil technicians have been trained in the Transmission School of Technology as part of Eskom's RDP commitments (Eskom, 1997c). Additional disciplines were accommodated in the school on the basis of the success encountered and feedback received from the students and employees. Other Eskom Groups and external organisations are using the school on a more frequent basis for specific technician development. It was also found that the implementation of the four guidelines provided the employee with the security of a career path associated with the required identified training and development interventions. However, it was also found that the guidelines and career path could not be used in isolation with the same expected end results. The progression of the employee from A band to an engineer level was still an underlying principle used during the development to ensure smooth transition from one level to another.

5.5.3.4 Engineer development (Appendix P)

It was found necessary to develop the engineers' career path to link in with the engineering technician career path. The *Guideline for competence development for engineers-in-training and engineers* (Cilliers, 1996f) provides a basic framework for the development of engineers in the Eskom Transmission Group. This framework and guideline provide the employee with a high-level development plan based on the various needs identified and addresses the following (Cilliers, 1996f):

- Definition of an engineer;
- required outputs expected from an engineer;
- required competencies;
- expected behavioural profile; and
- practical development plan

The *Guideline for competence development for engineers-in-training* (Cilliers, 1996f) provided the employees with various options for self-development. It was found that the following development issues were evident when the employees attended a personal development planning session:

- the demarcation of the boundaries for the training and development period;
- addressed expectations and some administrative issues (monthly report, etc.) relating to the development period; and
- provision of available training resource guides for the development and planning of his/her training programme.

A keen interest was displayed when employees were accountable for their own development. The employees participated in the development,

scheduling and negotiations to make the training program work. The cooperation of the employee resulted in the following:

- An approved training programme compiled by his / her mentor and the responsible HRD support practitioner provided a three-dimensional perspective on the development;
- detailed macro project plan for the two-year period;
- micro activity schedule for monthly / weekly activities;
- negotiated interventions with identified sources, venues and people; and
- release from his/her current line function for training periods with the mentor at pre-arranged times.

The intention was achieved to empower the employee and make him / her responsible for the training and development actions. The development for the engineer-in-training took place in two phases (Table 5.16):

<i>Development phase</i>	<i>Findings</i>
<i>First phase</i>	<ul style="list-style-type: none"> • controlled training and development, with exposure to various forms of leadership and management development • training received was mostly development and presented at vendors and venues away from the workplace • the responsible HRD practitioner was prominent in this phase • ownership and control to manage the training situation by the employee was well received
<i>Second phase</i>	<ul style="list-style-type: none"> • the second phase focused on the marketing and on-the-job training of the employee, with possible placement at the end of the development phases • the emphasis is on local development and practical, hands-on experience • the employee was in control of his/her own competence development • the employee was responsible for finding and securing a permanent position based on his/her performance and contribution to the line groups and managers

Table 5.16 – Engineer development phases

The next section reports on the development of the ETD practitioners who need to implement the organisational alignment and maintain the learner development.

5.5.4 Learner development findings

The findings of the various initiatives implemented in the national and organisational alignment process reinforced the need to develop and implement specific learner development interventions to address the learners' training and development needs. The findings obtained during the learner development phase resulted that four overarching development focus areas were identified, namely:

- Learnership and skills programmes
- Skill levels
- Competence development menu
- Learnership development

The findings as discussed in section 5.5.4 were based on the above mentioned focus areas.

5.5.4.1 Learnership and skills programmes

It was found that the learnership and skills programmes should pave the way for a generic approach towards the development of the employee. The draft programmes developed covered the following areas in which individual development was expected:

- Institutional education
- Legal training
- Personal growth
- Leadership development

- Group and business unit-specific training and development

The learnership and skills development programmes formed the basis for the development of the skills levels to address the four development focus areas as mentioned above.

5.5.4.2 Skill levels

The skill levels as designed and developed in Chapter 4 provided the integration of the learnership and skills programmes on a national and organisational level with the necessary recognition of qualifications awarded at the fundamental and core levels. In addition, it proved that the electives provided the organisation with the relevant development margin to accommodate different disciplines, cultures and work requirements. However, it was also found that the skills levels needed to be addressed in a more structured competency development framework, structure or menu driven application.

5.5.4.3 Competence development menu

It was found that the competence development menu was significant in that it accommodated the preparation of employees in directions that are not directly work-related, with the following important spin-offs:

- Social development and the underlying principle that the immediate family and community can benefit from the personal development of the employee;
- fulfilment of the personalised development needs of the employee;
- identification and development of potential leaders and managers by introducing them to basic leadership skills; and
- continuing to attend to the needs of the various Groups and business units in the organisation.

The competence development menu provided the employee with a range of development courses to choose from as part of the skills development support process. In addition, it was found that the actual hard copy of a personal development plan provided the employee with a structured visible plan that served them with a sense of security, participation and ownership.

5.5.4.4 Learnership development

It was found that the employees could not participate in any of the learnership and skills programmes, skills development initiatives or development menus in isolation or as separate units. To create that culture of lifelong learning and participation they needed to approach the learner development initiative in totality.

It became clear, in addition, that consecutive development progress from the lowest to the highest level of skill without certification to the employee involved in the development was demotivational. It was found once the promulgation of creditworthy recognition was addressed, it served as a major motivational factor. Notable in this development are the different entry and exit levels on the learnership programmes, which are determined by the potential of the employee. This provided unlimited development opportunities for the employee and was very well received by the employees, trade unions and management.

The next section reports the findings obtained during the various implemented interventions in the learner development process.

5.6 PRACTITIONER DEVELOPMENT

5.6.1 Subsidiary research question

The following subsidiary research question was used for the research on practitioner development:

Subsidiary research question
How does practitioner development influence the *quality of learning*?

5.6.2 Data gathering instruments

The following data gathering methods and instruments were used to gather information relating to practitioner development (Table 5.17):

		Instruments used						
		Questionnaires	Researcher's journal	Interview schedules	Formal and informal discussions	Messages generated by participants	Computer-generated results	Training programmes and guidelines
<i>Practitioner development</i> How does practitioner development influence the <i>quality of learning</i> ?								
Methods	Surveys							
	Journals							
	Interviews			●				
	Focus groups				●			
	Electronic mail					●		
	HR database						●	
	Practical training programmes							●

Table 5.17 – Methods and instruments used in relation to practitioner development

Interviews, discussions, messages, computer-generated results and training programmes were used in the research on practitioner development.

According to Nadler (1984: 119), practitioner "education is learning to prepare

the individual for a different but identified job". It may mean preparation for a promotion or transfer or for work for only a day or so. It may mean preparation for one specific work output or any one of a group of related outputs (Nadler, 1984).

5.6.3 Action research process

The procedures and interventions listed below were designed, developed and implemented to assist the ETD practitioners in their own development and to support prospective career moves and development (Table 5.18).

Focus area	Research interventions	Research cycle				
		1	2	3	4	5
Practitioner development	• HRD analysis toolbox				●	
	• HRD management toolbox				●	
	• HRD guideline 1998				●	
	• Student administrator development				●	
	• Mentorship development and implementation				●	
	• Individual and group learning facilitator development				●	
	• Practitioner development				●	●

Table 5.18 – Practitioner development interventions

Practitioner development focused on changing individuals. In this respect, it was unlike learner development, which focused on changing the collective knowledge and skills of a work group or an organisation, and it was unlike training and development, which focused on work requirements. Practitioner development is a tool for anticipatory socialisation, the process by which an individual acquires information about and experience in a job or role prior to entering it (Feldman, 1981).

Traditionally, practitioner development has prepared the practitioner for future work. However, it is not truly future-orientated, because most educational efforts perpetuate notions based on the experiences of others and conventional best practices (Glueck & Jauch, 1984). To be effective, traditional and thus culturally bound practitioner development must be based

on a comprehensive career development programme. Practitioner career development programmes that make the practitioner development effective have two development components (Rothwell & Sredl, 1992):

- Organisational
- Individual

It was found that what ETD practitioners do in planning their careers should be matched by different but corresponding organisational efforts. Hence, practitioner development stems from career development programmes in which ETD practitioners plan what they wish to do and who or what they wish to become. At the same time, managers and leaders should decide how many ETD practitioners they need over time and what skills the practitioners should have. Practitioner development is one vehicle for realising individual career development and aspirations (Walker, 1980).

Practitioner development on its own is rarely adequate to ensure promotion or career moves. ETD practitioners must quite often perform at an above-average level in their current working environment to be considered for advancement, and it was found that the following elements as supported by Werther & Davis (1985) are important for the practitioner (Table 5.19):

<i>Elements</i>	<i>Description</i>
<i>Visibility</i>	<ul style="list-style-type: none"> • How well known the practitioner is to supervisors and managers in departments to which he/she would like to move
<i>Willingness to move</i>	<ul style="list-style-type: none"> • How willing is the practitioner to develop and to make a career move
<i>Mentors</i>	<ul style="list-style-type: none"> • How successful is the practitioner in identifying individuals and establishing mentoring relationships with the leaders who can further his or her career
<i>Luck</i>	<ul style="list-style-type: none"> • How lucky is the individual in being in the right place at the right time

Table 5.19 – Elements influencing practitioner career development

During the needs analysis process it was found that various tools and guidelines needed to be developed to support practitioners in the workplace.

5.6.3.1 HRD analysis toolbox (Appendix T)

During the interviews and discussions with the ETD practitioners it was found that an explicit need for an analysis development tool existed. The researcher investigated the various types of analysis that might assist the ETD practitioners. The investigations resulted in the development of the HRD needs analysis toolbox. The toolbox contains 15 different forms and templates of different types of analyses. The ETD practitioners take a specific analysis template and adjust it for the relevant application, demographics and target population.

The *HRD Analysis Toolbox* (Cilliers, 1998b) was developed for the purpose of assisting ETD practitioners with the analysis of the training and development process. The starting point for implementation of a formal HRD strategy is an analysis of the environment (Rothwell & Kazanas, 1994a). According to Walker (1980: 145), "an analysis is a process of gathering and examining information on the principal work activities" of a task and the qualifications (skills, knowledge, attitudes) necessary to perform those activities. All the individual analysis templates in the *HRD Analysis Toolbox* therefore focus on answering two specific questions:

- What are the outcomes of each analysis tool used?
- What knowledge, skills and attitudes are needed by an employee to be able to carry out these activities or to achieve these outcomes?

It was then found that the needs analysis was a logical starting point for HRD interventions and planning for them. The many approaches to analysis (Walker, 1980) resulted in the development of the analysis tools. It was also found that depending on how detailed they are, analyses will highlight work,

activities or expected outputs. No single approach or analysis was satisfactory and complete enough for all uses. Each type of analysis was more appropriate for some uses than for others.

5.6.3.2 HRD management toolbox (Appendix S)

The performance of ETD practitioners in the training and development settings depends to a great extent on the willingness and the ability of other employees and managers to interact (Schein, 1993), and the *HRD Management Toolbox* (Cilliers, 1998c) was designed to help the ETD practitioners to achieve this.

The toolbox assisted the ETD practitioners and team leaders in their daily tasks and provided a variety of information that was and could be utilised in the HRD processes. The toolbox contains 40 different templates, providing the ETD practitioners with information varying from a simple evaluation report to a more complex vendor contract. The contents of the toolbox were based on the outcomes of one-on-one interviews with the ETD practitioners. It was found that the *HRD Management Toolbox*, like other HRD efforts, served as a tool (Feldman, 1981) for helping the ETD practitioners to:

- assist managers and employees in relation to various training and development issues and situations;
- equip managers with the skills needed to formulate strategic business plan inputs in problem-solving groups and meetings; and
- implement strategic HRD business plans when used to prepare employees for their next work output or series of outputs.

The most significant lesson learned from the implementation and use of the toolbox was a confirmation of the lack of ETD practitioner experience and a sound knowledge of educational principles.

5.6.3.3 HRD guideline 1998 (Appendix K)

The *HRD Guideline 1998* (Cilliers, 1998f) provides potential trainees with information on the different HRD interventions, descriptions of the interventions and contact person/s' information. This document was also used as a marketing tool and contains information on the following (Cilliers, 1998f), identified as necessary during the HRD workshop session:

- Overview of the HRD process
- Strategic leadership
- HRD teams and team leaders
- Description of products
- HRD projects

The main benefits derived from the guideline are tabulated in Table 5.20:

<i>HRD contribution</i>	<i>Findings</i>
<i>Concentration</i>	<ul style="list-style-type: none"> • This guide contained a concentration of HRD activities to sharpen the skills of the ETD practitioners and employees who were already performing well
<i>Market development</i>	<ul style="list-style-type: none"> • The market development attuned ETD practitioners to new learner groups inside and outside the organisation
<i>Product development</i>	<ul style="list-style-type: none"> • The HRD products were developed and expanded to offer new products, new services and new delivery methods
<i>Innovation</i>	<ul style="list-style-type: none"> • The guideline provided stimulation for innovation in which HRD was directed towards creating new ideas, stimulating strategic thinking and providing new experiences rather than purveying old ideas

Table 5.20 – HRD guideline findings

The high demand for the guideline from external organisations and employees within Eskom indicated that the document served its purpose.

5.6.3.4 Student administrator development (Appendix R)

The *Guideline for a Student Administrator* (Cilliers, 1998d) has provided practitioners with a framework within which to operate and to report on training and development interventions. The needs analysis and interviews with the administrators indicated that specific information was required to clarify the role, place and expectations of the administrator. As a result, the administrator guideline addresses the following issues (Cilliers, 1998d):

- Definition of a student administrator
- Competencies required
- Criteria for the selection of a student administrator
- Role of a student administrator
- Responsibilities of a student administrator
- Condensed output structure for a student administrator

The single most important factor to emerge from the development of this guideline was the significance of record-keeping and reporting on the overall, macro and micro training plans. Identified training and development interventions for the student administrators were implemented to address the training gaps. As Nadler (1984: 118) puts it, "Training is defined as learning related to the present job". It narrows the gap between what the ETD practitioners know or can do and what they should know or be able to do. This guideline proved useful as a short-term change effort for improvement in relation to:

- present job performance;
- the traditional approach to employee and learner well-being; and
- the record-keeping of expenditure related to training and development.

During the organisational alignment phases and learner development processes it was found that a need existed for the improvement of the mentor development and support systems. The close co-operation and relationship that existed between the student administrator and the mentor was of such a nature that it justified the development of a mentor guideline alongside the administrator guideline.

5.6.3.5 Mentorship development and implementation (Appendix Q)

A guideline for mentorship was designed, developed and implemented to address various mentor-related needs in the organisation. The *Guidelines for Mentorship* (Cilliers, 1996g) were developed to provide the technical employees (line employees who fulfil the role of part-time ETD practitioners) and ETD practitioners with a model for personal and work-related development. The guideline included the following, the need for which was derived from the investigation of national and organisational alignment and the learner development processes:

- Definition of a mentor
- Competencies required
- Criteria for the selection of a mentor
- The role of a mentor
- The responsibilities of a mentor
- The responsibilities of a trainee

The mentorship guideline included various competency definitions to assist the mentor with a generic overview of required skills. Figure 5.4 gives an overview of the mentorship system developed and implemented in the Transmission Group.

It was found necessary to distinguish between the operational and support functions. The two focus areas illustrate in Figure 5.4 were defined as a result – the discipline mentors and the support structure. Each faculty chief mentor identifies mentors and coaches to support the process. The support structure provides the administrative, educational and legislative requirements. The student council represents the students on forums and in meetings.

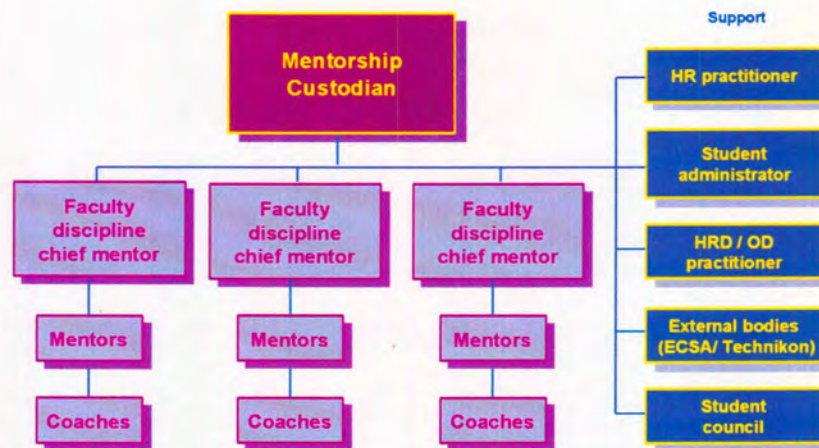


Figure 5.4 –Mentorship system implemented

More than 50 line mentors and coaches were trained by Transmission using the individual and group learning facilitator information obtained during the development. These roles contributed to the HRD practitioner development as part of the NQF alignment. The line mentors and coaches used this opportunity for their own development. The feedback received from the mentorship forums implied a radical change in the approach towards mentorship and the training of mentors; it therefore became necessary to consider the development of the individual and group learning facilitators, as discussed in the next section.

