

**A SYSTEMS APPROACH TO AN
OUTCOMES-BASED COMPETENCE PROFILE
OF EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS
IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE**

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CHRISTA MOORHOUSE

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SUPERVISOR: PROF M.P. VAN ROOY

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Student number: 799-329-3

I declare that

**"A SYSTEMS APPROACH TO AN OUTCOMES-BASED COMPETENCE PROFILE
OF EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS
IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE"**

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

.....
SIGNATURE
(C Moorhouse)

.....
DATE

Acknowledgements

To Him who mended my wings: "For thus saith the LORD; Behold, he shall fly as an eagle, and shall spread his wings over Moab."

Jeremia 48 verse 40

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Summary

This study concerns the identification of the particular competences required by education, training and development practitioners (ETD practitioners) in the South African National Defence Force to develop suitable and appropriate career and training strategies. An applied research approach and a primarily quantitative approach were used. Questionnaires were completed by the commanding officers or the training managers, as well as the ETD practitioners at the education, training and development providers in the South African National Defence Force to determine the actual utilisation of ETD practitioners. Descriptive statistics were used to determine the roles, core competences, levels of competences and clusters of competences required by ETD practitioners in the South African National Defence Force. In addition, the actual utilisation of ETD practitioners was compared with a proposed competence profile that was based on the literature study in order to determine the competence gap that has to be addressed by means of career and training strategies.

Key terms

Education, training and development practitioner, mixed mode training delivery, competence profiling, outcomes-based education and training approach, systems approach, learning outcomes, qualifications, standards, learning programmes, curriculum, didactic mechanisms, instructional systems design, needs analysis, design and develop, facilitation, assessment, moderation, learner support, quality assurance, evaluation.

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Chapter 1

Background and Research Problem

1.1 BACKGROUND

1.1.1 Introduction

In order for any army to operate effectively and efficiently, its members need to be well trained. Skilled people are required to ensure that operations are executed with excellence. The successfulness of the education, training and development of the members of an army permeates the over-all achievements of the army.

This is true for the Department of Defence of South Africa in which it is believed that training forms an integral part of the preparation of forces for military operations. The Department of Defence recognises that "it is necessary to establish education, training and development standards that will promote international approval, national excellence, recognition, accreditation and create efficient and effective education, training and development opportunities to satisfy the competence required in the Department of Defence" (De Vries, 1997:33; DOD, 1998a:10). Training is therefore essential and at the core of military proficiency and the upholding of standards. Training is, however, not only a powerful lever for improving institutional competitiveness, but also for improving individual opportunity.

A key role player in training in the Department of Defence is the education, training and development practitioner (ETD practitioner). The ETD practitioners in the Department of Defence, however, have to be well trained and motivated themselves in order to render an education, training and development service that will deliver highly competent Department of Defence members who are performing optimally. These ETD practitioners are therefore in just as much, if not greater, need of professional development as those that they have to train.

The notion exists in the Department of Defence that a special dispensation is required for ETD practitioners that will not only recognise their unique profile and roles but also contribute to motivating and retaining qualified ETD practitioners. One of the proposals to achieve this is to provide ETD practitioners with an education, training and development career in the

Department of Defence for which they will be thoroughly prepared and in which they will be effectively utilised (DOD, 1998:84).

In providing an education, training and development career, a question that has to be answered is what training is required for the ETD practitioner to be qualified and to stay prepared in order to be utilised effectively. This question becomes even more relevant given the current education, training and development context of mixed mode training delivery in the Department of Defence. Therefore, although, this study will investigate ETD practitioners' career paths, it will be done from a training perspective and not a human resource perspective. The intention is to compile a competence profile that will describe the competences required to perform education, training and development roles (ETD roles), functions and tasks at various levels, in order to develop training strategies and career path strategies that are aligned with one another.

1.1.2 Environmental analysis and contextualisation of the study

1.1.2.1 Systems approach

As a result of the systems approach being followed in the prescribed Department of Defence education, training and development strategies (De Vries, 1997:23; DOD, 2003), a systems approach was followed in this study. A systems approach was furthermore useful because of its appropriateness to describe and understand the functioning of the everyday working and living environment of ETD practitioners. The aim of knowing and understanding systems is to increase effectiveness, to achieve success and to manage work, finances, health and relationships in all spheres of life. A systems approach provided a mechanism to investigate and understand the education, training and development environment of ETD practitioners in the Department of Defence.

ETD practitioners not only form an integral part and key element of the education, training and development system (ETD system), but their continuous commitment to the Department of Defence systems' requirements and processes and competence in executing these are fundamental to the Department of Defence systems' efficiency and effectiveness. Cole (2002:38) and Gallup and Beauchemin (2000:126) emphasise the importance of enthusiasm and commitment to ensure successful learning facilitation. On the other hand, qualified and proficient ETD practitioners are just as important to ensure successful learning facilitation. The competences required by ETD practitioners to facilitate learning and develop skills for

functional specialisation consequently need to be analysed. Given the Department of Defence's requirement for qualified ETD practitioners that will contribute to the continuous maintenance and improvement of the ETD systems, it seems appropriate to conduct this analysis from a systems approach.

1.1.2.2 Strategic approach

A strategic approach, in addition to a systems approach, was followed to ensure that an investigation into the education, training and development competence profile (ETD competence profile) would concur with the national and organisational strategies regarding education, training and development. The different education, training and development perspectives and organisational environments were analysed to describe their *impact* on and *requirements* for education, training and development at the various organisational levels, as well as the education, training and development system levels.

1.2 THE RATIONALE FOR COMPETENCE PROFILING OF EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS

To continue the discussion in this section it is necessary to clarify first of all the difference between the Department of Defence and the South African National Defence Force. The Department of Defence consists of two components, namely the Defence Secretariat and the South African National Defence Force. The Department of Defence is the overarching body that is responsible for providing the drafting and maintenance of the Defence Strategy, the Military Strategy and strategic advice to the Minister of Defence, the Secretary for Defence and the Chief of the South African National Defence Force. The primary objective of the South African National Defence Force is to "defend and protect the Republic of South Africa, its territorial integrity and its people in accordance with the Constitution and the principles of international law regulating the use of force"(DOD, 2006:15). One of the functions of the South African National Defence Force is to provide training for members of the Defence Force (DOD, 2006:24). Therefore when reference is made to ETD practitioners, it will be within the context of the South African National Defence Force. Reference to military related strategies will be in the context of the Department of Defence.

1.2.1 Department of Defence Human Resource Strategy 2010

The Department of Defence Human Resource Strategy 2010 (DOD, 2001) has significant implications for education, training and development in the Department of Defence and, therefore, warrants specific attention. An understanding of the principles and goals of this strategy is required for the purpose of the development of ETD competence profiles.

The aim of the Department of Defence Human Resource Strategy 2010 is to ensure the availability of the right number and quality of human resources in the right places at the right times, that are effectively, efficiently and economically managed and administered. Although it can be deduced from the aim that the ETD practitioner will play a key role in achieving this aim, an analysis of the aim in terms of the education, training and development of the ETD practitioner is required in more detail. It is foreseen that this strategy will have a significant effect on the utilisation, development and career planning of the ETD practitioner.

1.2.2 Mixed mode training delivery context

The compilation of career paths and learning pathways for ETD practitioners in the South African National Defence Force is complicated by the fact that an increasing number of the South African National Defence Force training institutions are implementing mixed mode training delivery as a training strategy.

A problem that has become evident in the mixed mode training delivery context is that few of the ETD practitioners in the South African National Defence Force who are using mixed mode training delivery have received formal training to develop the specific competences that are required for distance learning. Most of the training institutions in the South African National Defence Force currently train ETD practitioners according to the principles and practices of face-to-face¹ learning. The use of a conventional training approach in a mixed mode training delivery environment is contrary to research findings that the competences and skills for face-to-face delivery differ from that of distance learning (Adendorff, 2004:2; Jordaan, 2001:1-16; Kilfoil, 2004:11). There is a need to train ETD practitioners according to the specific competences required for the specific delivery modes within a mixed mode training delivery. This implies that the competences for the different delivery modes should be clearly discerned and described.

¹ Face-to-face training is also known as residential training in the Department of Defence.