5.6.3.6 Individual and group learning facilitator development

The development initiatives for individual and group learning facilitators were implemented to align the facilitators with the NQF requirements (South Africa, 1995b; South Africa, 1998a). The specific target population was the mentors and coaches utilised in the Eskom Transmission Group. The development was carried out in accordance with the career path of the HRD practitioner as describe in Chapter 4. External consultants and vendors were used to develop and present the training. The course material was initially presented in two trial courses and changes were implemented after evaluation and feedback to the developers. The course was then made available for use throughout Eskom.

Some authorities contend that truly effective mentorship or individual or group learning facilitation relationships cannot be engineered. All true development, they hold, is really self-development (Gardner, 1963; Hague, 1974; Pedler & Boydell, 1980). There is some truth in this argument, because successful employees are motivated from within rather than by someone else. However, these employees still need ETD practitioners to assist and keep a watchful eye on their development. The findings obtained during the facilitator development matched the needs identified during the national and organisational alignment. In addition, the following issues were identified (Table 5.21):

<i>Additional issues identified</i>
<ul style="list-style-type: none"> • The integration of the mentorship development programmes with formal institutions • The need to support the employees with development that had not been approved by the line managers • Accreditation of mentorship development • Recognition and reward for mentors, which are currently non-existent • The implementation of the Transmission mentorship system throughout Eskom • The explicit need to develop mentorship at an executive level to support senior mangers and senior general managers in Eskom

Table 5.21 – Additional mentorship development issues

5.6.3.7 Practitioner development

A course for HR/ETD practitioners was developed and presented within Eskom to sensitise the practitioners to the changing legislation and transformation in South Africa and within Eskom. Various target groups were identified to attend the course.

After the initial implementation of the practitioner models it was found that:

- the duration of the course was too long for managers to attend;
- an information overload occurred;
- the cost for the training of local ETD practitioners to present the courses was too high.

The practitioner development modules went through a modification phase and specific target groups were identified for presentations. These included the following:

- Senior and top management
- Middle management
- First line supervisors
- ETD practitioners
- Employees

The senior and top management with time constraints were given an overview that ranged between 30 minutes and one hour. The more involved middle managers attended a two-day workshop and the ETD practitioners completed a one-week course on the development. Additional modifications implemented in the course covered the following:

- Introduction to and roadmap for the practitioner's guide
- Preparation for scheduling and facilitation framework

- Workshops for work profiles and unit standards
- Application in human resources practices
- Quality assurance
- Accreditation

The HR/ETD practitioners who completed the course received a toolkit with the necessary reading material, transparencies and posters to equip them to present it locally in their environment. The practitioner development and sensitising was beneficial and was shown to:

- increase the visibility and credibility of the practitioners, spurring interest in the buying of their products;
- serve as a means to teach and educate other employees about the changes and transformation in the organisation; and
- sensitise the employees about the transformation in South Africa and its impact in the organisation.

5.6.4 Practitioner development findings

Essential results from the research into the development of the ETD practitioners include information on:

- Practitioner roles, skills and knowledge requirements; and
- time utilisation and development matrix.

5.6.4.1 Practitioner roles, skills and knowledge requirements

The most significant input in relation to the practitioner's roles, skills and knowledge requirements was the development of the practitioner roles in line with the NQF requirements. It was found that ETD practitioners need to take on the following roles:

- Skills builder
- Skills contributor
- Knowledge contributor
- Workplace leader

It was also found that the application of these different levels of skills provided the employees with partial development opportunities without their having to make career changes. This also paved the way for the virtual organisation approach used in the Transmission School of Technology, where there are only three full-time ETD practitioners and more than 50 courses are presented by part-time ETD practitioners and subject matter experts.

5.6.4.2 Time utilisation and development matrix

During the development of the learning interventions it was found that the time utilisation of the ETD practitioners caused commitment and performance problems. It was decided after a focus group discussion to introduce time utilisation parameters that provided the practitioners with four time commitment categories to demarcate their involvement in the learning systems, namely:

- Part-time trainer
- Full-time trainer
- Specialist
- World-class leader

The competencies and skills levels required of the ETD practitioners were found to be poorly defined. This caused confusion in terms of the skills that were acceptable and the level at which previous experience and qualifications should be recognised and accredited. A solution to these problems was the practitioner development matrix as illustrated in Table 4.7.

Table 4.7 provides an overview of the developmental requirements relative to the different skills, knowledge and time utilisation for the practitioner involved with the learning interventions. Minimum qualifications are mentioned in the table, but serve as an indication only. However, for the serious practitioner formal qualifications do matter and provide the basis for the intellectual educational foundation so urgently required by the industry to develop training and development specialists and world-class leaders. The development matrix also indicated the various roles and preferred skill levels that should be pursued by the practitioner.

The following section (5.6.4) reports on the interventions developed to support the practitioner as identified during the provisional evaluation, training needs analysis, HRD strategic sessions and ABET evaluation.

5.7 LEARNING PROCESSES AND SYSTEMS

5.7.1 Subsidiary research question

The following subsidiary research question was formulated for the research into learning processes and systems:

<i>Subsidiary research question</i>
How can learning processes and systems assist in the advancement of employees?

5.7.2 Data gathering instruments

The following data gathering methods and instruments were used to gather information relating to the learning processes and systems (Table 5.22):

		Instruments						
		Questionnaires	Researcher's journal	Interview schedules	Formal and informal discussions	Messages generated by participants	Computer-generated results	Training programmes and guidelines
<i>Learning processes and systems</i>		How can the learning processes and systems assist in the advancement of employees?						
Methods	Surveys	●						
Journals			●					
Interviews				●				
Focus groups					●			
Electronic mail						●		
HR database							●	
Practical training programmes								●

Table 5.22 – Methods and instruments used in relation to learning processes and systems

All the data-gathering instruments were used for the work relating to the learning processes and systems. Performance – as Bailey (1982: 4) defines

it, “the result of a pattern of actions carried out to satisfy an objective according to some standard” – and outcomes played an important role in relation to the expected results from the learning process and systems. Training and development can improve the performance of learning systems and processes by:

- improving individual abilities;
- stimulating motivation;
- matching individual ability to activity requirements from the systems;
- matching the individual to contextual requirements and processes.

However, the learning processes and systems cannot change work activities or work context. It was found that they change individuals by furnishing them with new knowledge and skills pertaining to the work (Bailey, 1982).

5.7.3 Action research processes

Table 5.23 indicates the different interventions utilised in the development of the learning processes and systems. The performance of the learning processes and systems focused on three interrelated elements during this phase of development (Bailey, 1982):

- The individual in the process (who)
- The process and system activity (what)
- The context in which it occurred (where)

Focus area	Research interventions	Research cycle				
		1	2	3	4	5
Learning processes and systems	• External ABET survey			●	●	
	• Eskom ABET audit			●	●	
	• ABET service-provider evaluation			●	●	
	• Experiential process development				●	●
	• Transmission School of Technology			●	●	
	• Induction programme development			●		
	• Eskom Transmission Group HRD Web-site			●	●	
	• Eskom Transmission Group profile					●

Table 5.23 – Research interventions relating to learning processes and systems

Individual performance is influenced by ability (Bailey, 1982). To improve systems and process performance, change must occur in relation to the individual, the activity or the context, or some combination of the three.

5.7.3.1 External ABET survey (Appendix G)

An external ABET survey was initiated to provide Eskom with relevant information on the current ABET initiatives in South Africa. This was used to benchmark Eskom's own ABET initiatives and the return on its investment in this regard.

This benchmarking report on ABET is the first such exercise known to be undertaken in South Africa and comprised a survey of ABET projects in selected parastatals, national companies and smaller organisations. The following organisations and businesses were included in the ABET survey (Appendix G):

- AECI Explosives Ltd (Modderfontein)
- City Council of Pretoria
- First National Bank (National)
- Gencor (Ingwe Coal Division)
- Greater Johannesburg Transitional Metropolitan Council

- JCI (James Park Training Centre)
- Pick 'n Pay Steeldale (National)
- Reunert Defence Colleges
- South African Breweries
- Spoomet Johannesburg (National)
- Telkom SA (National)
- Toyota SA Marketing (Johannesburg)

The report was based on findings resulting from personal interviews with ABET managers, directors or co-ordinators from these organisations. The ABET survey covered the following two main areas:

- Information regarding the organisations and learners
- Information regarding the nature of the programmes

All companies and organisations were assured of confidentiality with regard to information supplied in the questionnaires used and letters pledging confidentiality were signed by the responsible persons commissioned to collate the benchmarking information. To honour the relevant parties' willingness to participate, no names or statistics regarding specific organisations or businesses are reflected in this report. However, the researcher utilised the information to provide a holistic view of the current status of ABET in South Africa.

- **Information regarding the organisations and the learners**

The ABET survey covered the following topics:

- A. Employee information
- B. Qualifications and accreditation
- C. Learner and employee input

D. Financial cost

A. Employee information

Only one of the respondents was unable to provide data concerning the percentage of employees involved in any ABET programmes. ABET involvement ranges from 0,01% to 30%. Average ABET involvement was just below 18%. The highest percentage occurs amongst the parastatals. It is, however, significant that some of the organisations included in the survey have a need for a more highly skilled workforce and their training programmes focus to a greater extent on further education, as the majority of the learners require specialised training rather than ABET training.

The dominant age groups of ABET participants are 36–45 and 46–55 years. Ten of the twelve respondents indicated percentages and numbers of learners in the lowest and second lowest bands (literacy and level one), which averaged 57%, indicating that the majority of ABET participants enter the programme at the basic literacy level. The four exceptions to this practice indicated that they need a more highly skilled workforce or have very few participants in their ABET programmes. The high percentage of learners in the two lowest bands may also be because some of these programmes are fairly new and have only been in existence since 1995. It was difficult to ascertain the success of the ABET programmes of the 12 respondents, owing to an unwillingness on their part to declare their success rate.

B. Qualifications and accreditation

Seven of the respondents indicated the Independent Examinations Board (IEB) as the sole accreditation and certification body. Two organisations indicated more than one accreditation body. Nine respondents indicated that a full national certificate was awarded at the

end of their ABET programmes. Nine of the respondents indicated that certificates issued at the end of each level were portable and could be transferred to ABET programmes at other organisations and institutions.

C. Learner and employee input

All 12 of the respondents stated that feedback on the quality and effectiveness of the courses and tutors is elicited from the learners on an ongoing basis. Only two of the respondents replied in the negative to the question whether the employees were required to contribute to the structure and content of the courses offered in the programme; however, they indicated active line management and organised labour involvement.

D. Financial cost

Costs ranged from R1 700 to R36 000 per learner. It was assumed that the cost of R36 000 per learner covered all four levels, as this particular organisation's ABET programme is completed in one year, which equals R1 241 per learner per level.

It is clear that the smaller businesses have budgetary constraints that impact on the effectiveness of the ABET initiatives. The parastatals indicated a huge difference (R1 700 versus R10 000 per learner) in budgets allocated for ABET programmes, with mixed results in terms of pass and failure rates.

Some remarks from the respondents indicated that a more visible management presence and support would help to improve the self-respect of the learners, promote a higher rate of productivity within the organisation and encourage further training and development.

- **National and regional co-ordination of programmes**

Ten of the respondents indicated national co-ordination of their ABET programmes. The mining houses indicated no co-ordination with other mining organisations in terms of ABET programmes; however, they try to keep informed about national developments. A lack of policy and management commitment can be identified as one of the reasons for a more co-ordinated ABET approach not being pursued at national level.

- **Effectiveness of the ABET programmes**

Eleven of the respondents expressed satisfaction with their existing ABET programmes, although all of the respondents expressed some kind of dissatisfaction with specific elements of their programmes. Dissatisfaction ranged from a lack of communication after completion of the programme to utilisation of the learners' newly acquired skills in the workplace.

- **Nature of the ABET programmes**

The nature of the ABET programmes was also investigated, with the following topics being covered:

- A. Outsourced and in-house programmes
- B. Facilitator and tutor information
- C. Subjects and courses
- D. Relevance of the programmes
- E. Duration
- F. Recognition of prior learning
- G. ABET learning materials

A. Outsourcing versus in-house

Eight of the respondents indicated that their ABET programmes were in-house and three of the organisations indicated a combination of in-house and outsourced programmes. The information revealed that outsourced programmes focused on ABET levels three and four.

B. Facilitator and tutor information

The respondents' facilitator and learner ratios varied, for various reasons. Ratios are indicated in Table 5.24.

<i>Organisation</i>	<i>Learners</i>	<i>Tutors</i>	<i>Factor</i>
A	300	1	0,003
B	315	1	0,003
C	1 052	1	0,0009
D	3 000	10	0,003
E	6 000	19	0,003
F	20 000	19	0,0009

Table 5.24 – Learner to tutor ratios

The reasons for the differences in learner/tutor ratios indicated in Table 5.24 may be due to some of the organisations outsourcing their ABET programmes fully or partly and the fact that the ABET service-providers are responsible for their own tutors. In addition, the high learner/tutor ratios are due to budgetary constraints in the smaller organisations.

Most of the respondents have a combination of certificated and degreed tutors. Two of the respondents indicated that the majority of their tutors had no tertiary qualifications and two other respondents employed postgraduate tutors as well. One of the respondents indicated that a post-matric qualification was essential to ensure the success of their programme. It was evident from the interviews that some of the tutors were appointed because of light workloads and not

because they are suited for the positions. It was also stated that insufficient training was provided for the internal tutors and facilitators and that the external facilitators were not effective as they lacked a sense of commitment.

C. Subjects and courses

Ten of the respondents indicated that mother tongue literacy formed the basis of their ABET programmes, while another indicated English and numeracy. Other combinations included English / communication and numeracy / mathematics. Five of the respondents indicated that level 4 (NQF Level 1) was part of their ABET programmes, while one other respondent indicated technical subjects as accredited and facilitated by a local technical college.

It is significant that eleven of the respondents included mother tongue literacy in their programmes, while two other organisations included a financial life skills programme in their ABET projects from level 1 to level 4.

D. Relevance of the programmes

Three respondents indicated that the programmes were not integrated into the working environment, while one respondent claimed that the programme was not integrated as effectively as it might be. The other respondents did not elaborate on how suitably or acceptably the programmes were integrated into the workplace environment.

E. Duration

Half of the respondents had part-time ABET programmes running, ranging from two to three hours per day, two or three times a week.

Two organisations offered a combination of both part-time and full-time

programmes. Two other organisations offered ABET programmes where level 1 to level 3 could be completed in a year on a full-time basis, with level 4 then being done on a part-time basis. Two organisations required the learners to contribute half of their own time to the programme.

F. Recognition of prior learning (RPL)

Eleven of the respondents applied recognition for prior learning (RPL) principles within their ABET programmes. Seven of the respondents were able to elaborate on the screening and placement tests utilised to determine RPL, which are developed by ABET service-providers and consultants. However, from personal interviews with the respondents it has been deduced that the RPL assessments are not very effective and are not sufficiently formal to give accurate placement.

G. ABET learning materials

Six of the respondents indicated that a combination of in-house and externally purchased learner packages are used in the ABET programme. Only one of the respondents did not express dissatisfaction with the content and the providers of the materials. One of the respondents indicated that they provided additional enrichment materials to support the contents of the programme.

5.7.3.2 ABET service-provider evaluation (Appendix H)

The purpose of the investigation into the ABET service-providers was to establish the type of service-providers available, the level of education provided by the suppliers, and the recognition and level of certification given to the learners upon completion of ABET courses. The following service-providers were evaluated:

- BESA and Stratecor
- CEP
- COLSA
- ELP (English Literacy Project)
- Enter Education
- Hough and Horne
- M&T Focus
- Triple E below
- PROLIT

Worthwhile and specific information about the service-providers is discussed to emphasise the differences and types of services provided.

A. BESA and Stratecor

BESA and Stratecor work together in the ABET field to provide ABET and project management expertise. They develop the internal capacity of an organisation as regards ABET, assess their learning material and then incorporate it into their programme, making sure that the quality of the programme is not compromised in any way. Alternatively, a fully outsourced option is available, and/or expert facilitators are available where needed. Although BESA and Stratecor provide outcomes-based project-driven ABET programmes and place the emphasis on customisation, their courses and materials are relatively costly.

B. CEP

Continuing Education Programme (CEP) provides training for facilitators and materials, which are fairly effective, for ABET levels one to three. Excellent, reasonably priced ABET English reading materials are produced by this provider.

C. COLSA / PLS

Progressive Learning Systems (PLS) uses a unique methodology that strives to establish a culture of learning in under-educated adults. The entire ABET programme is based on learning skills that encourage the learners to pursue knowledge and study independently. PLS emphasises outcomes-based education and training (OBET) educational systems and is presently replacing the Independent Examinations Boards (IEB) outcomes with unit standards identified by the ABET National Task Team. PLS offers prior assessment of trainers and learners based on competency and placement respectively.

D. Enter Education

Enter Education's ABET materials are recommended for use with other ABET materials. Enter Education's involvement with the IEB is emphasised and it does not regard itself as material-specific, as its ABET ETD practitioners are willing to train facilitators provided materials meet with the recommended requirements of being learner-centred, task and life skills-orientated and outcomes and competency-based.

E. M&T Focus

M&T Focus's realistic adult maths series (RAMS) is designed for numeracy as well as pre-N1 mathematics, which is equivalent to level 4 and includes formative numeracy, numeracy and functional numeracy.

F. Triple E Training

Triple E Training provides dynamic programmes and assessment and develops its own workbooks according to set unit standards. Specific needs are accommodated according to organisations' requirements.

Triple E Training has a unique assessment method, and facilitators trained by this provider can be accredited by the IEB.

The above ABET service-providers are thus able to provide customised courses and ABET learning material to meet the needs of organisations whilst adhering to the recommendations of the NQF, SAQA and the IEB. The overriding factor in choosing the programme best suited to Eskom's ABET requirements is that the programme should be implemented not only as a means to eradicate illiteracy and innumeracy amongst learners, but also to develop critical thinking skills so that further and higher education is pursued. This in turn develops better self-esteem and confidence amongst the learners, so that increased productivity results in the workplace.

5.7.3.3 Eskom ABET audit (Appendix F)

An Eskom ABET audit was initiated to evaluate the current utilisation of ABET, the return on investment and the utilisation of resources. Dissatisfied line and business unit managers approached the Eskom Management Board requesting a fully-fledged audit into all ABET activities in Eskom.

The Eskom ABET report highlighted various categories of issues that have a negative impact on adult basic education, training and development within Eskom and the projects associated with them. The following findings and recommendations are presented by category as they arose from the ABET audit conducted at the end of 1997 and the beginning of 1998 (Appendix F) (Table 5.25):

Category	Recommendations
<i>Integrated learning framework</i>	<ul style="list-style-type: none"> An integrated learning approach should be developed and implemented according to and in line with the SAQA Act (RSA, 1995a). This framework should be based on the guidelines of the National Qualifications Framework. It is also recommended that only one qualification be developed, namely NQF Level 1.
<i>Governance</i>	<ul style="list-style-type: none"> The governance of ABET in Eskom should reflect clear organisational roles addressing the corporate, line and ABET staff. These recommendations should include clear and achievable targets for the next business cycle, with a view to the five-year window.
<i>Management</i>	<ul style="list-style-type: none"> Various management problems were identified and require a movement towards appropriate management styles and control supported by proper performance management measurements.
<i>Infrastructure and delivery</i>	<ul style="list-style-type: none"> A more effective and efficient service should be provided by the ABET staff, focusing on the programmes, duration, success rate and support provided for the learners. Outsourcing of the ABET function to accredited national service-providers that can guarantee an acceptable success rate and nationally recognised qualifications should be considered.
<i>Organisational development practices</i>	<ul style="list-style-type: none"> Competency-based and outcomes-based practices addressing the overall development and competencies of the ABET facilitators should be developed.
<i>National positioning and alignment</i>	<ul style="list-style-type: none"> NQF principles and practices should be implemented, including the design and development of an integrated framework incorporating NQF Level 1 qualifications. A nationally recognised and accredited qualification should be provided and accredited service-providers used.

Table 5.25 – ABET audit recommendations

5.7.3.4 Experiential learning process development

A draft experiential process model was developed and presented to nine participating technicians as part of the opening of the Transmission School of Technology in 1998. The model was subsequently refined on the basis of modifications suggested by focus group discussions. The development of the process went through a redesign phase after an additional formative evaluation session. Specific issues were identified that needed additional support, for example:

- Lack of practical and work-related experience on the part of the ETD practitioners
- Lack of theoretical knowledge to provide an understanding of the philosophical process used in the design and development of the process
- Lack of project management skills
- Failure to deliver expected outputs as negotiated

To address these problems, the following interventions were found to be necessary to support the project approach and as part of the education of the ETD practitioners:

- Project initiation report
- Conceptual framework
- Project definition report
- Executive plan
- Project plan
- Project implementation
- Evaluation and final report

The project process implemented used the principles elucidated below to support the participants (Table 5.26 and Figure 5.5).

Project phase	Description
<i>Project initiation report</i>	<ul style="list-style-type: none"> The project initiation report was based on current needs identified within the organisation. These were deduced from an environmental analysis or specific needs identified in the group or by individuals.
<i>Conceptual framework and executive plan</i>	<ul style="list-style-type: none"> The conceptual framework supported the problem identified in all its aspects, and included the integration of the project at a national, macro and micro level across disciplines. The executive plan accommodated the development of the delivery and management systems, including the type of resources required, initiating the project and taking it from a conceptual phase to actualisation.
<i>Project definition report</i>	<ul style="list-style-type: none"> The project definition report included the development of the project plan based on project management principles and approach. This incorporated the levels and resources required to carry out the development of the project.
<i>Work breakdown structure</i>	<ul style="list-style-type: none"> The work breakdown structure reflected the structure for the project as stipulated in the project definition report. However, this level included detailed actions and project plans necessary to carry out the project. Clear and achievable key performance indicators (KPIs) and actions were identified and stipulated at this point.
<i>Project plan</i>	<ul style="list-style-type: none"> The project plan reflected the development and implementation of the project together with the appointed and empowered project team members.

Table 5.26 – Research project phases

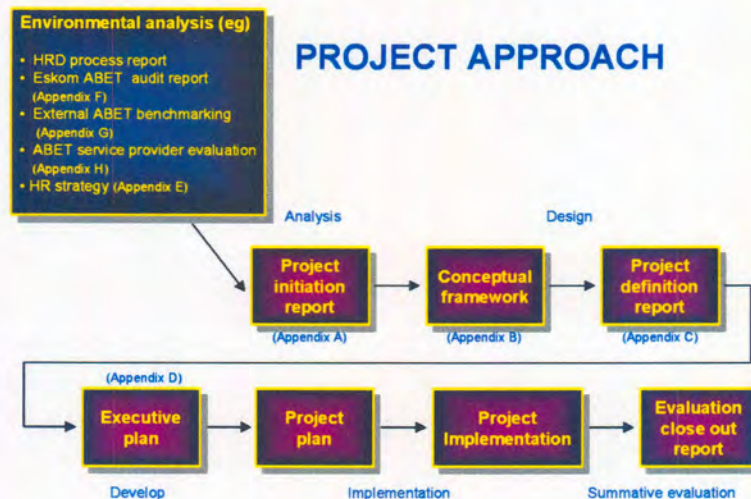


Figure 5.5 – Project approach used for this research project

The project approach described above was used to assist the project members with a generic project approach and to ensure a high project quality.

5.7.3.5 Transmission School of Technology

The Chief Executive of Eskom, Allen Morgan, officially opened the Transmission School of Technology in 1998. The school was designed and developed to operate on the principles of a virtual organisation, with only three full-time employees. However, more than 50 courses are currently presented on the premises. Relevant subject matter experts (SMEs) were approached and contracted to present the courses at the school. The courses were designed in such a way that none have a duration of more than a week. The focus of the school was to provide for the development of pupil technicians and A and B band employees. The SMEs were provided with development opportunities, and the essential HRD development included the following training:

- Individual learning facilitator
- Group learning facilitator
- Instructional techniques
- Presentation skills

Key issues related to the establishment and opening of the Transmission School of Technology included the following:

- Assessing the learners' needs identified the lack of appropriate knowledge and skills. The designing of the development curricula was crucial in addressing the needs that had been identified.
- Clarification of the learners' characteristics using the analysis toolbox helped prepare for the actual instruction of the learners.

5.7.3.6 Induction programme development

The organisational alignment process identified the need for an inclusive induction programme. An induction programme was developed to accommodate the process re-engineering and transformation in the Transmission Group. New employees appointed or transferred to the organisation in the last two years were scheduled to undergo the induction programme. The programme was intended to accommodate the needs of employees at various levels and included the following (Cilliers, 1997) (Figure 5.6):

- Orientation session
- Eskom induction
- Transmission induction
- Transmission Internet-based induction



Figure 5.6 – Transmission Internet-based induction programme

The induction programme satisfactorily assisted the integration of new employees into the organisation. Pre-test and post-test findings indicated

(Table 5.27) an improvement of business understanding from 48% to 83% (Cilliers, 1997: 83).

	<i>Pre-test</i>	<i>Post-test</i>
Questions asked	26	26
Total marks for the test	78	78
Highest marks obtained	87%	100%
Lowest marks obtained	10%	67%
Average for the test	48%	83%

Table 5.27 – Pre-test and post-test findings

The whole of Eskom was introduced to the induction programme during an Eskom television broadcast. Eskom employees were invited to view and use the induction programme in view of:

- the Eskom television exposure;
- the possible improvement of business understanding; and
- the availability of the Intranet-based induction programme.

5.7.3.7 Transmission HRD Web-site

The Transmission HRD Web-site was designed and put on line to make the relevant information more freely available to employees with access to the Eskom Intranet. The HRD Web-site gives employees the opportunity to access the information directly or to download and print it whenever needed. Hard copies of the HRD information were made available to employees who desired them.

The creation of the Transmission HRD Web-site was an important starting point for subsequent HRD activities. The frequent requests for HRD information prompted the development of the Web-site. In addition, the HRD Web-site brought known information about the HRD activities and workforce together in one place. It was found that the HRD Web-site should contain information on (Figure 5.7):

- strategic HRD management;
- HRD product lines; and
- available products, modules and projects developed.



Figure 5.7 – Transmission HRD Web-site

The management and maintenance of the site were an important responsibility of the HRD leadership, as it was essential that relevant information was kept current and up to date.

5.7.3.8 Transmission Group profile

The Eskom Transmission employees were analysed to develop a profile of the organisation in terms of:

- Racial composition
- Gender ratio
- Age groupings
- Years of service in the organisation
- Organisational grading

The Eskom Transmission Group consists of 2 162 employees (May 1999). Eskom utilises a modified Patterson grading system that comprises the following levels and employees per band (Table 5.28 and Table 5.29):

<i>Band</i>	<i>Description</i>
<i>A band</i>	<ul style="list-style-type: none"> The A band employees are the lowest skilled people working for the organisation. Only two employees are currently on this grading and it is therefore not discussed in this research project. For the purposes of this study, they are referred to as the labour force (A band) and included as part of the A and B band employees.
<i>B band</i>	<ul style="list-style-type: none"> The B band consist of two levels, namely B Lower and B Upper employees. The B Lower (BL) employees consist of semi-skilled or half-skilled people. These employees include labourers, utility men, secretaries and office workers. The B Upper (BU) grading caters for the more skilled employees and includes qualified artisans. For the purposes of this study, they are referred to as the labour force (B band) and included as part of the A and B band employees.
<i>C band</i>	<ul style="list-style-type: none"> The C band consists of C Lower (CL) and C Upper (CU) employees. Semi-professional and professional people fall into this category. These include qualified technicians, newly qualified engineers and first line supervisors. For the purposes of this study, they are referred to as the semi-professionals (C band) and include the C band employees at CL and CU level.
<i>MPSE and F band</i>	<ul style="list-style-type: none"> This category includes managerial (M), professional (P), specialist (S) and senior management (E) levels. For the purposes of this study, they are referred to as the management and professional levels (MPE band) and include the M, P, S, E and F band employees.
<i>Trainees</i>	<ul style="list-style-type: none"> This trainee (TRN) level comprises the formal learnerships such as apprentices and pupil technicians. This category also includes the engineers-in-training who are currently busy with a 2-3 year experiential training phase and the formal apprenticeships that occupy a four-year period. For the purposes of this study, they are referred to as the trainees and include the TR1, TR2, TR3, TR4, CTL and CTU band employees.

Table 5.28 – Band description

The Transmission headcount includes the following statistics as obtained from the Eskom Transmission HR database in May 1999 (Table 5.29):

<i>Band</i>	<i>Number of employees</i>	<i>%</i>
A	2	0,04
B	684	31,6
C	926	42,8
MPE	394	18,3
F	1	0,01
Trainees	155	7,2
Total	2 162	100%

Table 5.29 – Employees per band

The transmission profile was used to establish the influence of development that had been implemented that led to promotions to different grading bands.

- **Detailed breakdown of Eskom Transmission employees**

The following areas were analysed on each band in a detailed breakdown of the Transmission employees:

- A. Racial composition
- B. Gender ratio
- C. Age groupings
- D. Years of service with the organisation
- E. Organisational grading profile

A. Transmission racial composition

As is evident from Figure 5.8, the majority of the workforce in Transmission are white employees (50%), followed by black employees (38%). The official Eskom Employment Equity Policy depicts a 50% split and a balance between whites and the other races.

Transmission racial composition

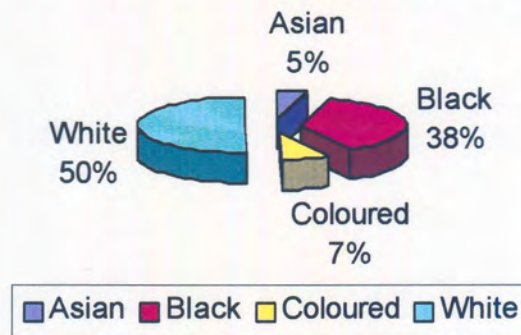


Figure 5.8 – Transmission racial composition

Although policies require a 50/50 split between the white and other races, it also requires 50/50 equity on all bands. As indicated in Figure 5.9, the employment equity balance does not do justice on the different bands at all, with whites in the majority in two of the five bands. The major concern still lies with the C band, with a 68% majority at this level.

Transmission racial composition

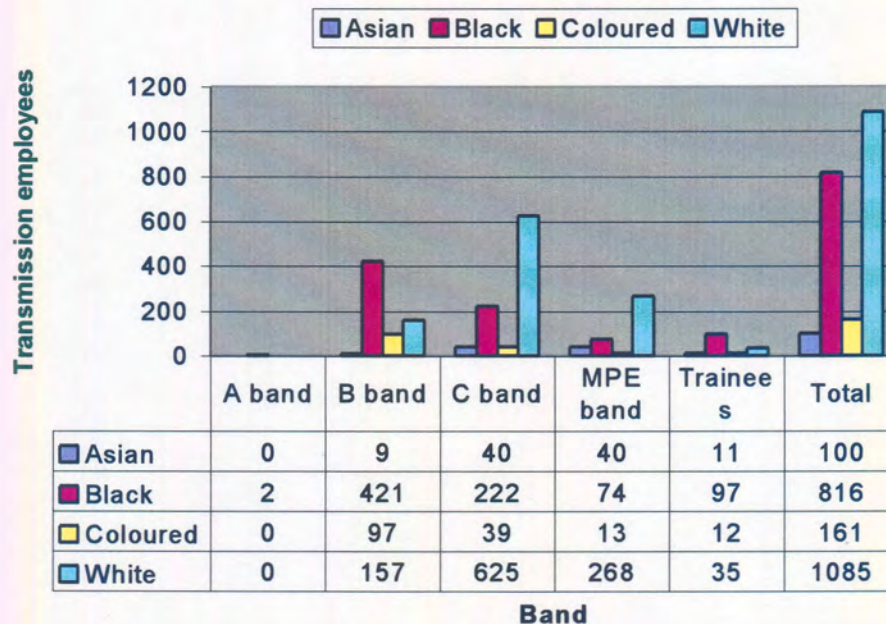


Figure 5.9 – Transmission racial composition breakdown

Also clear from the table in Figure 5.9 is the discrepancy at the professional and senior management (C, MPE bands) levels in terms of racial balance. One of the reasons for this imbalance could be the high technical skill levels required by the Transmission Group as an organisation.

B. Transmission gender ratio

As indicated by Figure 5.10, the gender ratio reflects an 85% male dominance in the organisation. Once again, the strong technical and technological composition of the organisation requires a high level of technical expertise, in which the female gender is simply not well represented. at this time.

Transmission gender ratio

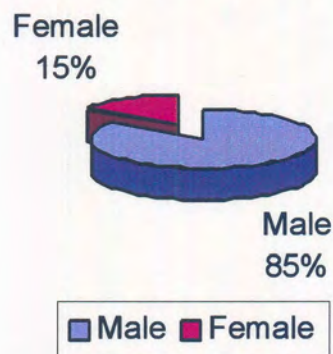


Figure 5.10 – Transmission gender ratio

The more detailed gender breakdown (Figure 5.11) reinforces earlier statements that females are not at all well represented at every level of the organisation. The highest level of female representation is 18% at the B band level, which consists of the secretaries and female office workers.