1.2.3 A profile of the education, training and development practitioners in the South African National Defence Force

To understand the career paths and the subjacent roles, levels and functioning of ETD practitioners, Moorhouse (2004) conducted a study in 2004 to analyse the profiles of ETD practitioners in the South African National Defence Force. This previous study confirmed and underlined the complexity of ETD practitioner profiles and career paths in the South African National Defence Force. Because of the findings of this preceding study, a need was identified to conduct a more quantitative study, which provides the reason for the current study.

The purpose of the preceding study was to explore and describe the profile of the ETD practitioners in the South African National Defence Force according to their roles, levels and competences. The study entailed a qualitative analysis of the post profiles of ETD practitioners in the South African National Defence Force. Various military training institutions were purposely selected based on the assumption that they represented the majority of the training institutions in the South African National Defence Force. The post profiles, as being written by the respective training institutions, were then analysed. The content of the post profiles was matched against a matrix where the various ETD practitioner roles and competences that were identified during a literature study formed the one axis, and the post descriptions and military rank levels formed the other axis.

The following is a summary of the most important findings of the preceding research conducted by Moorhouse (2004):

- ❑ The roles of the ETD practitioners are not clearly defined. The function of the ETD practitioner will, for example, be written as: "To conduct facilitation". It is not clear whether or not this includes planning of learning events, development of learning aids and assessments. It is furthermore not indicative of the level of the facilitation that is required i.e. whether it entails facilitation in the workplace or the facilitation of complex situations.
- ❑ The current South African Qualifications Authority (SAQA) terminology is not integrated into the descriptions of various post profiles. The terms "evaluation" and "assessment" are confused with each other at times. It is therefore difficult to ascertain whether what is implied is the role of evaluator or that of assessor.

- ❑ Considerable variations were found among the different services, formations, and units, as well as wings and branches within units of the South African National Defence Force regarding the descriptions of the titles of ETD practitioner posts. ETD practitioners may for example be referred to as "instructors", "facilitators" or "directing staff".
- ❑ Training providers in the South African National Defence Force are categorised as academies, colleges, schools and gymnasia. As a result, the education, training and development competences for the different ETD practitioners at the different provider levels cannot be generalised in terms such as junior ETD practitioner, ETD practitioner, senior ETD practitioner or chief ETD practitioner. For example, although a newly appointed lieutenant colonel ("senior rank") at the South African National Defence Force Army College may have little experience in education, training and development, it is not desirable to group this rank level together with that of a corporal and a lieutenant as "junior ETD practitioner".
- ❑ Rank and post titles are not indicators of the competence levels that are required. The title of chief instructor at one training school is not necessarily similar to the title of a senior ETD practitioner at another training school. Rank is also not always an indicator of the seniority of the post. Although generalisations with regard to functions and tasks are possible in terms of rank groups, exceptions to the rule were found in many cases. A captain can be either a facilitator or a wing programme coordinator. Branch managers differ in rank levels and therefore programme coordinators may range from staff sergeants to majors. At some units a staff sergeant ("junior rank") may be expected to plan a curriculum (an "advanced level" function).
- ❑ It seems that it might be possible to compile a competence profile that will describe different performance levels with associated clusters of applied competences that are indicative of the knowledge, skills and attitude required to perform a task successfully.
- ❑ *Conclusion*
 - Because of the variety and complexity of the factors involved, it seems that a common denominator or "organising principle"² should not be founded on the

² Term borrowed from the National Training Board, 1994, p. 130.

different training provider categories, rank levels, post title descriptions, subject matter expertise or National Qualifications Framework levels.

- Competence profiling might render an appropriate organising principle to map the development of an education, training and development career.
- An in-depth quantitative study is required to determine the existence of clusters and levels of ETD practitioner *roles and competences* for the purpose of ETD career management strategies and training management strategies.

Although the assumption is made that it will be difficult to find a common denominator for the development of ETD practitioners in the South African National Defence Force, the reliability of the findings of the preceding study are questioned because of limitations regarding the content of the post profiles. As a result a need was identified to repeat the study, but using a different methodology whereby the necessary information could be obtained from the ETD practitioners themselves. The current study was then registered with the aim to determine, by means of a quantitative approach, common denominators in terms of education, training and development competences that are requirements for the composition of career path strategies and training strategies for ETD practitioners working in a mixed mode training delivery environment in the South African National Defence Force. In this follow-up study an analysis was done of possible influencing factors such as provider categories, rank levels and subject matter expertise, as well as the utilisation of ETD practitioners in terms of education, training and development roles and competences to determine which of these factors should be taken into consideration during the development of career path strategies and training strategies for ETD practitioners.

1.2.4 Advantages and limitations of competence profiling models

The terms *competences* and *competencies* are often used interchangeably. This study focuses on the *competences*, i.e. the combined effect of the knowledge, skills and attitude that are required to demonstrate an ability to do something. Career models, on the other hand, describe professional development in terms of roles and *competencies*, which include not only the applied competences but also the internal characteristics and capabilities that are required to perform a task successfully.

Although the competency profiling models are concerned with competencies, it is reasoned that the rationale for the use of competency profile models is just as applicable to this study. Competency profiles are increasingly used and considered imperative to guide the career development of ETD practitioners in different positions and on different levels in organisations. Tony Bingham, of the American Society for Training and Development, states that "a defined set of competencies is a hall mark of a true professional and the practice of creating and supporting a competency model is a key role of a professional association" (Davis, Naughton & Rothwell, 2004:27). This notion is substantiated by McLagan (cited in Gupta, 1999:64) who states: "Without clear competency criteria, recruiters select, managers manage, trainers train, and career planners plan to different (and sometimes even conflicting) images of the capabilities required to do a job". Competence profiling seems therefore to be a useful tool to determine both the training requirements and career paths for employees. Similarly, it is deduced that a competence profile should be a useful mechanism to develop career management and training strategies for ETD practitioners in the South African National Defence Force.

There are various models according to which the roles and competences of ETD practitioners could be analysed. A need was identified, however, to customise the competence profiling of the ETD practitioners in the South African National Defence Force, owing to the following limitations with regard to the existing competency profiling models:

- ❑ Firstly, some of the models focus more on the different roles and provide little detail as to the specific competences required for each role.
- ❑ Secondly, most of the models that include competences do so from an American or European perspective. To concur with the South African National Skills Strategy, an education, training and development competence inventory is required that is customised for the South African context and aligned with SAQA role descriptions and unit standards that are applicable and relevant to the prevailing outcomes-based education, training and development environment.
- ❑ Thirdly, many of the models describe competencies in terms of generic competencies that refer to broad roles as well as behavioural and personal attributes. These models usually describe those capabilities that are desirable regardless of an individual's area of expertise or role to perform various functions in a range of occupational and/or academic

contexts. Although this type of competency description is crucial for selection and recruitment, its application value is usually limited to trained human resource practitioners.

1.3 PROBLEM STATEMENT AND PROBLEM ANALYSIS

1.3.1. Problem statement

The promulgation of the Department of Defence Human Resource Strategy 2010 (see section 1.1.2.1) has significant implications for the utilisation and training of ETD practitioners. The current practices regarding the post description, subsequent utilisation and education, training and development of ETD practitioners in the South African National Defence Force need to be reconsidered if this organisation wants to ensure best practices in the future. The implementation of mixed mode training delivery requires the development of the competences of ETD practitioners in a mixed mode training delivery context. The literature study confirmed the usefulness and value of competence profiling as a tool to investigate the ETD career development phenomenon. It is thus deduced that there seems to be a need to investigate the notion of competence profiling as an organising principle to determine the ETD career paths and training requirements of ETD practitioners in the South African National Defence Force, within a mixed mode training delivery context.

The main research problem is, therefore, the lack of a clearly defined competence profile of education, training and development practitioners involved in mixed mode training delivery in the Department of Defence, in order to develop flexible, progressive, portable and output-driven education, training and development strategies and career management strategies for them.

1.3.2 Problem analysis

The following subproblems are deduced from the main research problem:

Firstly, competence profiling seems useful for recruiters to select, managers to manage, trainers to train, and career planners to plan concurrent to collective national and organisational images of the capabilities required to do a job. It seems, however, as though the competence profiles of ETD practitioners in the South African National Defence Force

are not sufficiently and adequately formulated in terms of the roles and competences that are required to perform education, training and development tasks. It seems that there is a need for suitable and sufficient competence profiling and the following research questions are posed to clarify and describe the nature of the required ETD practitioner roles and competences:

- ? *What roles are required of ETD practitioners in the South African National Defence Force?*
- ? *What core competences are required for the different roles associated with ETD practitioners in the South African National Defence Force?*

Secondly, there is a need to link the training and development of ETD practitioners with their career paths. According to the research results from a preceding study (see section 1.2.3) it seems that competence profiling might provide an appropriate organising principle to map the developmental requirements of an ETD practitioner and subsequently an ETD career path. Competence profiling might contribute to the identification and description of the different levels of progression of ETD practitioners from the lower levels to the higher levels in terms of roles and competences. The following research questions are posed to explore the different levels with regard to roles and competences:

- ? *Are there clearly discernable levels for the different roles and competences of ETD practitioners in the South African National Defence Force, and if so, which levels and how many levels exist?*
- ? *What clusters of competences are required by ETD practitioners in the South African National Defence Force and at what levels do these competences apply for the different roles?*
- ? *What factors in terms of, for example, appointment, rank and institutional category, provide the best discernable criteria for an organising principle?*

1.4 AIM AND OBJECTIVES OF THE RESEARCH

1.4.1 Aim

This research project endeavours to explore and describe the competence profile of ETD practitioners in the South African National Defence Force who are involved in mixed mode training delivery.

1.4.2 Objectives

The research project endeavours to meet the research aim by pursuing the following specific research objectives:

- ❑ To explore a systems approach to education, training and development in order to determine the different roles, competences and levels of progression of ETD practitioners in the South African National Defence Force.
- ❑ To conduct an empirical study to determine the roles and competences of ETD practitioners who use mixed mode training delivery in the South African National Defence Force.
- ❑ To provide guidelines for compiling a training strategy to address the problem of the lack of ETD practitioners who are qualified in terms of the requirements for mixed mode training delivery.
- ❑ To determine the levels for progression and upward mobilisation of the ETD practitioners who are involved in mixed mode training delivery in the South African National Defence Force.
- ❑ To make recommendations on the criteria for recruitment, selection and training of ETD practitioners in a mixed mode training delivery context in the South African National Defence Force.

1.5 SCOPE, VALUE AND LIMITATIONS OF THE STUDY

1.5.1 Scope

Although a need was expressed to investigate the possibility of developing an ETD career path for ETD practitioners in the Department of Defence, the focus of this study is limited to the education, training and development competences required by ETD practitioners in the South African National Defence Force. The aim of the study is therefore to compile a competence profile for the latter group of incumbents. A systems approach model and competence profiling model are selected to describe the roles and competences of these ETD practitioners.

The research project theoretically explores and describes the education, training and development of ETD practitioners and a proposed competence profile is deduced for ETD practitioners in the South African National Defence Force. This proposed model, grounded on theory, forms the hypothetical model with which the reality in terms of the utilisation of ETD practitioners is compared. The study focuses on ETD practitioners in uniform who are appointed at mandated South African National Defence Force training institutions. Civilian ETD practitioners are excluded from this study since their employment dispensation differs considerably from that of military members.

Benchmark visits to South African National Defence Force training providers during 2005 indicated that many of the providers make use of mixed mode training delivery. Those who were not using mixed mode training delivery indicated that they intended to use it in the future. All the mandated South African National Defence Force training providers are included in the sample population, not only those who use mixed mode training delivery. The reason for this is to clarify the roles and competences for ETD practitioners who are utilised in different modes of delivery.

1.5.2 Value for the South African National Defence Force

The most important output of this study is the compilation of a competence profile that serves as an inventory of competences for ETD practitioners in the South African National Defence Force with the following benefits that accrue from it:

- ❑ It makes it possible to measure the extent of learning that has taken place, which is necessary for continuous professional learning as well as the continuous improvement of the standard of training.
- ❑ The detailed information provided in the competence inventory could serve as a useful tool for the development of post profiles and the meaningful advertising of posts.
- ❑ It creates a basis for the formulation of standing working procedures, which will direct the utilisation of ETD practitioners in the South African National Defence Force in the execution of their education, training and development functions and tasks.
- ❑ Many of the competences listed in the competence inventory can be linked with listed outcomes that are agreed on at a national level, by the National Qualification Framework, in the form of "learning outcomes" stated in unit standards. This link between competences required and unit standards will be of benefit to the organisation in the following ways:
 - Because of the organisation's involvement in Standard Generating Bodies, a competence inventory will enable it to be flexible and fast in responding to the ever-changing environment by pro-actively designing and developing unit standards, based on the competence gaps identified.
 - It will ensure compliance with national legislation such as the National Skills Strategy and SAQA guidelines and criteria.
 - It will ensure that the training of all ETD practitioners complies with internal and external accreditation and registration requirements.
 - Once the organisation has a competence inventory that is aligned with unit standards, it becomes easier to measure the extent of formal and non-formal learning that the ETD practitioner gained in different learning environments. This creates the opportunity for Recognition of Prior Learning, which in terms of training and development, counteracts waste of time and duplication of effort.

- ❑ It provides a hierarchical matrix according to which ETD career options can be systematically plotted through the hierarchy. This creates the opportunity to link learning pathways with ETD career paths so that the ETD practitioners are not just doing a "dead-end job" every day, but are provided with alternative career options.
- ❑ It provides the enterprise and national standards required to evaluate the performance of ETD practitioners in the South African National Defence Force.
- ❑ It could help the organisation and the ETD managers to identify the education, training and development skills required, i.e., the relevant training needs according to which workplace skills plans can be developed.

1.5.3 Value to national education training and development

Since the research focuses on an organisation that is responsible for the development of its own ETD practitioners, it will be possible to transfer the outcomes of the research to other organisations with similar developmental responsibilities towards their employees. The benefits of a competence profile for ETD practitioners within mixed mode training delivery will be just as applicable to other ETD practitioners using a similar delivery mode. The outcomes of the competence profile and the involvement of the South African National Defence Force in standard generating bodies might lead to the identification and development of new unit standards that might be of value to the training and development of ETD practitioners at other organisations as well.

1.5.4 Limitations of the study

The identification of competences for the competence profiling of ETD practitioners involved in mixed mode training delivery is hampered by lack of information available in literature on the specific competences that are required. Most of the current models available were developed from the conventional face-to-face training perspective. This, however, creates the opportunity to do pioneering research.

Because of the updating of national unit standards at three- to five-year intervals and the rapid development in educational technology, especially in mixed mode training delivery, the competence profiles must also be updated frequently.

1.6. EXPLANATION OF CONCEPTS

1.6.1 Education, training and development practitioner

In this study ETD practitioner will refer to the whole spectrum of individuals in the Department of Defence who are involved in the planning and provision of education, training and development: designers and developers, facilitators, instructors, assessors, moderators, evaluators and training coordinators.

1.6.2 Mixed mode training delivery

Mixed mode training delivery will refer to an education, training and development strategy that includes a mixture of traditional face-to-face (residential) and distance teaching and learning where old world and new world education, training and development technologies intersect. Mixed mode delivery in this context is similar to the term "blended learning". It includes the various platforms on the distance learning continuum: correspondence learning, paper-based distance education, computer-based distance education, interactive distance learning, online and e-learning.

1.6.3 Competence profiling

In section 1.2.4 it was mentioned that the terms *competencies* and *competences* are often used interchangeably. A distinction should, however, be made between *competencies* and *competences* (Adendorff, 2004:85; Williams, 2002:101). Rothwell and Sredl (1992b:113) define a competency as "an area of knowledge or skill that is critical for producing key outputs. Competencies are internal capabilities that people bring to their jobs; capabilities which may be expressed in a broad, even infinite, array of on-the-job behaviours". Competences, on the other hand, refer to what an individual needs *to do* in a specific job. Bellis (2001:60) defines competence as: "A *skill* or integrated *cluster of skills* executed (carried out) within an indicated *range or context* to specific *standards*."

In this study the focus will not be on the internal capabilities of people, but rather on their ability to demonstrate or do something. The point of departure is that in order to perform a certain skill it is generally accepted that one has to have certain competencies, i.e., the required knowledge, attitude and behaviour attributes. This study therefore acknowledges

the importance of knowledge, attitudes and behaviour attributes, but the integrated effect of these characteristics on an individual's ability to demonstrate the ability to perform a task is the main concern.