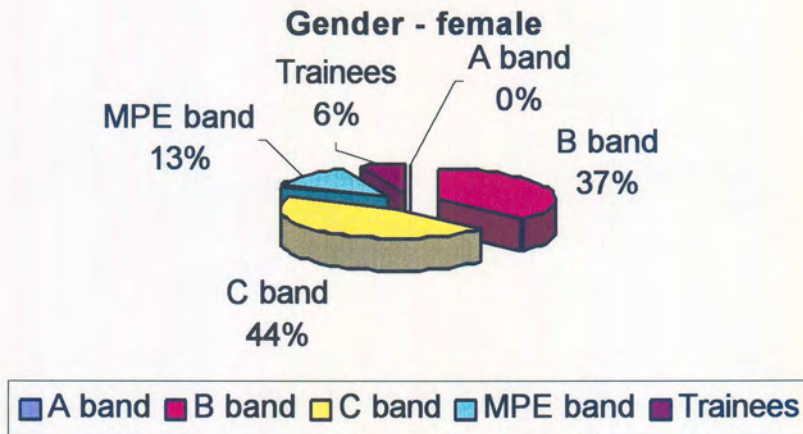


Figure 5.11 – Detailed breakdown of the gender ratio in Transmission

As is evident from Figure 5.11, the highest representation of female workers is in the C band (44%) and B band (37%), which includes most of the female technicians, secretaries and other female office workers.

C. Transmission age groupings

It can be seen from Figure 5.12 that 33% (693 of 2 162) of the employees fall into the 30-39 years age group, followed by 31% (674 of 2 162) in the 40-49 years age group.

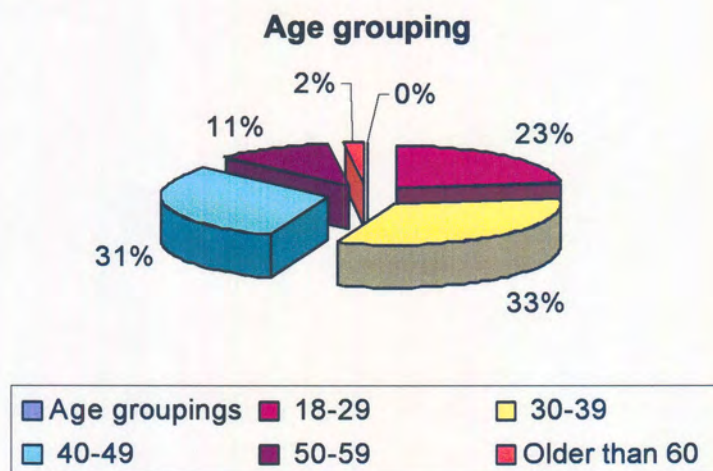


Figure 5.12 – Transmission age grouping

This means that 64% of the employees fall into an older age category, which makes the organisation an established and experienced workgroup. However, this also makes it difficult to elevate the younger generation to more senior positions, as they do not have the necessary work-related experience.

D. Eskom years of service

As indicated in Figure 5.13, 41% of the employees fall into the category of having 11 to 20 years of Eskom work-related experience, followed by nearly half that percentage (23%) in the category of 3-10 years of Eskom work-related experience.

Years of service

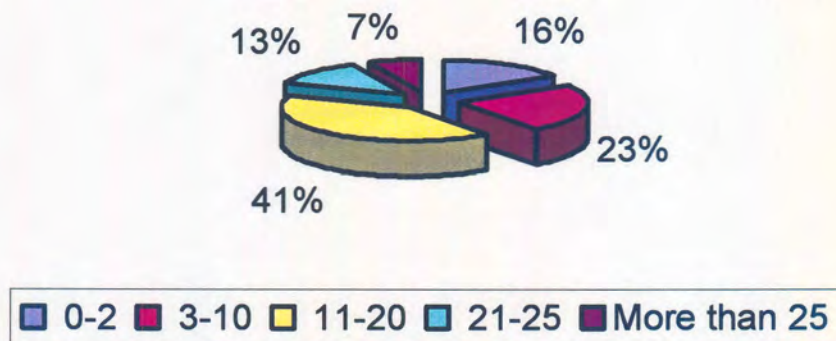


Figure 5.13 – Eskom years of service

It can also be seen from Figure 5.13 that 39% of the employees have less than 10 years' work-related experience in the organisation and 20% have more than 20 years' service in the organisation.

E. Organisational grading profile

Figure 5.14 shows that 43% of the workforce falls into the C band grouping, as is to be expected from a highly technological and professional organisation in Eskom. The lack of a need for lower grade workers is also evident from the lower percentage of A and B band employees in the Group.

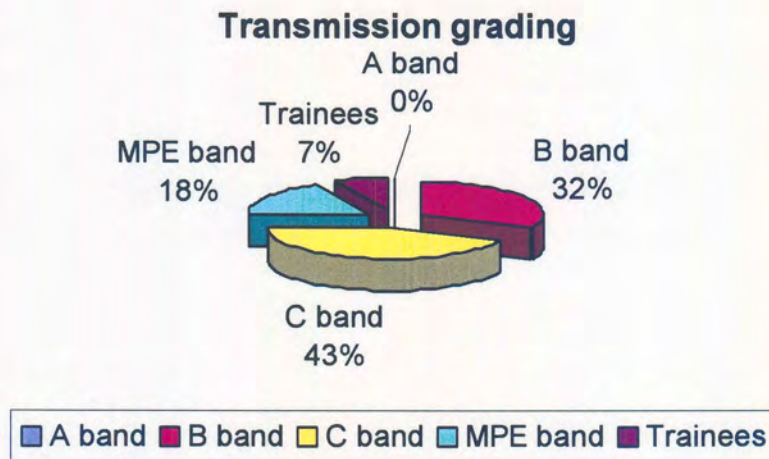


Figure 5.14 – Organisational grading profile

The Eskom Transmission Group profile reflected a ratio of 50% white against 38% black. This is not, however, a true picture of the racial demography. In the remote areas of South Africa where Transmission is represented, the ratio is even less representative. The cultural background of the employee also has a major impact when it comes to placement, and employees do not stay long in these areas.

However, the gender issue is an even greater problem for an organisation that is technically orientated – a 15% female representation does not say much for gender equity in the workplace. Nevertheless, capacity-building programmes to address these issues are being developed and implemented. The age grouping reflects an organisation with employees between 30 and 60 years of age. This creates a problem with developing younger people and replacing the older generation with them. Measures to address these issues have been introduced and include the following:

- Early retirement
- Voluntary separation packages

5.7.4 Learning processes and systems findings

The development pertaining to the learning processes and systems eventuated in the integration of 17 initiatives and sub-projects into four processes and systems (Figure 4.22 and Table 4.9). This integration provided the foundation for sub-teams to co-operatively join operations and work towards common objectives. The learning processes comprised the following:

- Delivery of learning interventions
- Project support
- Transformation
- Management and information systems

- **Delivery of learning interventions**

The research indicated that the delivery of learning interventions focused on maintaining the current initiatives, incorporating and modifying existing interventions and eliminating the gaps identified in the systems.

- **Transformation**

It was found that transformation sub-processes familiarised the organisation, employees and ETD practitioners with the current status, the intended transformation and the future desired state of the organisation. Various change drivers support the transformation initiatives.

- **Project support**

The project support outcomes provided the participants with a grouped or clustered approach to the different sub-projects and processes, with

sub-process and project managers responsible for the delivery of the negotiated sub-outputs.

- **Management and information systems**

The main outcomes in relation to the management and information systems focused on the management and reporting of the required information on an appropriate MIS.

There are almost as many ways to conceptualise training and development design and delivery as there are authors on the subject (Nadler, 1979). Variations exist because authors do not agree on the same philosophy of instruction or learning (Rothwell & Sredl, 1992). HRD leaders and ETD practitioners should analyse problems so that corrective action addresses causes rather than symptoms.

Discrepancies in the learning processes and systems are important and cannot be tolerated. If a performance problem originates from a cause other than lack of individual knowledge or skill, ETD practitioners need to determine the cause. It was found that system problems originated from the following (Bailey, 1982) (Table 5.30):

<i>Issues</i>	<i>Problems identified</i>
<i>Allocation of work</i>	<ul style="list-style-type: none"> Was the work inappropriately allocated? Work or job redesign must be used to correct the problems, not training.
<i>Feedback</i>	<ul style="list-style-type: none"> How well, often and clearly and from whom do employees receive feedback about their performance? The frequency of feedback has been increased and its quality improved to correct problems.
<i>Leadership</i>	<ul style="list-style-type: none"> To what extent do ETD practitioners agree with goals and objectives established at higher levels? Team-building and process approaches have been used to influence key changes in the organisation.
<i>Policies</i>	<ul style="list-style-type: none"> Were the organisational policies interfering with the work requirements or with the realities of the work environment? Policies were reviewed and changed where necessary to eliminate the problems.
<i>Practice</i>	<ul style="list-style-type: none"> Were ETD practitioners' tasks adequate for them to gain proficiency in the tasks they executed? Planned opportunities for skills development improved the situation.
<i>Rewards</i>	<ul style="list-style-type: none"> Were rewards based on a single set of behaviours or outcomes? Incentives were examined and changes made where necessary to solve most of the problems.

Table 5.30 – Problems in relation to learning processes and systems

The findings obtained during the research into national and organisational alignment, learner development and practitioner development processes resembled those in relation to the learning processes and systems. The findings are reported on in the next section.

5.8 LEARNING INTERVENTIONS

5.8.1 Research question

The four subsidiary research questions addressed thus far serve to support the main research question, which is:

<i>Research question</i>
How can national and organisational alignment, learner development, practitioner development and learning processes and systems be integrated into an experiential learning process for the design of learning interventions?

5.8.2 Data gathering instruments

The following data gathering methods and instruments were used to gather information relating to the learning interventions (Table 5.31):

		Instruments used						
		Questionnaires	Researcher's journal	Interview schedules	Formal and informal discussions	Messages generated by participants	Computer-generated results	Training programmes and guidelines
<i>Learning interventions</i>	How can national and organisational alignment, learner development, practitioner development and learning processes and systems be integrated into an experiential learning process for the design of learning interventions?							
Methods	Surveys Journals Interviews Focus groups Electronic mail HR database Practical training programmes			●	●			

Table 5.31 – Methods and instruments used in research on learning interventions

5.8.3 Action research process

Focus area	Research interventions	Research cycle				
		1	2	3	4	5
Learning interventions	<ul style="list-style-type: none"> • HRD transformation • A and B band project report • Practitioner development • Implementation of the Skills Development Act 				●	●

Table 5.32 – Research actions for learning interventions

Many attempts have been made to develop "media models, decision aids to help the practitioners select appropriate and cost-effective means of delivering instruction" (Rothwell & Kazanas, 1994a: 416). Over the years learning interventions have become increasingly sophisticated. ETD practitioners have realised that individuals vary in learning styles (Smith, 1996). Some instructional methods and media are more appropriate than others for specific learning situations, employees and objectives (Kemp, 1971). The process of transforming a learning intervention begins after the process has been appropriately sequenced and the learning delivery selected. There are three major steps in the process:

- Creating a training curriculum and syllabus
- Grouping objectives and outcomes into courses, unit standards and lessons
- Preparing and selecting content at each level

The learning process design used in this research assumed that work-related performance is always improved by:

- analysing how the work was currently being performed;
- assessing how well individuals were performing the work;
- designing interventions to encourage individuals to conform to present ways of doing the work.

On the other hand, there are cases when the learning intervention should anticipate future work requirements utterly unlike those that have existed in the past. Instead of narrowing the gaps between actual and desired work performance at present, the focus should be on gaps between:

- present, actual performance; and
- future desired performance.

In this sense, learning systems serve as a maintenance system, as Katz and Kahn (1978) use the term. They preserve existing systems by training employees in how to conform to:

- policies;
- procedures;
- methods; and
- rules.

This approach fosters consistency by creating uniform behaviour in regard to policies and procedures.

5.8.3.1 HRD transformation (Appendix I)

Transmission HRD strategic development included the alignment of the HRD process and the utilisation of resources. The development of a process approach was adapted to empower and involve relevant employees with the required skills in the processes. The product lines and priorities were refined and upgraded where necessary. The HRD flower (Figure 5.15) was developed and includes the following main focus areas (Cilliers, 1998a):

- Masifunde ('let us learn') for A and B band development
- Technical development

- Professional development
- HRD communication
- HRD projects
- HRD learning technology

Figure 5.15 indicates a three-layer flat structure approach for the delivery of the HRD interventions. Each team consisted of a team leader and team members. Team members from the line groups participated on the basis of a virtual organisation, and time commitments were negotiated with other teams in which the team member was involved. The team leaders form part of the strategic HRD team and HRD communications were a crucial underlying element in the marketing and promotion of the image of the team.

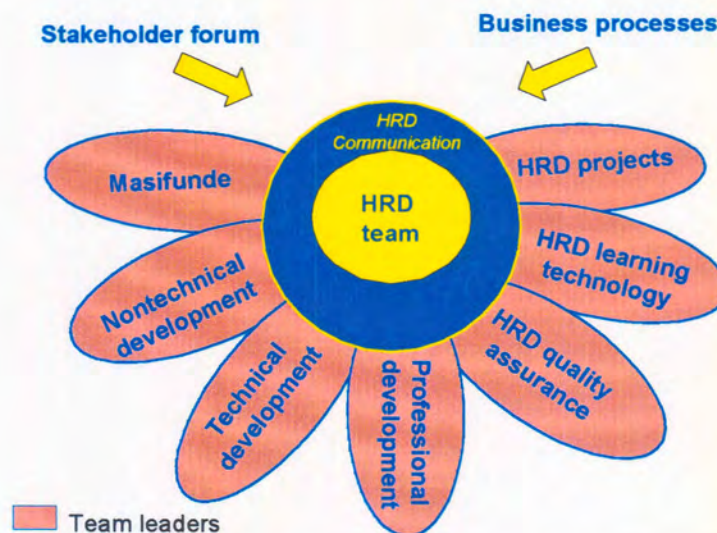


Figure 5.15 – Transmission HRD team

Employees from the stakeholder forums and business processes (Figure 5.15) were invited to participate in the HRD process model. Relevant team leaders and skills were identified and meaningful influence and participation refined the main focus areas. Strategic, operational and project responsibilities were assigned to the relevant team leaders.

It was found that once the Transmission HRD transformation had been put into full motion, the revisiting of the strategic and operational intent reflected a certain amount of discomfort among the key stakeholders. The most important reflection on the HRD process was a feeling of isolation and insufficient involvement on the part of the line functions. The HRD team composition was accordingly changed to address the strategic participation of the core business functions. An HRD strategic team, later called the Transmission Council of Learning, was established and was chaired by the Transmission Executive Director. The HRD strategic team (Transmission Council of Learning) consisted of the following persons (Figure 5.16):

- Representatives from the four business groupings
- Representatives from the four resource groupings
- Representatives from the Eskom Council of Learning
- External representatives when required

The training needs identified by the business and resource groupings have been tabled and financial and manpower resources allocated for the various training interventions. The Transmission Council of Learning was responsible for the delivery of training interventions.

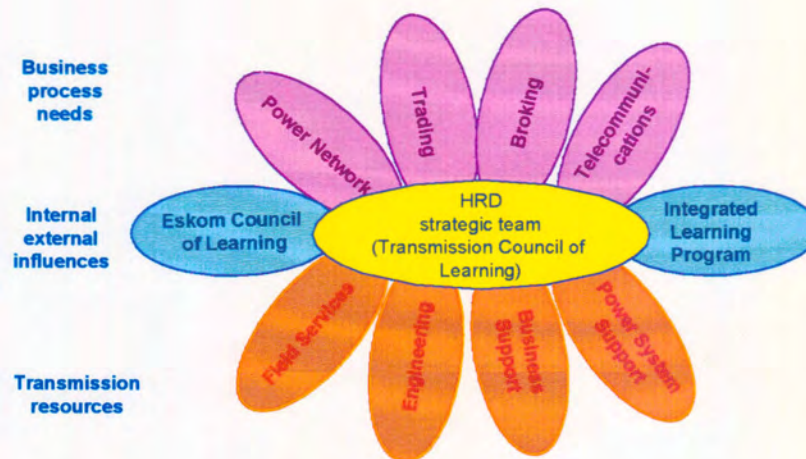


Figure 5.16 – HRD strategic team

The HRD Custodian was *ex officio* a representative on the strategic team (Figure 5.16) and was accountable for the educational correctness of the interventions planned by the Transmission Council of Learning. Project team leaders were identified and empowered by the council to proceed with identified projects.

5.8.3.2 A and B band project report (Appendices A, B, C and D)

The A and B band project was initiated to accommodate the development of the A and B band employees in Eskom. The final report included the following:

- Initiation report
- Definition report
- Conceptual framework
- ABET summary audit report

The initiation report identified the parameters defining the extent of the development to be provided for A and B band employees. The definition report provided detailed and specific indicators and actions in relation to the development and implementation of this initiative. The conceptual framework provides education and an educational approach for the inexperienced ETD practitioners. The ABET summary audit report provided a consolidated report on the:

- Eskom audit report;
- external ABET survey; and
- ABET service provider evaluation.