Since the focus is on competences, in this study competence profiling will refer to the practice of determining what an employee needs *to do in* a specific job. The intention is to construct a competence profile for ETD practitioners in the South African National Defence Force that will describe the different roles and levels of performance. These competences should be measurable and it should be possible to match them with specific training requirements (Adapted from Stuart, Janisch & Beard, 2004:143).

1.6.4 Outcomes-based approach

In this study an outcomes-based approach is followed to investigate the competence profile of ETD practitioners in the South African National Defence Force. Outcomes-based education and training are primarily concerned with what learners must be able to do successfully at the end of their learning experiences (Spady, 1994:1). An outcomes-based education and training approach in this study therefore implies an analysis of the desired end results in terms of what ETD practitioners should be able to do in the execution of the ETD roles. The development of a set of learning outcomes, a curriculum statement and learning programme strategies for the successful training and development of ETD practitioners in the South African National Defence Force, depends on the identification of the relevant competences to perform the ETD roles.

1.6.5 Systems approach

A systems approach is a way of thinking to analyse and understand the structure of and processes within a system. A systems approach is also a methodological approach to solve problems through the provision of clearly defined conceptual tools and a description of general activities and stages. In this study a systems approach implies a way of thinking to analyse and understand the education, training and development subsystem (ETD subsystem) in the South African National Defence Force. An understanding of this ETD subsystem in turn facilitates an understanding of the utilisation of ETD practitioners as one of the components of the larger ETD system. A systems approach, therefore, enables an analysis of the competence profile of ETD practitioners in terms of stages, levels and general activities. The identification of stages, levels and general activities in terms of competences

is necessary for the design and development of suitable and appropriate career paths and training strategies.

1.6.6 Department of Defence

The Department of Defence consists of two components, namely the Defence Secretariat and the South African National Defence Force. The Department of Defence is the overarching body that is responsible for providing the drafting and maintaining of the Defence Strategy and the Military Strategy. The Department of Defence informs and provides strategic advice to the Secretary for Defence and the Chief of the South African National Defence Force through the Defence Staff Council. According to the Defence Update 2006 (DOD, 2006:30) "[t]his advice enables them to make decisions regarding departmental policy, departmental strategy, plan, programme and budget, resource allocation, execution of strategic plan, performance against plan and risks management." The Department of Defence focuses on the management of strategic objectives. Reference to military defence strategies will be within the context of the Department of Defence.

1.6.7 South African National Defence Force

The South African National Defence Force is one of the components of the Department of Defence. The primary objective of the South African National Defence Force is to "defend and protect the Republic of South Africa, its territorial integrity and its people in accordance with the Constitution and the principles of international law regulating the use of force" (DOD, 2006:15). The South African National Defence Force is responsible for the direct management and administration of Defence Force resources in an efficient way, "including the effective utilisation and the education, training and development of all members of the Defence Force, and employees of the Department where so required by the Secretary for Defence" (DOD, 2006:25) Therefore, when reference is made to ETD practitioners, it will be within the context of the South African National Defence Force.

1.7 RESEARCH DESIGN

1.7.1 Rationale for the research design and methods

A variety of methods and techniques exist according to which a needs analysis can be conducted (McCullough, 1987:37; Rothwell & Sredl, 1992a:347-361; Rothwell & Sredl, 1992b:87-133; Wolmarans & Eksteen, 1987:28). One method of analysis would be to compare and analyse job descriptions. The investigation into and analysis of post profiles in a preceding study (see section 1.2.3) revealed, however, that the method of job descriptions will not be suitable for this study since it does not provide sufficient and adequate information to determine the various roles and levels of competences required of ETD practitioners in the South African National Defence Force.

Another method to do the analysis is a competency-based method. The training job is analysed in terms of the definitions and descriptions of the roles and competencies needed by training and development practitioners themselves (McCullough, 1987:37). The disadvantage of this method is that the analysis is based on information about the present performance. It does not always provide answers to how performance may have to change to cope with future and perhaps unknown job conditions. Although the focus of this study is on the identification of *competences*, the techniques used in the competency-based method has distinct advantages and is considered appropriate for this study for the following reasons:

- ❑ One of the outcomes will be a competence profile that could serve as a competence inventory for planning purposes. The wide applicability of the competence inventory makes it useful for identifying career paths and corresponding training, education and development needs and thus for the realisation of the purpose of this study.
- ❑ There is still considerable confusion within the South African National Defence Force regarding the application of the latest terminology used by the South African Qualification Authority. In order to compile a competence profile that is up to date, it is necessary to use the outcomes-based terminology of SAQA. However, the implications of the competence profile from a systems approach is better described in older didactic literature. Hence it is necessary to compare the traditional terminology with the current SAQA terminology. A description of the required competences will assist to make this

comparison possible. The identification of competences, using SAQA terminology, should also be of value to compile updated job descriptions in the Department of Defence (see section 1.2.3).

- ❑ The competence profile could provide a tool for developing best practices in education, training and development.
- ❑ The competence profile can be used for employee selection, job analysis, the development of learning programmes and employee performance appraisals.

1.7.2 Research design of the study

The research is conducted through an empirical study with triangulation as research approach, using qualitative and quantitative research methods to collect information and data. The advantages of triangulation are multiple. Triangulation can capture a more complete, holistic and contextual portrayal of the unit(s) under study. The combination of a variety of methods will increase the validity and reliability of the study. Multiple measures may uncover some unique variance, which may have been neglected by single methods and which may be crucial for the development of a career development map.

Both a deductive and an inductive approach are followed. A deductive approach is followed initially where existing theories on ETD practitioner roles with regard to both face-to-face and distance learning delivery modes are analysed. For this purpose a literature study was done to gain insight into the theoretical concepts and to determine how they can be applied in practice in the South African National Defence Force. The literature study was furthermore done to identify the most appropriate roles and broad categories of competences for the ETD practitioners in the South African National Defence Force.

In addition to the deductive approach, an inductive approach is followed where the theoretical analysis was followed up with empirical measurement by means of surveys and data analysis. A more inductive and a-theoretical approach is used regarding the measurement of roles and related competences when comparing the findings of the empirical data with the theoretical findings.

1.8 RESEARCH METHODOLOGY

1.8.1 Data collection and sources

1.8.1.1 Literature study

Information from documentation such as books, magazines, theses, military documentation, unit standards and from the Internet was collected and reviewed. A literature study was conducted to obtain a sound knowledge base and theoretical foundation for the study. It was also conducted to substantiate findings and add other views and perspectives on the subject. The information obtained in this manner is compared and integrated with the empirical data that were collected.

The identification of roles and competences is based on the integration and combination of information obtained from the following sources:

- ❑ roles and competences identified and described in other studies;
- ❑ roles and competences identified through an analysis of appropriate and relevant unit standards; and
- ❑ roles and competences identified as a result of the analysis of the current post profiles of ETD practitioners in formal South African National Defence Force training institutions.

1.8.1.2 Surveys

Based on the notion that surveys are appropriate for research questions about self-reported beliefs or behaviours (Neumann, 2003:263-304), surveys seemed to be the best research method for this study. The study intended to analyse aspects of the utilisation and development of ETD practitioners. Care was taken during the design of the research, the analysis of the results and in generalising the results of the surveys to avoid typical survey errors.

The identification of roles and competences by means of the literature study is complemented by structured and semi-structured questionnaires, interviews and focus group discussions with a representative sample of senior staff officers, staff officers, commanding

officers and ETD practitioners in the South African National Defence Force who work in the education, training and development environment.

During the empirical research phase of this study structured and semi-structured questionnaires were used. The commanding officers or the training managers at the ETD providers completed two questionnaires. The first was a semi-structured questionnaire that consisted of open-ended questions. This questionnaire provided insight into the context in which ETD practitioners are utilised, trained and developed. The second was a structured one. The purpose of this questionnaire was to find out from these managers what education, training and development tasks they expected from ETD practitioners for the different rank groups. The ETD practitioners completed a third questionnaire. This questionnaire was a structured one that was used to determine the utilisation of ETD practitioners in terms of roles, levels of performance and clusters of competences.

1.8.2 Population and sampling

In order to draw inferences that are reliable and valid, it is crucial for the sampling error to be reduced and the sample to be representative of the population.

The sampling error is based on two factors: the sample size and the amount of diversity in the sample. In this study the population is small and highly diverse. Large samples are therefore needed to reduce sampling errors.

All the formal mandated South African National Defence Force training providers of the Regular Force are included in the sample population. This implies that various education, training and development providers are included, irrespective of whether they use only residential training or mixed mode training delivery. Only military (uniformed) members of the South African National Defence Force are included in the population. Civilian (non-uniformed) members of the South African National Defence Force are excluded from the study, since their career management and development differ extensively from those of military members.

The sample of training providers within the South African National Defence Force was purposely selected to ensure the inclusion of the variables discussed in section 1.2.3. These variables include the provider category, the ETD practitioner rank level, the subject matter

expertise requirements, current utilisation of ETD practitioners in the different ETD roles, as well as the ETD competence requirements and the competence status of the ETD practitioners.

To ensure a large enough sample size to reduce the sampling error, a convenience sample is used for the sampling of ETD practitioners. Within the selected training providers, as many of the ETD practitioners as possible were requested to complete the questionnaires. This method is proposed to ensure representivity of the different categories of training providers as well as the different categories and levels of ETD practitioners.

1.8.3 Data analysis

The research results obtained from the questionnaires completed by the ETD practitioners in the South African National Defence Force were manually loaded onto computer for statistical analysis, using the Statistical Package for Social Sciences (SPSS^x) to perform the statistical analysis. Constructs were analysed with descriptive statistical techniques. Because of restrictions on the publication of information in the Department of Defence only one aspect of the data obtained through the questionnaire could be elucidated and used for the purposes of this study. As a result the data were reduced to the nominal level. Since operationalising data on the nominal level has the implication that crosstabs are the only suitable statistical test of analysis, these were used to obtain descriptive statistics. The descriptive statistics enable analysis and understanding of the utilisation of ETD practitioners in the South African National Defence Force in terms of roles and associated tasks.

1.9 PROGRAMME OF THE STUDY

In the following chapter the didactic framework for the description of ETD practitioner roles and performance levels is discussed. Aspects such as the relevant education, training and development terminology, the implications of the outcomes-based education approach and the systems approach to education, training and development based on Romiszowski's model of instructional systems design will be dealt with. The implications of these approaches for ETD practitioner roles and performance levels are explored and deliberated.

In Chapter 3 the didactical implications, as analysed in Chapter 2, are applied to the roles and performance levels of ETD practitioners in the Department of Defence. The aim of this

chapter is to provide a proposed competence profile that describes the ought-to-be end state for the utilisation and development of ETD practitioners in the South African National Defence Force. The proposed competence profile is derived from the didactic framework based on the outcomes-based approach and the systems approach to instructional systems design. The description of the proposed competence profile emphasises the necessity to clarify the relevant competences of ETD practitioners in the South African National Defence Force on the macro-, meso-, and micro levels of the education, training and development system and organisational structures.

Chapter 4 describes the research design and methodology that were used in this study. Since the study was conducted from an applied research approach, this chapter explains the use of a primarily positivist social science approach and descriptive statistics, as it applies to an investigation into the competence profile of ETD practitioners in the South African National Defence Force.

Chapter 5 presents the collected and tabulated statistical research results. This chapter describes the findings of the research study, with the aim to answer the research and subsidiary questions of the study. The chapter commences with a description of the context in which ETD practitioners are utilised. Thereafter the biographical composition of the ETD practitioners who participated in the study is summarised. This is followed by a discussion of the competence profile of the ETD practitioners. This discussion includes a comparison between the perceptions of the ETD practitioners on how they are utilised, and the perceptions of the education, training and development managers regarding their requirements for the utilisation of the ETD practitioners. This comparison provides an overview of the actual utilisation of the ETD practitioners in the South African National Defence Force. The findings in terms of the actual utilisation of ETD practitioners in this force are furthermore compared with the proposed competence profile for ETD practitioners that is discussed in Chapter 3.

Chapter 6 contains the synthesis and evaluation of the research with reference to the main conclusions of the study and recommendations for further research.

Chapter 2

A Didactic Framework for an Education, Training and Development Practitioner Competence Profile

2.1 INTRODUCTION

The purpose of this chapter is to provide a didactic description of the roles, performance levels and their related activities for the development and utilisation of education, training and development practitioners (ETD practitioners).

The chapter commences with a section on the most relevant didactic concepts and terminologies to establish a didactic framework for the descriptions of the roles and levels of performance of an ETD practitioner.

The outcomes-based education and training approach is discussed to indicate the implications for various roles. The systems approach to education, training and development is used to describe the different levels that ETD practitioners perform at.

The chapter concludes with a synthesis of the roles and performance levels of ETD practitioners as deduced from the literature review.

2.2 ESTABLISHING A DIDACTIC FRAMEWORK

A discussion of the roles and competences related to a specific job is usually done from a human resource perspective. This study, however, will approach the discussion of the roles and competences of an ETD practitioner from a didactic perspective. As a result certain didactic concepts, terminologies and principles need to be clarified first, to enable a meaningful discussion of the issues. This clarification becomes even more important because of the different education, training and development terminologies introduced and used by the South African Qualifications Authority (SAQA). The SAQA terminologies may not necessarily be easily distinguishable from similar terminologies used by other educationists in the rest of the world. In the discussion of the roles and competences of ETD practitioners, didactic terminology will be used from both the SAQA and the international contexts and thus a comparison will also be made between the different education, training and development

terminologies to establish common ground for understanding and to avoid misunderstanding and possible contradictions.

The aim of this section is to describe and define the following didactic concepts: ETD practitioner roles, didactics, outcomes, qualification, unit standard, learning programmes, curriculum, learning programme strategy, approach, model, strategy and method in the terminological context described above.

2.2.1 Education, training and development practitioner roles

ETD practitioners are often referred to as "trainers", "instructors" or "facilitators" or "lecturers", but these titles limit the educational activities of these people to mainly one role. ETD practitioners often do more than just facilitate learning or instruct. They are frequently expected to perform a combination of roles. In one organisation an ETD practitioner may be expected to facilitate learning only, and another to assess learning outcomes only. In another organisation the same ETD practitioner might be expected to design curricula, assess, evaluate learning programmes and manage the training functions.

The term education, training and development practitioner, in short ETD practitioner, refers to a broad range of people directly or indirectly involved in activities that support learning. The term *ETD practitioner* includes a broad range of roles that these people have to perform and refers to the variety of activities and roles related to education, training and development.

The Occupation Directed Education, Training and Development Task Team (2003: Part C) identified seven roles for ETD practitioners (Table 2.1). Because these categories were accepted by SAQA, it was decided to use them for this study as well.

Table 2.1 Education, training and development practitioner roles

ETD practitioner roles	Role purpose
Needs analysis	To identify education, training and development needs and solutions among individuals and organisations by analysing performance needs and discrepancies.
Learning design and development	To ensure effective learning (to achieve identified outcomes) by producing appropriate and relevant learning systems, interventions/experiences and resources.
Facilitation of learning	To develop and build competence in individuals and groups so as to enhance individual and organisational performance.
Assessment and moderation	To measure individual performance against defined standards based on the evidence presented for the purpose of making decisions and recommendations for ongoing development or formal recognition of learning.
Learner support	To support learning in organisations and assist learners to reach their full potential and shape their careers by working with individuals to determine the issues, needs and aims and providing advice, guidance and support about learning and career development options and their learning experience generally.
Learning management	To plan, resource, implement, administer and advocate ETD processes and practices and services to enhance individual, organisational and national objectives.
Quality assurance (including evaluation)	To ensure the quality and compliance of education, training and development systems, processes and practices for continuous improvement.

2.2.2 Defining didactics

Van Rooy (1993a:3) defines didactics as: "the science which studies teaching and learning". Didactics is therefore concerned with the activities of both teaching and learning. *Teaching* is the activity which aims to present particular (learning) content to somebody else in such a way that that person learns something from it. Learning then takes place if the learner obtains knowledge and skills and becomes increasingly competent in obtaining, interpreting and using knowledge and skills in an independent manner to cope with the underlying demands of society. *Learning* will only take place if the person being taught actively wishes to benefit from the teaching and absorb particular (learning) content.

Teaching and learning are interdependent activities. However, because of the aim of this study the focus will be more on the teaching activities and their design. Although the issue of learning activities receives less prominence in this study, it will nevertheless be taken into

consideration when discussing the ETD practitioner roles and competencies in terms of the teaching activities and their effect on the learning activities, and vice versa.