The A and B band project report was a comprehensive report on the interventions currently in use and recommendations to improve and enhance the expected outputs. The A and B band report included the following aspects (Eskom, 1998a):

- The project initiation report demarcated the boundaries for the project and defined the necessary management support
- A conceptual framework for training and development and the integration of the remaining A and B bands in Eskom was provided
- The project definition report provided details on interaction and the way in which the project should be managed and implemented
- The ABET audit reflected on the current status of ABET and made recommendations on how to address the problem areas

5.8.3.3 Practitioner development

A human resources practitioner course was developed and presented within Eskom to sensitise the ETD practitioners to the changing legislation and

transformation in South Africa and in Eskom. Various target groups were identified and the course presented to them.

The practitioner development went through a modification phase and specific target groups were identified for presentations. These included:

- Senior and top management
- Middle management
- First line supervisors
- ETD practitioners
- Employees

The senior and top management with time constraints were given an overview that ranged between 30 minutes and one hour. The more involved middle managers attended a two-day workshop and the ETD practitioners completed a one-week course on the development. The following aspects were addressed in this course (Figure 5.17):

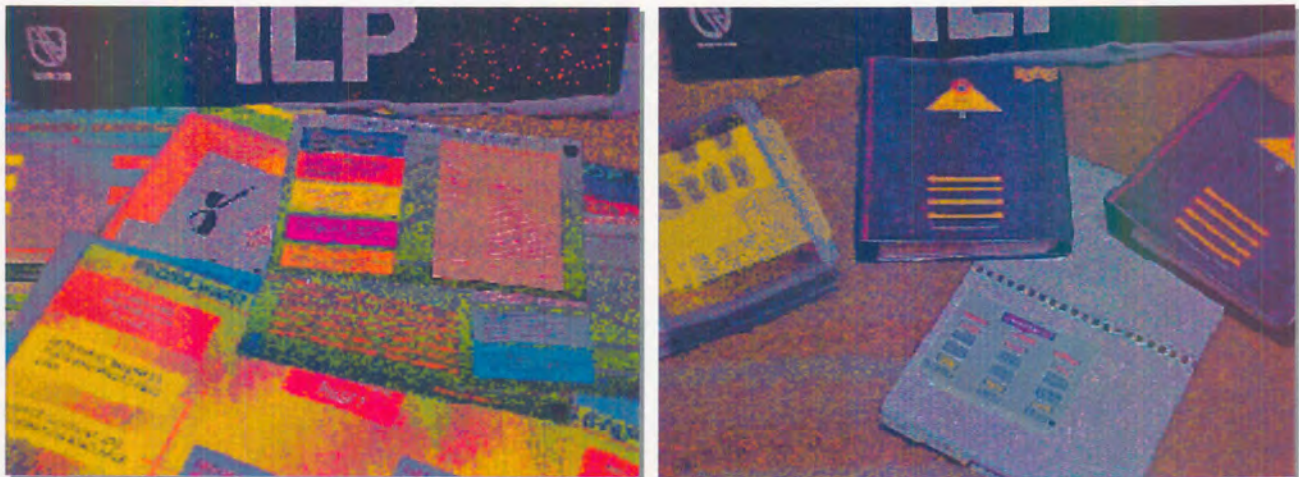


Figure 5.17 – Content of the ETD practitioners toolkit

- Introduction to and roadmap for the practitioner's guide
- Preparation for scheduling and facilitation and a framework for implementing the new requirements

- Workshops on work profiles and unit standards
- Application of the new requirements in human resources practices
- Quality assurance
- Accreditation

The HR/ETD practitioners who completed the course received a toolkit (Figure 5.17) with the necessary reading material, transparencies and posters to equip them to present the transformation changes locally in their own environments.

5.8.3.4 Implementation of the Skills Development Act

A task group was established to address Eskom's alignment with the Skills Development Act. Various team leaders and sub-project leaders were identified and appointed to transform and align Eskom with the legal requirements and implementation of the skills levy payable in April 2000.

Eskom Corporate HRD established four working groups to address the implementation of the Skills Development Act in Eskom. This included the payment of the levy to SAQA and the submission of a skills plan. The ETD practitioner roles were released in October 1999, in an unedited, first draft format for comment. The formulation of a total career path for an HRD practitioner in line with the NQF requirements was still in the development phase.

5.8.4 Learning interventions findings

The development of learning interventions eventuated in consideration of the following:

- A macro model development process
- A micro model development process

- The purpose of the learning interventions
- The foundation and fundamentals of the learning processes
- The impact and focus of the learning interventions

5.8.4.1 Macro model development

The macro model approach converged on an integration of the national and organisational objectives and goals, controlled by primary and secondary control mechanisms. In this approach the employee proceeded through:

- an input process;
- a micro development process; and
- an output process.

5.8.4.2 Micro model and process

The micro model process accommodated the employee and the development of the learning systems through the following phases:

- Analysis
- Design
- Development
- Implementation
- Evaluation

This provided the learning interventions with the required consistency and consequent development and achievement.

5.8.4.3 The purpose of the learning interventions

It was found that the purpose of the learning interventions provided the framework for the development of the learning interventions and included the following:

- Alignment of the learning environment
- Unit standards approach
- Achievable credits
- Competency-based assessment

Learning interventions that were designed and developed used this approach for the delivery of the training and development.

5.8.4.4 The foundation and fundamentals of the learning processes

The foundations of the learning processes build on skills development from the following approach:

- Outcomes-based
- Unit standards
- Roles
- Work profiles

5.8.4.5 The impact and focus of the learning interventions

The focus of the learning interventions was the:

- generic;
- activity; and
- performance

development of the employee and learner supported by the sub-processes responsible for the delivery of the learning interventions. One of the features of this development was the realisation of the essential roles played by the coaches and mentors (individual and group learning facilitators) in the development of the employees and the impact this has on organisational performance.

5.9 SUMMARY

Chapter 5 has described in detail the actions and findings over the duration of the five-year research project undertaken to investigate, design, develop and implement interventions to the benefit of the employees. The report specifies the integration between the four focus areas and includes the data collection methods, instruments used and action research findings of interventions implemented in the various areas. The most important findings obtained during the development of this experiential learning process include the following:

- Learning experiences encountered by the ETD practitioners are related to the way in which participants dominate the process development positively or negatively.
- There is a notable gap between delivery of the theory and practical implementation of the process in the workplace, which is related to the experience/inexperience of the ETD practitioners involved.
- The gap between skills, practices and current theories and focus/lack of focus regarding educational, training and development understanding.
- The eagerness and expectations of the learners with regard to participating in their own development.
- The lack of delivery and implementation of the process in certain areas.

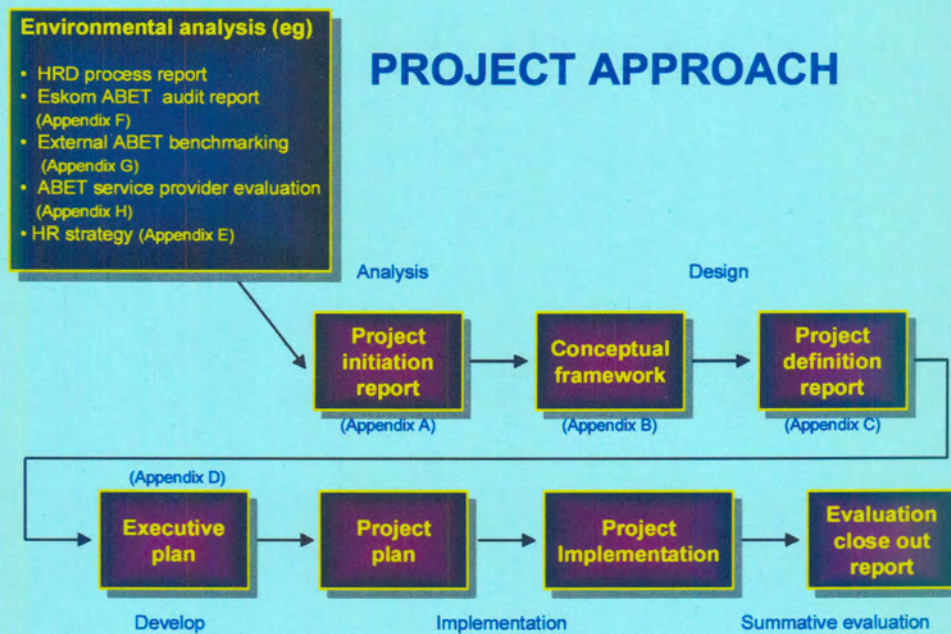
- The relative ignorance concerning the underlying principles and philosophy of education, training and development practices on the part of some of the ETD practitioners.
- The great value of personal interaction with other ETD practitioners in helping to reveal researchers' own lack of clarity and understanding of the philosophy of education, training and development in the workplace.

Chapter 6 concludes this research project report with a summary, conclusion and recommendations for further research.



Chapter 6

Conclusions and recommendations



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

6 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Those who are slower never get the opportunity to truly catch up, because their record of earlier mistakes cannot be erased (Spady, 1994)

6.1 SUMMARY

Dissatisfaction with the rather narrow focus on education, training and development that characterised the earliest manifestations of curriculum development in this research project, along with the realisation that the content and manner of the approach to training and development were superficial and insufficiently grounded, forced the researcher to analyse and design a new approach to developing an experiential learning process suitable for use by an organisation. With the support of an appropriate educational philosophy, he guided the research project to create a training and development experience that is holistic, respectful of difference, and inspirational. The set of frameworks and structures created moves the processes towards that more holistic character emphasised by a variety of educators such as Rogers (1969), Reimer (1971), Friere (1976), Heron (1977) and Stringer (1996) and makes it responsive to any conceptual concerns that might be noted.

The main research question was formulated as follows:

How can national and organisational alignment, learner development, practitioner development, and learning processes and systems be integrated into an experiential learning process for the design of learning interventions?

This question can be answered on the basis of the answers to the subsidiary research questions (Table 6.1):

<i>Focus area</i>	<i>Subsidiary research questions</i>
<i>National and organisational alignment</i>	<ul style="list-style-type: none">• How <i>closely</i> is the learning environment aligned with the national and organisational policy requirements?
<i>Learner development</i>	<ul style="list-style-type: none">• How <i>efficient</i> is the delivery of training interventions?
<i>Practitioner development</i>	<ul style="list-style-type: none">• How does practitioner development influence the <i>quality of learning</i>?
<i>Learning processes and systems</i>	<ul style="list-style-type: none">• How <i>can</i> the learning processes and systems assist in the advancement of employees?

Table 6.1 – Subsidiary research questions

6.2 NATIONAL AND ORGANISATIONAL ALIGNMENT

How *closely* is the learning environment aligned with the national and organisational policy requirements?

The requirement for national and organisational alignment imparted a sense of urgency to human resources practitioners regarding the way training and development is offered by various groups in organisations and industry. Complying with this requirement called for a fundamental culture change in the deepest sense, not only in the organisations, but also at a national level.

It foreshadowed something of a revolution in organisational behaviour and the delivery of learning interventions.

The major stakeholders have done a great deal of groundwork. However, no matter how radical or how uninvolved some of the educational and training environments may seem to be, they need to become aligned and get their house in order or they will have to pay the relevant levy without any rebate. In addition, the education system in South Africa is ill-equipped and misaligned to address the educational, training and development demands satisfactorily and to the benefit of the employees.

The 1998 *Green Paper on Further Education and Training* (South Africa, 1998a), the *Skills Development Act* (South Africa, 1998b) and the *SAQA Act* (South Africa, 1995a) were promulgated to address the alignment requirements in South Africa. However, considerable effort and participation on the part of industry are needed to make the system work effectively.

6.2.1 Eskom recognises the external forces at national and external organisational level

Eskom as a parastatal should play a leading role in directing the national alignment, without patronising smaller organisations that do not have the resources available to compete at a higher level.

6.2.2 Eskom participates at a strategic level

The influence of Eskom at a strategic level provides valuable work-related experience and groundwork development. However, transforming the strategic intent into an operational and viable initiative will require more negotiation with and participation by fellow members of the same classified fields of learning in order to give effect to the legislation.

6.2.3 Eskom initiated various internal initiatives to align the organisation with the legal requirements

The large size of Eskom as an organisation causes various problems in the Groups and smaller Business Units. This calls for improved communications and information-sharing processes to inform employees at all levels.

6.2.4 Specific alignment initiatives were implemented by Eskom to address the generic competency models

Generic profiles were developed by the participating organisations, for example for electricians. However, the gap between this high-level profile and its interpretation by the different organisations is a cause for concern. Furthermore, the interpretation of the profiles in an organisation such as Eskom resulted in many more disparities at this level and even lower levels, as well as in relation to the assessment applied and recognition awarded by the ETD practitioners.

Although Eskom's learning environment has been brought very closely into line with national, organisational and policy requirements, a definite model, framework or set of guidelines is required as a guide for organisations. This must be developed, however, without jeopardising the organisations' culture and objectives or being too prescriptive and giving the employers no leeway for accommodating their own initiatives and needs.

6.3 LEARNER DEVELOPMENT

How *efficient* is the delivery of training interventions?

The efficiency of delivery can be considered in two parts:

- The influence and effect of curriculum development on the learning interventions
- The influence of learnerships, courses, modules and unit standards on the outcomes of learning interventions

6.3.1 Curriculum development

During the period 1995 to 1998 the researcher designed and developed various curricula and training modules, many of which were accredited by formal institutions. A multitude of problems and dilemmas concerning curriculum development were encountered during this time.

The problems and difficulties originated in the design, development and implementation of the experiential learning programmes and the practitioner's first-hand experience of the learning interventions. No pre-set models or exemplars were available for the programmes that were initially delivered by the ETD practitioners. Specific problems related to the following:

- The production of appropriately assessed assignments to examine work-related, outcomes-based practices and the related knowledge and understanding.
- Determining an appropriate educational, training and development ideology and philosophy. Is the organisation in the education and training business? What are the nature and the aims of the

business? How can these philosophies be integrated into a learning process?

- Identifying the nature of the knowledge, skills and attitudes and of the understanding that needs to be included in the content of the programmes for teaching purposes.
- Managing the needs, interests and expectations of the participants in the experiential learning programme.

It became evident from the research that there is a clear distinction between curriculum design and curriculum development. The *Living Webster Encyclopaedic Dictionary* (1975: 271-274) defines the two terms as elucidated in Table 6.2:

<i>Curriculum design</i>	<i>Curriculum development</i>
Curriculum design implies a deliberate effort to establish direction: "An outline, sketch, or plan, as of a work of art, an edifice, or a machine, to be executed or constructed" (Webster, 1975: 271).	Curriculum development denotes gradual evolution and growth. The dictionary definition of development makes this meaning explicit: "The art or process of developing, unfolding, the unravelling of a plot, a gradual growth or advancement through progressive changes" (Webster, 1995: 274).

Table 6.2 – Difference between curriculum design and development

The curricula used for the learning interventions went through both phases. However, it is debatable whether the distinction was clearly understood and put into practice by the ETD practitioners.

6.3.2 Learnerships, courses, modules and units standards

Learnerships should form part of the organisational goals and objectives and the relationship between the curriculum, courses, unit standards, elements and lesson plans should be integrated into the organisation's education, training and development plans to address and support these organisational strategies. This relationship is one of increasing specificity, with a job curriculum the most general and the lessons the most specific.

To answer the research question, the efficiency of the delivery of training interventions in organisations is in need of long overdue adjustment and re-alignment. Hopefully, the national alignment requirements, legislation and proposed penalties for organisations that do not comply with these requirements will create a greater sense of urgency among those as yet not delivering training effectively (South Africa, 1998a; South Africa, 1998b; South Africa, 1995a). The following points should be noted in relation to the delivery of learnerships and skills programmes:

- The initial attempts to deliver learnerships paved the way for a more structured and controlled approach towards the development of learnerships and skills programmes. However, these programmes were implemented in a controlled environment and need to be extended beyond the boundaries of the organisation.
- In addition, quality assurance, assessment methods and allocation and the recognition of qualifications require urgent attention to ensure that the credibility of the learnerships is maintained.
- Eskom should contribute to the development and socialisation of enlightened, responsible and constructively dedicated employees by

making sure that the composition of the learners progressively reflects the demographic realities of the broader society.

- Eskom should also focus more on the expansion and equity strategy by increasing the participation and success rates of black learners in general. This includes involving African, coloured and female learners in programmes (e.g. engineering) in which they are underrepresented.

6.4 PRACTITIONER DEVELOPMENT

How does practitioner development influence the *quality of learning*?

The training needs analysis and recommendations as part of a wider training and development strategy identified the development of ETD practitioners in order to increase professionalism as an urgent issue. Efforts to address the identified needs served as an initiator for the development of a tailor-made course for ETD practitioners to assist with the alignment of current practitioner development and initiatives. The perception of stakeholders' expectations and demands and the need for quality assurance in training and development were identified as key performance indicators.