2.2.3 Defining learning outcomes and learning objectives

A key concept in outcomes-based education is the term *outcome*. Olivier (1998:22) and Nel (2006:28) warn that although learning objectives and learning outcomes have commonalities, in the outcomes-based education and training paradigm, they should not be used as interchangeable terms. It is therefore necessary to clarify and compare the term learning outcome with the term learning objectives in order to simplify the discussions in the rest of the study.

2.2.3.1 Learning outcomes

A key concept in outcomes-based education is the term learning outcome. Understanding learning outcomes is an essential element of understanding unit standard writing and curriculum (learning programme strategy) writing.

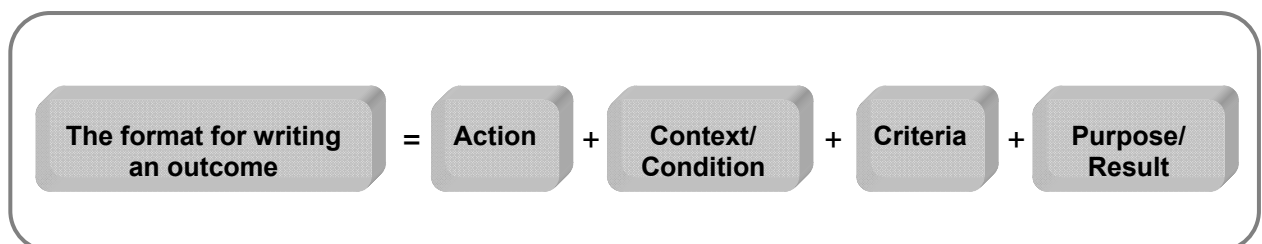
Killen (2000:1) distinguishes between two types of learning outcomes. Learning outcomes could firstly be described in terms of performance indicators such as test results, completion rates, post-course employment rates, etc. Learning outcomes could secondly be expressed in terms of what learners know, are able to do, or are like as a result of their education and training. It is the second type that is normally implied when outcomes-based education is discussed, and the term is used in that way in this study as well.

Spady (1994:2) elaborates on this second type and defines learning outcomes in this context as the clearly observable learning results that learners must be able to demonstrate at the end of learning experiences. "Outcomes emphasises what learners can actually do with what they know and have learned – they are the tangible application of what has been learned" (Spady, 1994:2). Learning outcomes include the performance of both acts and processes as demonstrations of ability. Therefore, when educators define and develop learning outcomes, they should use observable action verbs such as describe, explain, design, or produce. The use of verbs that describe vague or hidden non-demonstration processes, such as know, understand, believe and think, should be avoided.

SAQA defines learning outcomes similar to Spady as the contextually demonstrated end products of the learning process. SAQA emphasises that *demonstration* is the key word. To assess learners' ability to do something and declare their level of competence, they have to be observed while they demonstrate the ability. According to SAQA (2005b) the term *outcome* "refers to a short description of a significant, meaningful milestone of learning that is worth reporting upon and recognising. The outcome describes what a learner is expected to know and to do." A learning outcome also describes the purpose or results of applying skills, knowledge and attitudes and the performance that can be achieved and assessed in a manageable way.

Various formats exist to describe the typical components of a learning outcome. Rous (2004a:21) provided the following format for writing an overall outcome (see Figure 2.1). The same format is, however, applicable to all learning outcome statements.

Figure 2.1 The format for writing an outcome



Traditionally several broad categories of learning outcomes were discerned: exit, culminating, enabling and knowledge, skills and attitudes. These broad categories are also present in the SAQA context, although the terminology used is slightly different. However, the overall meaning is much the same, as will be indicated below.

Exit outcomes. Exit outcomes define the system's *ultimate expectations* for learners, occurring at or after the end of learners' school careers (Spady, 1994:18). In the SAQA context an exit outcome could apply to a qualification or a learning programme or a course. In all of these the purpose of the exit outcomes of the qualification, the learning programme or the course is to describe the final expected outcome for that specific qualification, learning programme or course.

This type of exit outcome could also be referred to as an overall outcome. According to Rous (2004a:21) an overall outcome is:

- An accurate description of one or two sentences of the main aim and objectives of the learning programme.
- Like a roadmap to the end result/outcome.
- A description of what the learner must know, do, and adapt to
 - ... in a specific context.
 - ... against set criteria/measurement.

Culminating outcomes. *Culminating outcomes* comprise those exit outcomes that enable the learner to achieve the overall outcome. Culminating outcomes define what the system wants learners to be able to do at the end of each of the formal learning experiences (Spady, 1994:18). Take for example a qualification consisting of several unit standards or learning programmes or courses. The culminating outcomes of a particular qualification are represented by the exit outcomes of the various unit standards or learning programmes or courses.

From the discussion in the preceding paragraphs it is deduced that traditionally a distinction was made between exit outcomes, programme outcomes and course outcomes. In the SAQA context only the term *exit outcome* is used. In this context an exit outcome is used with qualifications, unit standards, learning programmes and courses. An exit outcome could therefore be a culminating outcome as well, depending on its position relative to the overall outcome (see Figure 2.1).

Enabling outcomes (specific outcomes, critical cross-field outcomes and learning outcomes). Spady (1994:18) describes these as the key building blocks on which the culminating outcomes depend. In the SAQA context, the enabling outcomes of a learning programme would be the specific outcomes listed in the unit standard and the critical cross-field outcomes. It would also refer to the learning outcomes for the learning facilitation sessions.

Discrete outcomes. Spady (1994:18) describes these as the key building blocks on which the culminating outcomes depend. In the SAQA context, the enabling outcomes of a learning programme would be the specific outcomes and assessment criteria listed in the unit standards that make up the learning programme, as well as the critical cross-field outcomes. It would also refer to the learning outcomes for individual learning facilitation sessions.

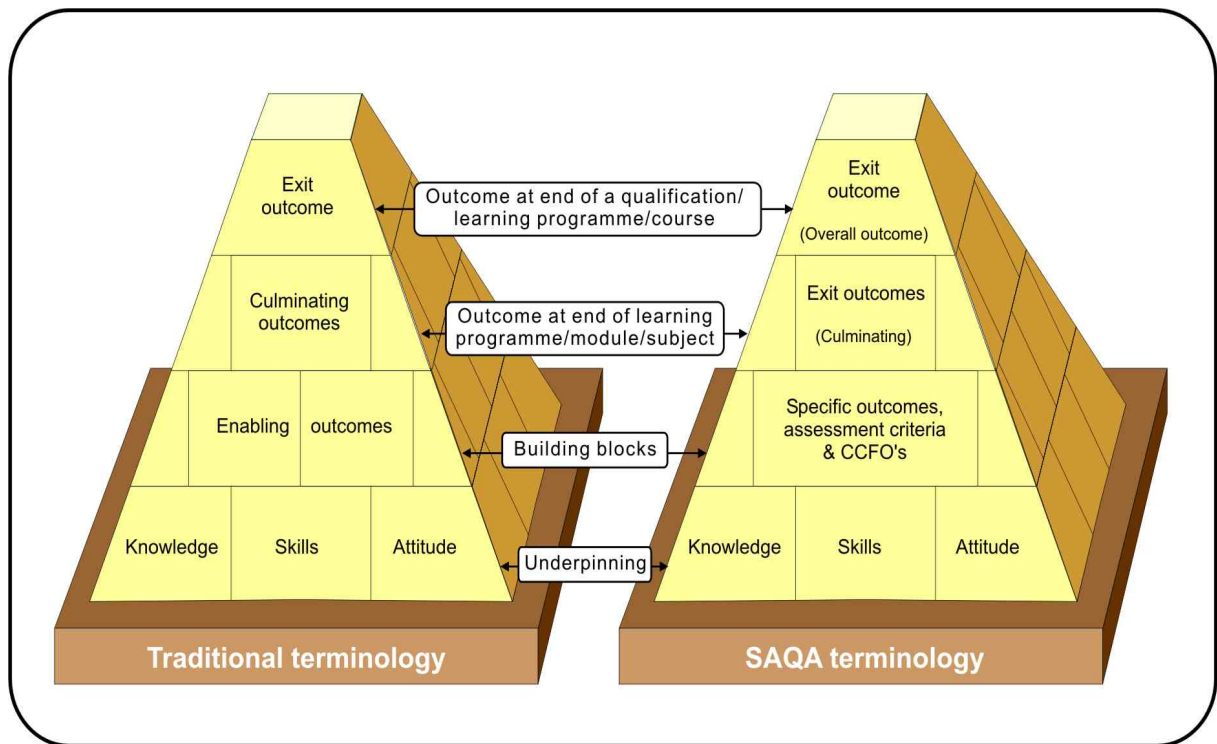
The formulation of outcomes evolved over time. In older, traditional outcomes-based education approaches the emphasis was on specific content and structured task performances. Examples of traditional outcomes include simple forms of learning demonstrations, such as listing characteristics or writing a summary of a novel. They usually do not require complex integration or synthesis activities and are often performed in a classroom or simulated environment (Spady, 1994:63-65).