The brief was to transfer knowledge and understanding regarding national alignment initiatives and the implementation of the Skills Development Act (South Africa, 1998b) to the organisation. The task was not only to develop a curriculum for such a practitioner development programme, but also to satisfy the needs of industry for a quality-assured programme within an organisational environment that was itself structured to support the quality of learning presented by the ETD practitioners on the programme. Learners can become only as good as the ETD practitioners who instruct them. The ABET audit (Eskom, 1998c) provided evidence that the skills and competencies of

the ETD practitioners definitely impact on the quality of the learning interventions (Burke, 1994).

However, the emphasis on the development of the practitioner relates to the nature of the original research problem. Action research has come to play a major role in determining the development requirements in the areas of practitioner development and the successful implementation of advancement programmes.

6.4.1 Practitioner roles, skills and knowledge requirements

The development of the practitioner profile, role, skills and knowledge requirements paved the way for involving employees in the training and development environment as part-time practitioners, with consequent development possibilities for themselves in the human resources development discipline. However, this was only the first step to utilising these employees in a virtual organisational setup and to changing the organisational culture to support these initiatives.

In addition, the development of practitioners and the recognition they receive need to be accommodated in such a way that these employees are able to provide an essential service without the organisational structures being inflated.

6.4.2 Qualifications

The separate and parallel qualifications structures for Eskom ETD practitioners and external service-providers (universities, technikons and colleges) hindered articulation and transfer between organisations and higher educational programmes. The NQF clearly spells out that the programme-based approach to practitioner development should focus on the

enhancement of horizontal and vertical mobility through flexible entry and exit qualifications for ETD practitioners.

It is thus recommended that Eskom adapt these qualifications at the levels of higher education certificates, diplomas and degrees to include intermediate exit qualifications within a multi-year qualification approach.

6.5 LEARNING PROCESSES AND SYSTEMS

How *can* the learning processes and systems assist in the advancement of employees?

The experiential learning process is an outcomes-based model. The competent practitioner is a person who is able to effect certain specific outcomes over an extensive range of knowledge domains and their attendant managerial and leadership situations (Boulding, 1956). To achieve these outcomes, the competent practitioner will separately or simultaneously participate fully or in a part-time capacity in four roles:

- Managing operations (activities)
- Managing finance
- Managing people
- Managing information

Learning interventions were not previously always fair, at times leaving the employee on his/her own with minimal support from the organisation.

However, legislation has introduced change in two ways:

- Organisations have a responsibility to create a culture of lifelong learning and to provide the means to achieve this.

- Employees have a responsibility to take ownership of their own development.

The legislation that has been passed has opened the way for employee development in the fullest sense, with the establishment of an organisational learning culture and the creation of learning organisations.

6.5.1 Transformation

The single most important problem in regard to the learning processes and systems is the transformation of the organisation to become a learning organisation by means of organisational learning. The transformation at national level forced Eskom to adapt to these requirements. In addition, the cost of transformation and the development of employees to comply with the national requirements places a tremendous financial and manpower burden on the organisation. Proper cost analyses and information on the return on the investment are urgently needed to justify the intent of the learning processes.

6.5.2 Processes and systems

Eskom is using information management processes and systems that are outdated. A needs analysis is currently being carried out to identify an appropriate system that will be able to accommodate the organisation's needs. However, the systems that have been investigated focus mainly on financial management and do not accommodate the human resources needs to the extent hoped for. The identification of a suitable information management system to capture data relating to the learning process and systems and results that is able to interface and work from various user platforms and software is also required at a national level.

6.5.3 Technological changes

The transformation of training and development within Eskom is part of the broader process of Eskom's and South Africa's political, social and economic transition. However, these economic and technological changes will necessarily have an impact on the training and development agenda, reflecting the influence of national and global economic relations. Eskom is confronted with the formidable challenge of ensuring its competitiveness not only in the national arena but also at international level in the face of the rapid changes resulting from new communications and information technologies. Eskom needs to invest more in the learning of these technologies, which place a premium on knowledge and skills, leading to the notion of the 'knowledge society' that transforms the way in which Eskom will work.

6.6 LEARNING INTERVENTIONS

How can national and organisational alignment, learner development, practitioner development, and learning processes and systems be integrated into an experiential learning process for the design of learning interventions?

Experiential learning and action research can be seen as the embodiment of a critical social science and were used as a broad overarching framework guiding the inquiry process. The outlines for a critical training and development and educational science have been mapped by Carr & Kemmis (1994) and the related research methodology has been developed on the basis of Lewin's (1946) early action research formulation. The nature and philosophy of the experiential training and development process as designed and implemented in this research project were identified and reflect the following:

6.6.1 Tensions and dilemmas

There are tensions and dilemmas concerning the different educational ideologies and philosophies embraced by the ETD practitioners. For example, some practitioners refer to human resource development, others to training and development or development and facilitation.

6.6.2 Perception of the programme

The perception of the programme by formal, informal and key stakeholders is important. Although the aim was to develop an experiential learning process with four focus areas, based on an outcomes-based approach, displayed competence in the workplace and recognition for prior learning, which led to a declaration of competence, the emphasis was on the quality of the learning as a first priority and only secondly on the qualification. The perception of some learners and key stakeholders was that the process was qualification-led or based at too high a level for their liking.

6.6.3 Educational philosophies

Some ETD practitioners emphasise the experiential impact expected from the programme. Owing to the different nature of knowledge and understanding in the different modules, they are designed to cover the knowledge and understanding necessary to fill the different roles of the ETD practitioners effectively and learners will diverge and the actual method of delivery will vary accordingly.

Exploring whether the experiential learning process needs a single or multiple philosophy or approach, it was felt that in the light of the wide variety of legal requirements, apparently intractable issues and requests that were on the priority list of government departments, more than one philosophy or approach was often required.

6.6.4 Learning interventions

It is essential to be clear about the nature of each of the focus areas and to communicate the distinct nature and purpose of each focus areas. The fact that so many double meanings and interpretations of the legislative alignment requirements existed was no reason to be unclear or inconsistent in the way training and development interventions were implemented and delivered.

Perception is the process of extracting, organising and interpreting information from the environment. The perception of industry in relation to the learning interventions that were designed and implemented reflects the following:

- Excitement regarding the development potential of the learning interventions and process approach
- A positive approach towards human capital development
- The shortage of qualified and experienced ETD practitioners to implement and maintain such systems
- The impact on financial and manpower resources
- Participation by smaller stakeholders
- The influence of the bigger stakeholders on the processes
- The complexity and the impact of national legislation on the economy of South Africa
- The impact of the First and Third World conditions in South Africa
- The impact of literacy and AIDS problems on the processes

The present education system in South Africa is not skills-based and this impacts negatively on economic growth and social development. The urgent and alarming need for a complete transformation of the education system is of great concern and the outcomes-based education system currently being

introduced could make a meaningful contribution towards the establishment of such learning systems in industry.

6.6.5 Macro and micro processes

The micro model and processes implemented and in use in Eskom are well defined and proved. However, the integration of the micro and macro processes is addressed by the national and organisational alignment interventions, and the idea of alliances and partnerships within and external to Eskom needs much refinement.

In addition, a philosophical and fundamental understanding of these models is still required by employees at different levels. There is a chronic mismatch between the output of the micro process, that of the macro processes and the needs of a modernising and changing organisation. In particular, there is a shortage of highly qualified trained employees, largely as a result of discriminatory practices and the limitation of access to black and female employees. Eskom needs to continue with projects already implemented to advance the development of previously disadvantaged employees in the organisation (e.g. the doubling of trainees project).

6.6.6 Governance

The governance of previous training and development interventions at a process and systems level is characterised by fragmentation, inefficiency and ineffectiveness, with too little co-ordination, few common goals and negligible systems planning. The learning interventions as developed in this research project address most of the issues mentioned. However, the learning systems need to be further supported and implemented to reap the full benefits of the exercise.



6.6.7 Challenges

Eskom encourages the development of a reflective capacity and a willingness to review and renew prevailing ideas, policies and practices based on a commitment to the development of the Eskom employees. However, it is recommended that Eskom continue to contribute to the creation, sharing and evaluation of knowledge and experience gained during this research project.

6.6.8 Learner programmes

Eskom should expand career-orientated programmes at all levels, but should concentrate in particular on short-term development at certificate and diploma level in the engineering and technology programmes.

However, in supporting its employees, Eskom should focus more on distance education and outcomes learning based on the principles of open learning. Eskom has a crucial role to play in meeting the expectations in relation to the expansion of access at national, organisational and learner level, diversification of the body of learners and an enhancement of the quality of learning in the context of the current resource constraints.

6.7 LIMITATIONS OF THE STUDY

6.7.1 National and organisational alignment

The educational backlog indirectly presents many problems in South Africa and manifests itself in different national, organisational and social dimensions. A country's potential in terms of both human and financial resources influences growth and development, and participation at a national level requires enormous financial support. Financial constraints are the reason for many smaller organisations not participating in any national initiatives.

6.7.2 Learner development

The lack of in-service training for employees limits meaningful participation in various processes and initiatives. However, many employees lack the basic education and training that will enable them to undergo such in-service training. This is why organisations and communities need to run programmes that will provide the basic skills required to support the learning processes.

6.7.3 Practitioner development

Throughout the literature study and in parts of the development of this thesis, one is brought to an awareness of an unintentional bypassing of the contextual importance of self-development of the practitioner and sometimes that of the learner. The approach to this study answered this problem in some way. Another facet that corroborated the call for an alternative research approach is that research in this field has up to now unintentionally focused only on the development of learning processes and systems, neglecting the self-development of the practitioner who is needed to implement the learning interventions, make them work and maintain the system.

6.7.4 Learning processes and systems

The enormous variety in training and development processes and individual interpretations thereof creates a lack of participation in constructive discussions by the ETD practitioners. The non-availability or inadequate supply of suitably qualified ETD practitioners is a serious drawback for the learning processes and systems.

6.7.5 Learning interventions

Offering an integrated programme (macro development) rather than programmes in four different and distinct focus areas caused problems for

people with micro development experience. The coherence, compatibility and integration in terms of central values transmitted in the use of combined focus areas had to be weighed up against the fragmented, individual and limited experiences in a single area.

6.8 RECOMMENDATIONS FOR FURTHER STUDY

6.8.1 National and organisational alignment

The researcher recommends a comparative study on the education and training sector and the impact of legislation on education and training within an organisation. The way in which the *Skills Development Act*, the *SAQA Act* and the *Green Paper on Further Education and Training* will be implemented in accordance with the requirements of SAQA and the NQF should be investigated. One of the reasons that the education and training sector is the most relevant focus area to start with is that investment in human capital through the development of learning systems could be regarded as one of the preconditions for national development.

6.8.2 Learner development

Various authors and ETD practitioners who were interviewed reported that the existence of employee and learner support activities could improve employee success and well-being. It is thus recommended that further research investigate the development of a structured employee support system that will provide assistance not only on work-related issues but also in relation to retirement and self-fulfilment needs, especially those of previously disadvantaged employees in rural areas.

6.8.3 Practitioner development

This research has motivated further investigation of the systematic and in some ways crucial limitations on ETD practitioners' decisions in just about every facet of their daily encounters with people, processes and systems. The provision of training for ETD practitioners to enable them to act as change agents for the transformation process could also be further investigated.

6.8.4 Learning processes and systems

It was never the intention of this study to assist in the formulation and development of guidelines for aspiring or practising ETD practitioners. However, practical implications dictated otherwise and it is recommended that the modules developed as part of the research into the need for practitioner development be adapted and integrated into a formal practitioner development curriculum.

The fruitfulness of this development study must be revisited and re-appraised. Equipping the organisation to manage the learning interventions more effectively is only the beginning of becoming a learning organisation. It is recommended that with occasional investigations and re-appraisals, critical feedback from co-researchers be utilised to modify the learning interventions as and when required. This may clarify vague or confusing aspects of the research questions and the learning interventions. The researcher is of the opinion that working with fellow ETD practitioners is particularly useful, as their critical feedback concerning aspects of the development of the learning interventions can be helpful for future learning process development.

6.9 CONCLUSION

The experience gained and the difficulties encountered in conducting a research project of this nature and the exposure to the problems of genuine collaboration in an organisational and educational environment undergoing structural change was a unique experience and very fulfilling.

The formulation of central focus areas in this study was the most marked departure from the tradition of conducting focused and structured research. When working with such a large project involving so many people, a great sense of reliability is sought. During the research project the methodological reflection on one's reliance on fellow ETD practitioners endured and provided a certain built-in reliability. However, this always remains open to debate.

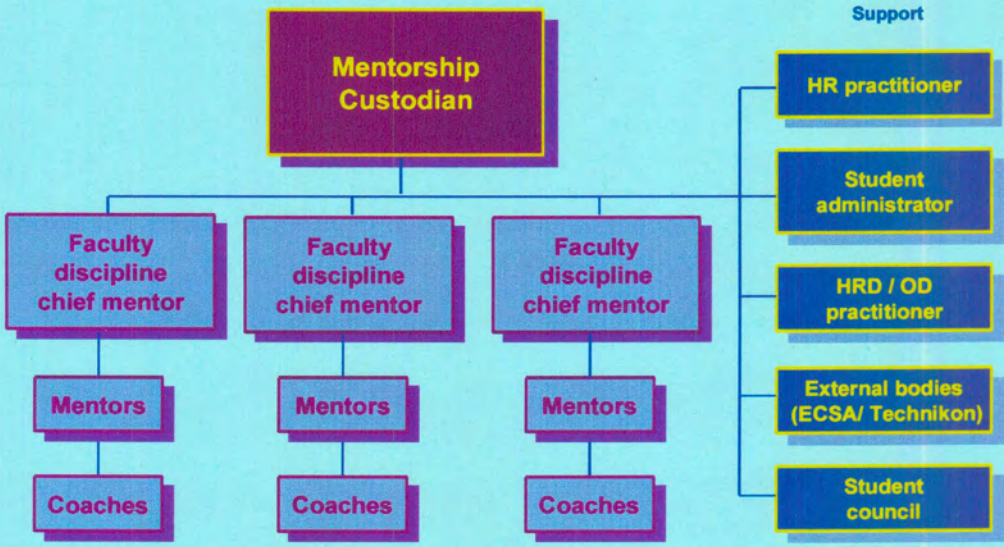
Another aspect that remains disputable and unresolved is the issue of validity. It is clear that no deliberate attempts were made in this study to validate the data. Relying on respected authors and the professionalism of the ETD practitioners involved in this research may justify the validity of the research. Despite the debate on the issue of validity and despite the fact that validity may lie beyond the realm of one single study, the researcher feels compelled to consider the enhancing effects that validation attempts have had on the results.

This study explored the development of an experiential learning process to integrate and support education and training in South Africa and to contribute to comparative development in organisations. The research utilised a systems approach as its fundamental point of departure. The integration of the four focus areas may open a world of learning for the majority of the ETD practitioners involved in the research project. The professionalism displayed by the key stakeholders involved in the process makes the integration of the

focus areas a reality. Properly planned investment in the development of the ETD practitioners paid significant social and developmental dividends.

The framework developed in this study contributed to an understanding of the way in which existing educational and developmental problems can be addressed by implementing the research approach developed. The integration of the focus areas into a single learning process on the basis of traditional educational practices attempts to address current educational development problems in South Africa.

References



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REFERENCES

- Abetti, P.A. (1989). Technology: A key strategic resource. *Management Review*, Vol. 78(2), pp 37-41.
- Ackoff, R. (1971). *A Concept of Corporate Planning*. New York: Wiley Interscience.
- African National Congress. (1994). *Implementation Plan for Education and Training*. Johannesburg: Educational Department, African National Congress.
- Allison, G. (1971). *Essence of Decision*. Boston: Little Brown.
- Amabile, T.M. & Stubbs, M.L. (1982). *Psychological Research in the Classroom. Issues for Educators and Researchers*. New York: Pergamon.
- Anderson, J.R. (1982). Acquisition of cognitive skill. *Psychological Review*, Vol. 89(4), pp 369-406.
- Annett, J. (1968). *A Systems Approach. Planning Industrial Training*. London: National Institute of Adult Education.
- Ansoff, H.I. (1965). *Corporate Strategy*. New York: McGraw-Hill.
- Argyris, C. & Schön, D.A. (1978). *Organisational Learning: A Theory of Action Perspective*. Reading, MA: Addison-Wesley.
- Armstrong, M. & Long, P. (1996). *The Reality of Strategic HRM*. London: Institute of Personnel and Development.