Later, transformational outcomes-based education developed at the other extreme of the competence hierarchy. This approach is concerned with the most complex ways of demonstrating learning to function effectively in the occupational, family, civic and recreational roles. At this level individuals are required to integrate, synthesise and apply a variety of complex content and competences in the given situations in which they find themselves. The transformational outcomes-based education competences are called context-dominated "complex role performances" and "life-role functioning".

The implementation of a transformational outcomes-based education approach is therefore of significant value for this study, since the competence profile of ETD practitioners will be compiled according to the context-specific descriptions of their various roles in the context of the Department of Defence. The outcomes-based education approach and its relevance for ETD practitioner roles are discussed in more detail in section 3 of this chapter.

Figure 2.2 illustrates the hierarchy of learning outcomes. In addition it provides a comparison of the traditional and SAQA terminologies.

Figure 2.2 Learning outcome hierarchy



CCFO's: Critical Cross Field Outcomes

2.2.3.2 Learning objectives

Lancaster (2001:100) notes that although SAQA unit standards contain exit, specific and critical cross-field outcomes, it is still necessary to write learning objectives for a learning programme. Learning objectives address more than learning outcomes. Learning objectives provide the framework for the development of the learning outcomes. Learning outcomes are seen as the means to an end, while the end is represented by the objective(s). The achievement of learning outcomes does not necessarily mean that the objectives have been achieved. It could for example be possible to train individuals, but when the end result is evaluated, it is found that the objective has not been achieved in terms of the right number of the right people, who are able to demonstrate the right capabilities. It is therefore necessary to start with learning objectives, from which the learning outcomes are then derived.

Learning objectives must also be distinguished from training objectives. Training objectives are concerned with those aspects and requirements that will ensure successful facilitation of learning and the transfer of learning to the workplace. Learning objectives describe the

learning that should take place and the criteria to demonstrate that the learning was successful. The focus of training and learning objectives, therefore, is on the context in which instruction or training should take place.

Although learning outcomes, therefore, coincide with training and learning objectives, learning outcomes are not the same as learning objectives. In addition to learning outcomes, it is also necessary to formulate the purpose of qualifications and learning programmes of an organisation in terms of training and learning objectives. Training and learning objectives are usually written into the organisation's business plans.

2.2.4 Qualifications, standards and learning programmes

2.2.4.1 Unit standards

Unit standards and qualifications are used in the SAQA environment for setting national standards. Many people mistakenly think that setting standards is about the recording or registering of their learning programmes, i.e., that it refers to the requirements of the Education Training Quality Assurer processes to accredit providers who offer learning. The setting of standards is, instead, mainly about the formulation of outcomes. Standards are used as the primary tool to ensure that people are recognised for learning achievements on an objective and transparent basis. By reaching agreements on the standards required, and by communicating these standards to learners, trainers, educators and assessors, one establishes a basis for making assessment judgements in a way that is fair, open, reliable and consistent. National standards include both qualifications and unit standards (Isaacs, 2000:15).

The South African Qualifications Authority Act (Act No. 58 of 1995) defines unit standards as the:

- ❑ **registered statements** of desired education and training outcomes and
- ❑ their **associated assessment criteria**, describing the quality of the expected performance, together with
- ❑ administrative and other **information** specified in the National Standards Bodies regulations.

A unit standard is a document that describes:

- ❑ a coherent and meaningful outcome of learning (title) that is required to be recognised nationally;
- ❑ the smaller more manageable outcomes that make up the main outcome (specific outcomes and critical cross-field outcomes);
- ❑ the standards of performance required as proof of competence (assessment criteria); and
- ❑ the scope and contexts in which competence is to be judged.

The purpose of a unit standard is to provide guidance to the:

- ❑ **assessor** as to the evidence that must be gathered during assessment;
- ❑ **learner** as to the learning outcomes that must be achieved; and
- ❑ **provider** and/or **materials designer** as to the learning materials or learning experiences to be prepared to assist learners in reaching competence.

2.2.4.2 Qualifications

The National Standards Bodies Regulations (452 of 28 March 1998) describe qualifications as (Isaacs, 2000:29):

- ❑ representing a **planned combination of learning outcomes** with a defined purpose or purposes, including applied competence and a basis for further learning;
- ❑ **enriching the qualifying learner** by providing status, recognition, credentials and licensing; it improves marketability and employability and opens up routes to additional education and training;
- ❑ complying with the objectives of the National Qualifications Framework contained in section 2 of the Act;
- ❑ having both specific and critical cross-field outcomes that **promote lifelong learning**;
- ❑ where applicable, being **internationally comparable**;
- ❑ incorporating integrated assessment to ensure that the purpose of the qualification is achieved; a range of **formative and summative assessment methods** appropriate to the competence being assessed are used; and
- ❑ providing for the **recognition of prior learning**, including learning outcomes achieved through formal, informal and non-formal learning and work experience.

According to Bellis (2001:89), SAQA means the following by *qualification*: "[A] planned combination of learning outcomes which has a defined purpose or purposes, and which is intended to provide qualifying learners with applied competence and a basis for further learning; and it means the formal recognition of the achievement of the required number and type of credit and such other requirements at specific levels of the National Qualification Framework as may be determined by the relevant bodies registered for such purpose by the South African Qualifications Authority."

SAQA identifies two types of qualifications. Firstly, qualifications could be based on exit-level outcomes and associated assessment criteria. Secondly, qualifications could be based on unit standards, such as a degree, diploma, certificate or skills programme. In the National Qualification Framework paradigm it means that one qualification could be achieved through different learning programmes (Nkomo, 2000:9).

2.2.4.3 Learning programmes

SAQA defines a learning programme as follows (Nkomo, 2000:3): " The sequential learning activities, associated with curriculum implementation, leading to the achievement of a particular qualification or part qualification."

A learning programme can be associated with a cluster of qualifications, a single qualification or a partial qualification. Learning programmes could be of a generic, developmental nature, or could be designed to meet a specific purpose.

According to the National Council of Higher Education report of 1996 all learning programmes should be educationally transformative. This means that all learning programmes should meet the following requirements:

- ❑ They should be planned, coherent and integrated.
- ❑ They should be value adding, building contextually on learners' existing frames of reference.
- ❑ They should be learner-centred, experiential and outcomes-oriented.
- ❑ They should develop attitudes of critical inquiry and powers of analysis.
- ❑ They should prepare students for continued learning in a world of technological and cultural change.

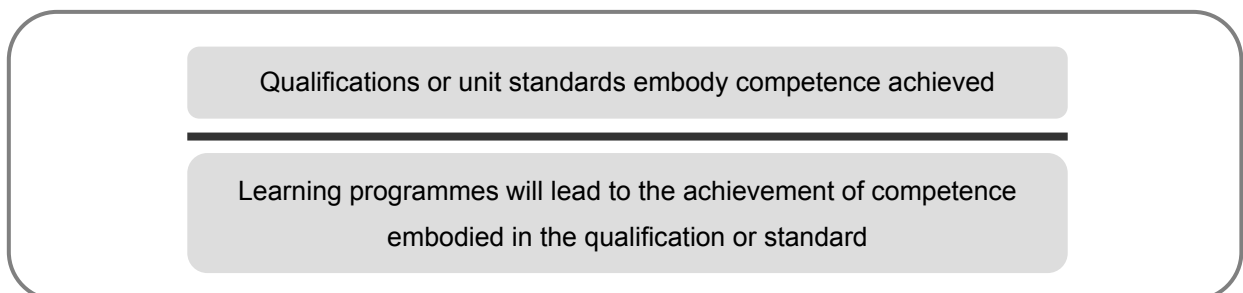
Learning programmes are developed and implemented in order to enable people to achieve learning outcomes to required standards of performance. As such, learning programmes are the vehicles through which the curriculum will be implemented (Bellis, 2001:177).