- Bailey, R. (1982). *Human Performance Engineering: A Guide for System Designers*. Englewood Cliffs, New Jersey: Prentice Hall.
- Bauman, Z. (1993). *Post Modern Ethics*. Oxford: Blackwell.
- Bechet, T.P. & Walker, J.W. (1993). Aligning staff with business strategy. *Human Resource Planning*, Vol. 16(2), pp 1-16.
- Beer, S. (1981). *Decision and Control*. London: Wiley.
- Bennett, R.H., Fadil, P.A. & Greenwood, R.T. (1994). Cultural alignment in response to strategic organisational change: New considerations for a changing framework. *Journal of Managerial Issues*, Vol. 6(4), pp 474-491.
- Berger, P. & Luckmann, T. (1966). *The Social Construction of Reality*. Harmondsworth: Penguin.
- Berryman, S. (1993). Learning for the workplace. *Review of the Research in Education*, pp 343-401.
- Best, S. & Kellner, D. (1991). *Postmodern Theory*. Oxford: Blackwell.
- Bexley, K.N. & Latham, G.P. (1981). *Developing and Training Human Resources in Organisations*. Glenview, IL: Scott, Foresman and Co.
- Billett, S. (1994). Situated learning – a workplace experience. *Australian Journal of Adult and Community Education*, Vol. 34(2), pp 112-130.
- BMI Issues Management. (1997). *Education, Training and Development in Business: A Training Perspective*. Johannesburg: ITG House.

- Boud, D. (1985). *Reflection: Turning Experience into Learning*. London: Kogan Page.
- Boulding, K.E. (1956). General systems theory: The skeleton of science. *Journal of Applied Behavioural Sciences*, Vol. 2, pp197-208.
- Brinkerhoff, O.R. (1991). *Achieving Results from Training*. San Francisco: Jossey-Bass Publishers.
- Brunner, I. & Guzman, A. (1989). Participatory evaluation: A tool to assess projects and empower people. In Conner, R. F. & Hendricks, M. *International Innovations in Evaluation Methodology: New Directions for Evaluations Methodology*. San Francisco, CA: Jossey-Bass.
- Buckland, P. & De Wee, K. (1996). *Local / district governance in education. Lessons for South Africa*, pp 79- 83. Johannesburg: Global Print. Burgelman, R. (1990). Strategy making and organisational ecology. In Sing, J. (Ed.). *Organisational Evolution*, pp 164-181. Newbury Park: Sage.
- Burke, C. (1994). *Transforming Teacher Education in PNG: A Framework for Sustainable Professional Development in Community Teacher Colleges (mimeo)*. Australia: Queensland University of Technology.
- Bushnell, S.D. (1990). Input, Process, Output: Model for Evaluating Training. *Training and Development Journal*, Vol. 44(3), pp 41-43.
- Calvert, G., Mobley, S. & Marshall, L. (1994). Grasping the learning organisation. *Training and Development*, Vol. 48(6), pp 38-43.
- Camp, R., Blanchard, P. & Huszczo, E.G. (1986). *Towards a More Organisationally Effective Training Strategy and Practice*. Englewood Cliffs, NJ: Prentice-Hall.

Campbell, J.P. (1971). Personnel training and development. *Annual Review of Psychology*, Vol.22, pp 565-602.

Carr, W. & Kemmis, S. (1986). *Becoming Critical: Education, Knowledge and Action Research*. Basingstroke: Falmer Press.

Carr, W. & Kemmis, S. (1994). *Becoming Critical*. Lewes: Falmer Press.

Casner-Lotto, J. (1988). *Successful Training Strategies: Twenty-six Innovative Training Models*. San Francisco: Jossey-Bass.

Cilliers, W.J. (1996a). *Competence Development for Engineering Resources*. Johannesburg: Eskom Transmission Group.

Cilliers, W.J. (1996b). *Competence Development for Engineering Technicians in Transmission*. Johannesburg: Eskom Transmission Group.

Cilliers, W.J. (1996c). *Primary and Secondary Plant Curricula in Transmission*. Johannesburg: Eskom Transmission Group.

Cilliers, W.J. (1996d). *Experiential Training Record for Engineering Technicians in Transmission*. Johannesburg: Eskom Transmission Group.

Cilliers, W.J. (1996e). *Guideline for the Experiential Training Record in Transmission for Engineering Technicians*. Johannesburg: Eskom Transmission Group.

Cilliers, W.J. (1996f). *Guideline for Competence Development for Engineers-in-Training*. Johannesburg: Eskom Transmission Group.

- Cilliers, W.J. (1996g). *Guideline for Mentorship*. Johannesburg: Eskom Transmission Group.
- Cilliers, W.J. (1997). *Formative Evaluation of an Internet-based Induction Program*. Unpublished MEd dissertation. University of Pretoria, Pretoria.
- Cilliers, W.J. (1998a). *Transmission HRD Process Report 1995 - 1998*. Johannesburg: Eskom Transmission Group.
- Cilliers, W.J. (1998b). *Transmission HRD Analysis Toolbox*. Johannesburg: Eskom Transmission Group.
- Cilliers, W.J. (1998c). *Transmission HRD Management Toolbox*. Johannesburg: Eskom Transmission Group.
- Cilliers, W.J. (1998d). *Guideline for a Student Administrator*. Johannesburg: Eskom Transmission Group.
- Cilliers, W.J. (1998f). *Eskom Transmission HRD Guideline*. Johannesburg: Eskom Transmission Group.
- Clark, B. (1956). Organisational adaptation and precarious values. *American Sociological Review*, Vol. 21, pp 327-336.
- Cohen, L. & Manion L. (1998). *Research Methods in Education* (Fourth edition). New York: Routledge.
- Cohen, M.D., March, J.G. & Olsen, J.P. (1972). A garbage can model of organisational choice. *Administrative Science Quarterly*, Vol. 17, pp 1-25.

Cohen, P.A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multisection validity studies. *Review of Education Research*, Vol. 13, pp 321-341.

Connor, S. (1989). *Postmodernist Culture*. Oxford: Blackwell.

Coombe, C. (1996). In: Coombe & Godden (Eds), *Local / district governance in education. Lessons for South Africa*, pp 15-34. Johannesburg: Global Print.

Cuenod, M. & Kahne, S. (1973). Systems approaches to developing countries: Proceedings of the symposium sponsored by the International Federation of Automatic Control and the International Federation of Operational Research Societies, 28-31 May, Algiers, Algeria.

Cutler, R.S. (1989). A comparison of Japanese and U.S. high-technology transfer practices. *IEEE Transactions on Engineering Management*, Vol. 36(1), pp 17-24.

Cyert, R.M. & March, J.G. (1963). *A Behavioural Theory of the Firm*. Englewood Cliffs. NJ: Prentice Hall.

Darling-Hammond, L. (1994). Performance-based assessment and educational equity. *Harvard Educational Review*, Vol. 64(1), pp 5-30.

Davidow, W.H. & Malone, M.S. (1992). *The Virtual Corporation*. New York, NY: Burlingame Books..

Deal, T. & Kennedy, A.A. (1982). *Corporate Cultures: The Rites and Rituals of Corporate Life*. Reading, MA: Addison Wesley.

- Deutsch, A. (1979). *The Human Resource Revolution: Communicate or Litigate*. St Louis, NY: McGraw-Hill Book Co..
- Drucker, P. (1992). *Managing for the Future*. Oxford: Butterworth Heinemann.
- Drucker, P.F. (1994). The theory of business. *Harvard Business Review*, September-October, p. 95.
- Dubin, R. (1969). *Theory Building*. New York: Free Press.
- Duffy, T.M. & Jonassen, D.J. (1992). *Constructivism and the Technology of Instruction: A Conversation*. Hillsdale, N.J: Lawrence Erlbaum Associates.
- Echstrand, G.A. (1964). Current status of the technology of training. *AMRL Document Technical Report*, September, pp 64-86.
- Elliott, see Hopkins.
- Entwhistle, N.J. (1988). *Styles of learning and Teaching: An Integrated Outline of Educational Psychology*. London: David Fulton.
- Erickson, R.P. (1990). Evaluating training results. *Training and Development Journal*, Vol. 44(1), pp 57-59.
- Eskom. (1996). *The Pivotal Power*. Johannesburg: Churchill Murray Publications (Pty) Ltd.
- Eskom. (1997a). *Eskom Practitioner Guide Revision 0*. Johannesburg: Eskom.
- Eskom. (1997b). *Human Resources Strategy*. Johannesburg: Eskom.

- Eskom. (1997c). *Eskom Transmission Group – Business plan 1997-2000*. Johannesburg: Eskom.
- Eskom. (1998a). *A and B Band Advancement Report*. Johannesburg: Eskom.
- Eskom. (1998b). *Eskom ABET Service Provider Evaluation*. Johannesburg: Eskom.
- Eskom. (1998c). *Eskom ABET Audit Report*. Johannesburg: Eskom.
- Eskom. (1998d). *External ABET Bench Marking*. Johannesburg: Eskom.
- Eskom. (1998e). *Eskom Annual Report*. Johannesburg: MPrint.
- Feldman, D. (1981). The Multiple Socialisation of Organisation Members. *Academy of Management Review*, pp 309-318.
- Ference, P.R. & Vockell, E.L. (1994). Adult learning characteristics and effective software instruction. *Educational Technology*, 34(4), pp 25-31.
- Fiol, C.M. & Lyles, M.A. (1985). Organisational learning. *Academy of Management Review*, Vol. 10(4), pp 803-813.
- Franklin, R.E. (1996). Coombe & Godden (Eds), *Local / district governance in education. Lessons for South Africa*, pp 165- 172. Johannesburg: Global Print.
- French, R.B. & Bazalgette, J. (1993). *From Learning Organisation to Teaching-Learning Organisation*. Paper presented to the EFMD, Research Conference Building Alliances for Learning: Paris.

- Friere, P. (1976). *Education: The Practice of Freedom*. Aylesbury: Writers and Readers Publishing Cooperative.
- Fukuyama, F. (1992). *The End of History and the Last Man*. London: Hamish Hamilton.
- Gague, R.M. (1962). Military training and principles of learning. *American Psychologist*, Vol. 17, pp 83-91.
- Gardner, J. (1963). *Self-Renewal: The Individual and the Innovative Society*. New York: Harper and Row.
- Garratt, R. (1987). *The Learning Organisation*. Pan Books. London.
- Glaser, B. & Strauss, A. (1967). *The Discovery of Grounded Theory*. Chicago: Aldine.
- Glaser, R. (1990). Re-emergence of learning theory within instructional research. *American Psychologist*, Vol. 45(1), pp 29-39.
- Glueck, W. & Jauch, L. (1984). *Business Policy and Strategic Management* (4th edition). New York: McGraw-Hill.
- Goldstein, I.L. & Associates (1989). *Training and Development in Organisations*. San Francisco, CA: Jossey-Bass.
- Goldstein, I.L. (1974). *Training Program Development and Evaluation*. Monterey, CA: Wadsworth Publishing Co.
- Grandori, A. (1984). A prescriptive contingency view of organisational decision-making. *Administrative Science Quarterly*, Vol. 29, pp 192-209.

Grundy, S. (1982). Three modes in action research. In S. Kemmis and McTaggart: *The Action Research Reader*. Geelong: Deakin University Press.

Grundy, S. (1986). *Action Research and Human Interest*. Symposium May 22-23 1986, Research Network of the Australian Association of Adult Education.

Grundy, S. (1987). *Curriculum Product or Praxis*. London: Falmer Press.

Grusec, J.E. & Goodnow, J.J. (1994). Impact of parental discipline methods on the child's internalisation of values: A reconceptualisation of current points of view. *Developmental Psychology*, Vol. 30 (2), pp 4-19.

Hague, H. (1974). *Executive Self-development: Real Learning in Real Situations*. New York: Macmillan.

Hales, C.P. (1986). What do managers do? A critical review of the evidence. *Journal for Management Studies*, Vol. 23(2).

Hammer, M. & Champy, J. (1993). *Reengineering the Corporation: A Manifesto for Business Revolution*. New York: HarperCollins.

Harrison, R. (1984). Leadership and strategy for a new age. *Transforming Work*. Alexandria, VA: Miles River Press.

Harvey, D. (1990). *The Condition of Postmodernity*. Oxford: Blackwell Publishers.

Hayes, R.H., Wheelwright, S.C. & Clark, K.B. (1988). *Dynamics Manufacturing: Creating the Learning Organisation*. New York, NY: The Free Press.

Hedberg, B.L.T. (1981). How organisations learn and unlearn. *Handbook of Organisational Design*. New York, NY: Oxford University Press.

Helsby, G. & Saunders, M. (1993). Tylorism, Tylerism and performance indicators: Defending the indefensible? *Educational Studies*, Vol. 19(1), pp 55-67.

Hequet, M. (1996). Beyond dollars. *Training*, Vol. 33(3), pp 37-40.

Heron, J. (1977). *Behaviour Analysis in Education and Training*. London: British Postgraduate Medical Federation, University of London.

Herr, E. (1995). *Counselling Employment-bound Youth*. Greensboro, NC: ERIC Clearinghouse on counselling and student services, ED 382 899.

Hinricks, J.R. (1976). Personnel training in Dunnette. *Handbook for Industrial and Organisational Psychology*. Chicago, IL: Rand McNally.

Hoffman, V.E. (1996). *Local / district governance in education. Lessons for South Africa*. pp 105- 124. Johannesburg: Global Print.

Holter, I.M. & Schwartz-Barcott, D. (1993). Action Research: What is it? How has it been used, and how can it be used in nursing? *Journal of Advanced Nursing*, p. 18.

Hopkins, D. (1993). *A Teacher's Guide to Classroom Research*. Philadelphia: Open University Press.

Hall, B. (1978). Knowledge as a commodity and participatory research. *Prospects: Quarterly Review of Education*, 9(4), pp 393-408.

- House, E. R. (1978). Justice in evaluation. In Glass, G. V., *Evaluation Studies Review Annual*, Vol. 1. Beverly Hills, CA: Sage.
- Jacobs, R.L. (1989). *Systems Theory Applied to Human Resource Development*. Alexandria, VA: American Society for Training and Development.
- Janillo, J.C. (1988). On strategic networks. *Strategic Management Journal*, Vol. 9, pp 831-881.
- Jones, A.M. & Hendry, C. (1992). *The Learning Organisation: A Review of Literature and Practice*. The HRD Partnership.
- Katz, D. & Khan, R. (1978). *The Social Psychology of Organisations*. New York, NY: John Wiley and Sons..
- Keifer, C. & Stroh, P. (1984). *A new paradigm for developing organisations. Transforming Work*. Alexandria, VA: Miles River Press.
- Kemmis, S. (1982). Action research in retrospect and prospect. In Kemmis, S. & McTaggart, R. *The Action Research Planner*. Waurm Ponds, Victoria, Australia: Deakin University.
- Kemmis, S. & McTaggart, R. (1988). *The Action Research Reader*. Geelong: Deakin University Press.
- Kemmis, S. & McTaggart, R. (1990). *The Action Research Planner*. Geelong: Deakin University Press.
- Kemp, J. (1971). Which Medium? *Audiovisual Instruction*, pp 32-36.

- Kirkpatrick, L.D. (1983). Four steps to measuring training effectiveness. *Personal Administrator*, Vol. 28(11), pp 19-25.
- Klinger, D.E. & Nalbandian, J. (1985). *Public Personnel Management: Context and Strategies*. Englewood Cliffs, NJ: Prentice-Hall.
- Kolb, D. (1984). *Experiential learning. Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall.
- Kolb, D.A., Rubin, I.M. & McIntyre, J.M. (1971). *Organisational Psychology: An Experiential Approach*. Englewood Cliffs, NJ: Prentice-Hall.
- Kotter, J.P. & Heskitt, J.L. (1992). *Corporate Culture and Performance*. New York: Free Press.
- Landman, W.A. (1988). *Basic Concepts in Research Methodology*. Pretoria: Serva Publishers.
- Latham, G.P. (1988). Human Resource Training and development. *Annual Review of Psychology*, Vol. 39, pp 545-582.
- Lauglo, J. (1996). *Local / district governance in education. Lessons for South Africa*, pp 35- 68. Johannesburg: Global Print.
- Leedy, P.D. (1980). *Practical Research. Planning and Design*. New York: Macmillan Publishing Co.
- Lester, J.S. & Perry, N.S. (1995). Assessing career development with portfolios. In: *Eric Digest*. Greensboro, NC: Eric Clearinghouse on counselling and student services.

- Levitt, B. & March, J.G. (1988). Organisational learning. *Annual Review of Sociology*, Vol. 14, pp 319-340.
- Lewin, K. (1946). *Action Research and Minority Problems*. New York: Harper and Row.
- Lewin, K. (1951). *Field Theory in Social Science*. New York: Harper and Row.
- March, J.G. & Olsen, J. (1976). *Ambiguity and Choice in Organisations*. Bergen, Norway: Universiteitsforlaget.
- March, J.G. & Simon, H.A. (1958). *Organisations*. New York: Wiley.
- March, J.G. (1991). Exploration and exploitation in organisational learning. *Organisation Science*, Vol. 2, pp 71-87.
- Margulies, N. & Raia, A.P. (1972). *Organisational Development: Values, Process, Technology*. New Delhi: Tata McGraw-Hill. .
- McCarthy, B. (1979). *The 4-MAT System: Teaching to Learning Styles Using Left/Right Mode Techniques*. Illinois: Excel Publishing.
- McClellan, J.E. (1976). *Philosophy of Education*. Englewood Cliffs: Prentice Hall.
- McCutcheon, G. & Jurg, B. (1990). Alternative perspectives on action research. *Theory into Practice*, Vol. 24(3).
- McKernan, J. (1988). The countenance of curriculum action research: Traditional, collaborative and critical-emancipatory conceptions. *Journal of Curriculum and Supervision*, Vol. 34(3).

- McKernan, J. (1991). *Curriculum Action Research*. London: Kogan Page.
- McLagan, P. A. & Bedrick, D. (1983). Models for excellence: The results of the ASTD Training and Development Competency Study. *Training and Development Journal*, June, pp 10-20.
- McLagan, P.A. (1989). Systems model 2000: Matching systems theory to future HRD issues. In: *Systems Theory Applied to Human Resource Development*. Alexandria, VA: American Society for Training and Development.
- McMillan, I.C. & Jones, P. (1986). *Strategy Formulation: Power and Politics*. St Paul, MN: West.
- Merron, K.A. (1994). Creating TQM organisations. *Quality Progress*, Vol. 27(1), pp 51-54.
- Meyer, T. & Semark, P. (1996). A framework for the use of competencies for achieving competitive advantage. *South African Journal of Business Management*, Vol. 27(4).
- Meyers, T.W. (1990). Non-linear learning in large technological firms: Period four implies chaos. *Research Policy*, Vol. 19, pp 97-115.
- Michalak, D.F. (1981). The neglected half of training. *Training and Development Journal*, May, pp 22-27.
- Middlebrook, B.J. & Rachel, F.M. (1983). A survey of middle management training and development programmes. *Personnel Administrator*, November, pp 27-31.

- Mintzberg, H. (1989). *Mintzberg on Management*. New York: Free Press.
- Moore, M.L. & Dutton, P. (1978). Training needs analysis: Review and critique. *Academy of Management Review*, Vol. 3, pp 532-545.
- Mouton, J. & Marais, H.C. (1996). *Basic Concepts in the Methodology of the Social Sciences*. Pretoria: HSRC Publishers.
- Mulgrew, J. (1996). *Local / district governance in education. Lessons for South Africa*, pp 147-164. Johannesburg: Global Print.
- Nadler, D.A. & Tushman, M.L. (1989). A model for diagnosing organisational behaviour: Applying a congruence perspective. In: *The Management of Organisations: Strategies, Tactics, Analyses*. New York: Harper & Row.
- Nadler, L. & Wiggs, D. G. (1986). *Managing Human Resource Development*. San Francisco, CA: Jossey-Bass.
- Nadler, L. (1979). *Developing Human Resources*. Austin, Texas: Learning Concepts.
- Nadler, L. (1984). *Designing Training Programs: The Critical Events Model*. Reading, MA: Addison-Wesley Publishing Co.
- Naisbitt, J. (1982). *Megatrends: The New Directions Transforming Our Lives*. New York, NY: Warren Books Inc.
- National Training Board. (1994). *A Discussion Document on a National Training Strategy Initiative*. Johannesburg: NTB.
- Nelson, R. & Winter, S.G. (1982). *An Evolutionary Theory of Economic Change*. Cambridge, MA: University Press.

- Nonaka, I. (1988). Toward middle-up-down management. *Sloan Management Review*, Vol. 29(3), pp 9-18.
- Nussbaum, J.F. & Scott, M.D. (1979). Instructor communication behaviours and their relationship to classroom learning. *Communication Yearbook*, Vol. 3, pp 561- 583.
- Palmer, R. (1969). *Hermeneutics: Interpretation Theory in Schleiermacher, Dittley, Heidegger and Gadamer*. Evanston, IL: Northwestern University.
- Pastin, M. (1986). The fallacy of long-range thinking. *Training*, Vol. 23(5), pp 47-50.
- Patton, M.Q. (1978). *Utilisation Focused Evaluation*. Beverly Hills: Sage.
- Patrick, J. (1992). *Training Research and Practice*. London: Academic Press Ltd.
- Pearce, J.A. & Robinson, R.B. (1994). *Strategic Management: Formulation, Implementation and Control*. Burr Ridge, IL: Irwin.
- Pedler, M., Boydell, T. & Burgoyne, J. (1988). *Learning Company Project: A Report on Work Undertaken*. Sheffield: The Training Agency.
- Pedler, M.; Boydell, T. (1980). Is all Management Development Self-development? In: J. Beck & C. Cox (Eds.), *Advances in Management Education*. Chichester, UK: Wiley-Inter-science.
- Perkins, D., Jay, E. & Tishman, S. (1993). Beyond abilities: a dispositional theory of thinking. *Merrill-Palmer Quarterly*, Vol. 39(1), pp 1-21.

- Perrow, C. (1986). *Complex Organisations: A Critical Essay*. New York: Random House.
- Peters, T. (1992). *Liberation Management*. New York: Knopf.
- Pfeffer, J. (1981). *Power in Organisations*. New York: Pitman.
- Phillips, B. (1997a). *Getting to Grips with the National Qualifications Framework (NQF)*. Johannesburg: Sigma Press..
- Phillips, B. (1997b). *Getting to Grips with Unit Standards in the NQF*. Johannesburg: Sigma Press.
- Phillips, J.J. (1996). Was it the training? *Training and Development*, Vol. 50, pp 28-32.
- Piaget, J. (1951). *The Psychology of Intelligence*. New York, NY: Harcourt.
- Quinn, J.B. (1980). *Strategies for Change. Logical Incrementalism*. Irwin, IL: Homewood.
- Radnitzky, G. (1968). *Contemporary Schools of Metascience*. Chicargo: Regnery.
- Rapoport, R.N. (1970). Three Dilemmas in Action Research. *Human Relations*, Vol. 23(6).
- Reich, R. (1984). *The Next American Frontier*. Hamondsworth: Penguin.
- Reilly, W. (1979). *Training Administrators for Development: An Introduction for Public Servants and Government Training Officers*. Nairobi: Heinemann Educational Books Ltd.

Reimer, E. (1971). *School is Dead: An Essay on Alternatives in Education*. Harmondsworth: Penguin.

Revans (1980). *Action research, Principles and Practice*. McNiff, 1988, 52.

Robinson , D.G. & Robinson, J. C. (1995). *Performance Consulting: Moving Beyond Training*. San Francisco: Berrett-Koehler.

Rogers, C. (1969). *Freedom to Learn: A View of what Education Might Become*. Columbus: Charles E. Merrill.

Rothwell, W.J. & Kazanas, H.C. (1994a). *Human Resource Development: A Strategic Approach*. Amherst, MA: HRD Press Inc.

Rothwell, W.J. & Kazanas, H.C. (1994b). *Planning and Managing Human Resources: Strategic Planning for Personnel Management*. Amherst, MA: HRD Press Inc.

Rothwell, W.J. & Sredl, H. (1992). *The ASTD Reference Guide to Professional Human Resource Development Roles and Competencies*. Amherst, MA: HRD Press.

Rowell, E.A. (1933). *Prophecy Speaks. Dissolving Doubts*. Washington, DC: Review & Herald Publishing Association.

Rukanda, M.C. & Chikombah, C. (1996). In: Coombe & Godden (Eds), *Local / district governance in education. Lessons for South Africa*, pp 173-181. Johannesburg: Global Print.

- Rumbler, G.R. & Brache, A.P. (1990). *Improving Performance: How to Manage the White Space on the Organisational Chart*. San Francisco: Jossey-Bass.
- Sadler, D. (1996). *Reengineering the Training Function*. Florida: St Lucie Press.
- Sax, G. (1979). *Foundations of Educational Research*. New Jersey: Prentice-Hall.
- Schein, E.H. (1978). *Career Dynamics: Matching Individual and Organisational Needs*. Reading, MA: Addison-Wessley.
- Schein, E.H. (1990). Organisational culture. *American Psychologist*, Vol. 45, pp 109-119.
- Schein, E.H. (1993). *Career Survival: Strategic Job/Role Planning*. San Diego: Pfeiffer Inc.
- Schein, E.H. (1994). Why job and role planning is critical to the future. In: Pfeiffer & Co, *1994 Annual. Developing Human Resources*. San Diego: Pfeiffer & Co.
- Scon, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books.
- Scott, W.R. (1995). *Organisations and Institutions*. Beverly Hills, CA: Sage.
- Selener, D. (1992). *Participatory Action Research and Social Change: Approaches and Critique*. Unpublished doctoral dissertation, Cornell University, Ithaca, New York.

- Selnick, P. (1957). *Leadership in Administration*. New York: Free Press.
- Senge, P. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organisation*. New York, NY: Century Business.
- Simon, H.A. (1969). *Science of the Artificial*. Cambridge, MA: M.I.T. Press.
- Singh, A. (1996). *Local / district governance in education. Lessons for South Africa*, pp 139-146. Johannesburg: Global Print.
- Smith, W. (1996). *Local / district governance in education. Lessons for South Africa*, pp 85-104. Johannesburg: Global Print.
- Smith, D. (1985). Values audits in higher education. In: Dreshler, J. D., *Evaluation for Program Improvement. New Directions for Continuing Education*. San Francisco, CA: Jossey-Bass.
- South Africa (Republic). (1995a). General Notice. (Notice No. 58 of 1995.) *Government Gazette*, Vol. 1521, 4 October.
- South Africa (Republic). (1995b). *White Paper on Education and Training of 1995*. Pretoria: Government Printer.
- South Africa (Republic). (1997a). General Notice. (Notice No. 1296 of 1997.) *Government Gazette*, 18244, 2 September.
- South Africa (Republic). (1997b). General Notice. (Notice No. 713 of 1997.) *Government Gazette*, 117944, 16 April.
- South Africa (Republic). (1997c). *Green Paper on Skills Development Strategy of 1997*. Pretoria: Government Printer.

- South Africa (Republic). (1997d). *White Paper on a Programme for the Transformation of Higher Education of 1997*. Pretoria: Government Printer.
- South Africa (Republic). (1997e). *White Paper on Science and Technology of 1997*. Pretoria: Government Printer.
- South Africa (Republic). (1998a). *Green Paper on Further Education and Training of 1998*. Pretoria: Government Printer.
- South Africa (Republic). (1998b). General Notice. (Notice No. 97 of 1998.) *Government Gazette*, 19420, 2 November.
- South Africa (Republic). (1998c). General Notice. (Notice No. 1323 of 1998.) *Government Gazette*, 19370, 19 October.
- Spady, W.G. (1994). *Outcome-based Education. Critical Issues and Answers*. American Association of School Administrators. Arlington: Virginia.
- Spady, W., Marshall, K. & Rogers, S. (1994). Light not heat on OBE. *The American School Board Journal*, Vol. 181(11), pp 29-33.
- Stevenson, J.C. (1991). Cognitive structures for the teaching of adaptability in vocational education. In: Evans, G. (Ed.), *Learning and Teaching Cognitive Skills*, pp 144-163. Victoria: ACER.
- Stinger, E. (1996). *Action research: A Handbook for Practitioners*. London: Sage.
- Swanson, D.A. (1994). *Analysis for Improving Performance: Tools for Diagnosing Organisations and Documenting Workplace Expertise*. San Francisco: Berrett-Koehler.

- Tannenbaum, R. & Schmidt, W.H. (1973). How to choose a leadership pattern. *Harvard Business Review*, Vol. 51(3), pp 21-32.
- Tobias, S. (1994). Interest, prior knowledge and learning. *Review of Educational Research*, Vol. 64(1), pp 37-54.
- Toffler, A. (1990). *Powershift*. New York: Bantam Books.
- Tosti, D. Jackson, S. (1994). Alignment: How it works and why it matters. *Training*, Vol. 31(4), pp 58-64.
- Towers, J.M. (1992). Outcome-based education: Another education bandwagon? *The Educational Forum*, Vol. 56 (3).
- Tracey, R.W. (1981). *Evaluating Training and Development Systems*. New York, NY: USA American Management Association Inc.
- Tully, S. (1993). The modular corporation. *Fortune*, February, pp 52-56.
- Verma, G.K. & Beard, R.M. (1981). *What is Educational Research? Perspectives on techniques of research*. Aldershot: Grower.
- Walker, J. (1980). *Human Resource Planning*. New York, NY: McGraw-Hill.
- Webster Living Encyclopaedic Dictionary. (1975).
- Weick, K.E. (1979). *The Social Psychology of Organising*. Reading, MA: Addison Westly.
- Welton, J. (1996). *Local / district governance in education. Lessons for South Africa*, pp 125-137. Johannesburg: Global Print.

Werther, B.W. & Davis, K. (1985). *Personnel Management and Human Resources*. St. Louis, NY: McGraw-Hill Book Co.

Whyte, W.F. (1964). *Action Research for Management*. Homewood, Ill: Irwin-Dorsey.

Whitley, R.D. (1991). The social construction of business systems in East Asia. *Organisational Studies*, Vol. 12, pp 1-28.

Zaltman, G., Duncan, R. & Holbek, L. (1973). *Innovations in Organisations*. New York: Wiley.

Zuber-Skerrit, O. (1982). *Action Research in Higher Education*. London: Kogan.

Zuber-Skerrit, O. (1991). *Action Research for Change and Development*. Uldershot: Avebury.

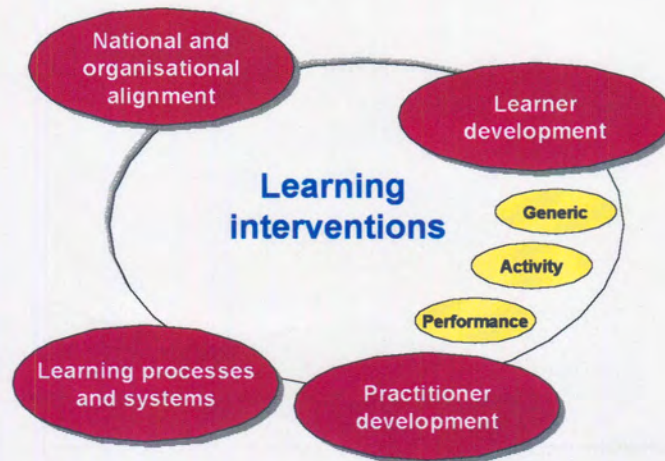
Zuber-Skerrit, O. (1992). *Improving Learning and Teaching Through Action Research*. Draft paper for the HERDSA Conference 1992, University of Queensland.

Appendices



An experiential learning process for the advancement of previously disadvantaged employees in an industrial context – W.J. Cilliers

APPENDICES



Appendices used in this research project are listed in this section and are available on a compact disk (CD). The appendices are in a PDF file format. Acrobat reader software (Adobe Acrobat 3.0) is available for reading the PDF files. The Internet products were developed using Front Page 97, Internet Explorer 3 and 4 and Java Scripting.

Contents of the CD

The following directories are on the CD:

- Appendices
- HRD Web-site
- Eskom induction program (computer-based training)
- Transmission Internet-based induction program
- Software
- Tests

In the root directory of the CD is a *readme* file giving instructions for installing the Internet-based and computer-based induction programs.

Learning interventions

PhD **AN EXPERIENTIAL LEARNING PROCESS FOR THE
ADVANCEMENT OF PREVIOUSLY DISADVANTAGED
EMPLOYEES IN AN INDUSTRIAL CONTEXT**

Book 1 – National and organisational alignment

Appendix A	A and B band project initiation report
Appendix B	A and B band conceptual framework
Appendix C	A and B band project definition report
Appendix D	A and B band executive plan
Appendix E	Eskom HR strategy
Appendix F	Eskom ABET audit summary report
Appendix G*	External ABET survey
Appendix H*	ABET service-provider evaluation

* Only available from the researcher – confidentiality clause with service providers and participating organisations

Book 2 – Learner development

Appendix J	Competence development for Engineering Resources
Appendix L	Technician development
Appendix M	Primary and secondary plant curricula
Appendix N	Experiential training record
Appendix O	Guideline to the experiential training record
Appendix P	Guideline for competence development for engineers-in-training

Book 3 – Practitioner development

- Appendix Q Guidelines for mentorship
Appendix R Guideline for a student administrator
Appendix S HRD management toolbox
Appendix T HRD analysis toolbox

Book 4 – Learning processes and systems

- Appendix I Transmission HRD process report
Appendix K HRD Guideline 1998

Appendices by book

- | | | |
|--------|---------------------------------------|---------------------|
| Book 1 | National and organisational alignment | Appendices A – F |
| Book 2 | Learner development | Appendices J, L – N |
| Book 3 | Practitioner development | Appendices Q – T |
| Book 4 | Learning process and systems | Appendices I, K |



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