It is deduced from the preceding discussion that learning programmes vary in scope. They could for example, either have an extensive scope consisting of several programmes or unit standards or could be of limited scope, consisting of one unit standard or selected outcomes within that unit standard.

2.2.4.4 The relationship between qualifications and learning programmes

Within the construction of the National Qualifications Framework in South Africa, outcomes (standards) have been separated from inputs (learning programmes) as illustrated in Figure 2.3.

Figure 2.3 The relationship between qualifications and learning programmes



An understanding of this separation is required because it has implications for the levels of curriculum design and, as such, for the levels of ETD practitioner performance relevant for this study. SAQA (Isaacs, 2000:15) describes what lies below the line as largely the business of professional providers and their clients. The Education and Training Quality Assurance Bodies (ETQAs) are responsible for overseeing what lies above the line.

This has the implication described below for a provider of ETD services, such as the Department of Defence. The interaction between the ETQA and the Department of Defence to register qualifications and unit standards is primarily a responsibility at the strategic level in the Department of Defence (described in Chapter 3). In order to design a qualification or unit standard the organisation needs to do the following in collaboration with the Standard Generating Bodies:

- ❑ Conduct a scoping exercise. This provides the focus for standards generation and the design of a qualification. It also enables proper timelines and project costing to be developed. The implication is that this should be done by needs analysts and training managers at the strategic level of the organisation.
- ❑ Conduct an outcomes analysis of the system. Work processes and/or roles are examined and all the knowledge and skill requirements captured.
- ❑ Describe a titles matrix. The titles matrix is an overview of the sub-field expressed in terms of the outcomes required of people working and acting in the field.
- ❑ Generate qualifications and standards.
- ❑ Submit qualifications and standards for recommendation.

The design and development of learning programmes will be the responsibility of the lower strategic levels of an organisation such as the Department of Defence.

2.2.5 Defining curriculum and learning programme strategy

2.2.5.1 Curriculum

The term curriculum means different things to different people and definitions of curriculum range from narrow interpretations to wide all-encompassing ones (Bellis, 2001:177; Nkomo, 2000:3). Van Rooy (1993b:92) captures the essence of a curriculum as "the interrelated totality of aims, learning content, evaluation procedures and teaching-learning activities, opportunities and experiences which guide and implement the didactic activities in a planned and justified manner". A curriculum, therefore, serves as the system that provides the starting point, guidelines, criteria and instructions that will ensure an orderly, planned and well-founded course for the interaction.

SAQA differentiates between the terms "curriculum" and "learning programme strategy" (Bellis, 2001:177-178; Nkomo, 2000:5; Rous, 2004a:35; SAQA, 2005a:3).

SAQA takes a broad view of the term "curriculum" and defines a curriculum as being more than a syllabus. In the SAQA context a curriculum refers to all of the teaching and learning opportunities that take place in learning institutions. It argues that, irrespective of the interpretation of the curriculum or learning programme strategy, the following elements should be present (Bellis, 2001:178; Killen, 2000:6):

- ❑ Determining the purpose and values of the learning.
- ❑ Analysing the needs and nature of the learners.
- ❑ Deciding on the outcomes or learning objectives.
- ❑ Selecting the content, the subject matter that will support achievement of the outcomes.
- ❑ Deciding on the activities, the methods and media for teaching/training and learning.
- ❑ Planning how assessment will be done.
- ❑ Planning how the overall effectiveness of the delivery of the curriculum will be evaluated.

The National Qualifications Framework accepts Bellis' description of a curriculum but furthermore distinguishes between three parts of a curriculum. According to SAQA (2005a:3) the curriculum deals with:

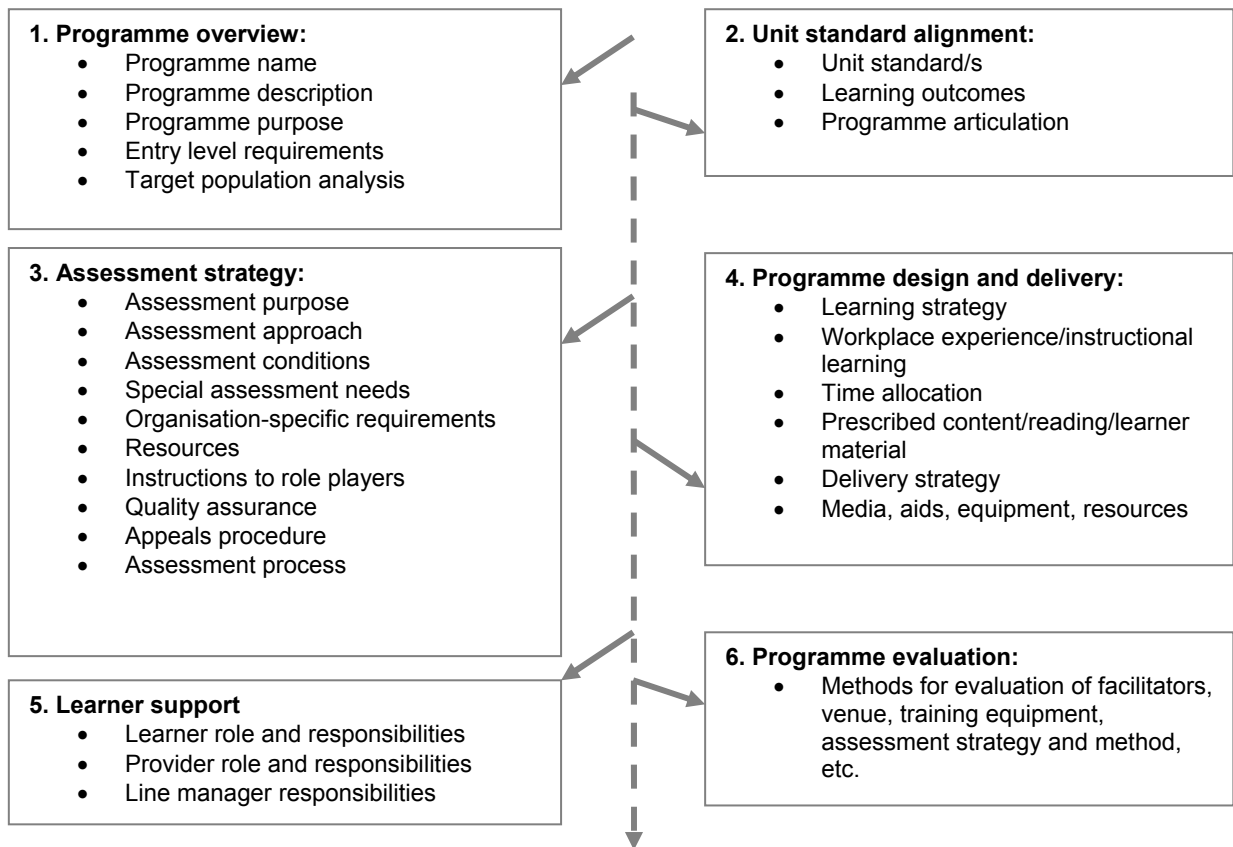
- ❑ standards setting;
- ❑ learning programme development and delivery, including assessment; and
- ❑ quality assurance of delivery and assessment processes.

2.2.5.2 *Learning programme strategy*

A learning programme strategy constitutes the plan for getting the learner to meet the specified outcomes as set out by the curriculum. The learning programme strategy refers to the what, the when and the how of implementation.

Reinecke (2005) summarised the components of a learning programme strategy in the SAQA context (see Figure 2.4).

Figure 2.4 Learning programme strategy components



2.2.5.3 The relationship between qualifications, standards, curricula and learning programme strategies

Van Rooy (1993b:104) notes that curricula can be developed at three levels. The distinction between the different levels of curricula has the implication in the SAQA context that outcomes-based programme strategies are also designed at different levels.

- ❑ **Macro-level curriculum development.** Macro-level curriculum development focuses on the general and all inclusive educational policies, educational aims and provision of education in a particular country, province, school or organisation that provides education, training and development, such as the Department of Defence. This would typically be an organisational curriculum where the general aims and educational policy concerning all its qualifications and learning facilitation activities are spelled out. In SAQA terminology this would be referred to as the curriculum statement. In the Department of

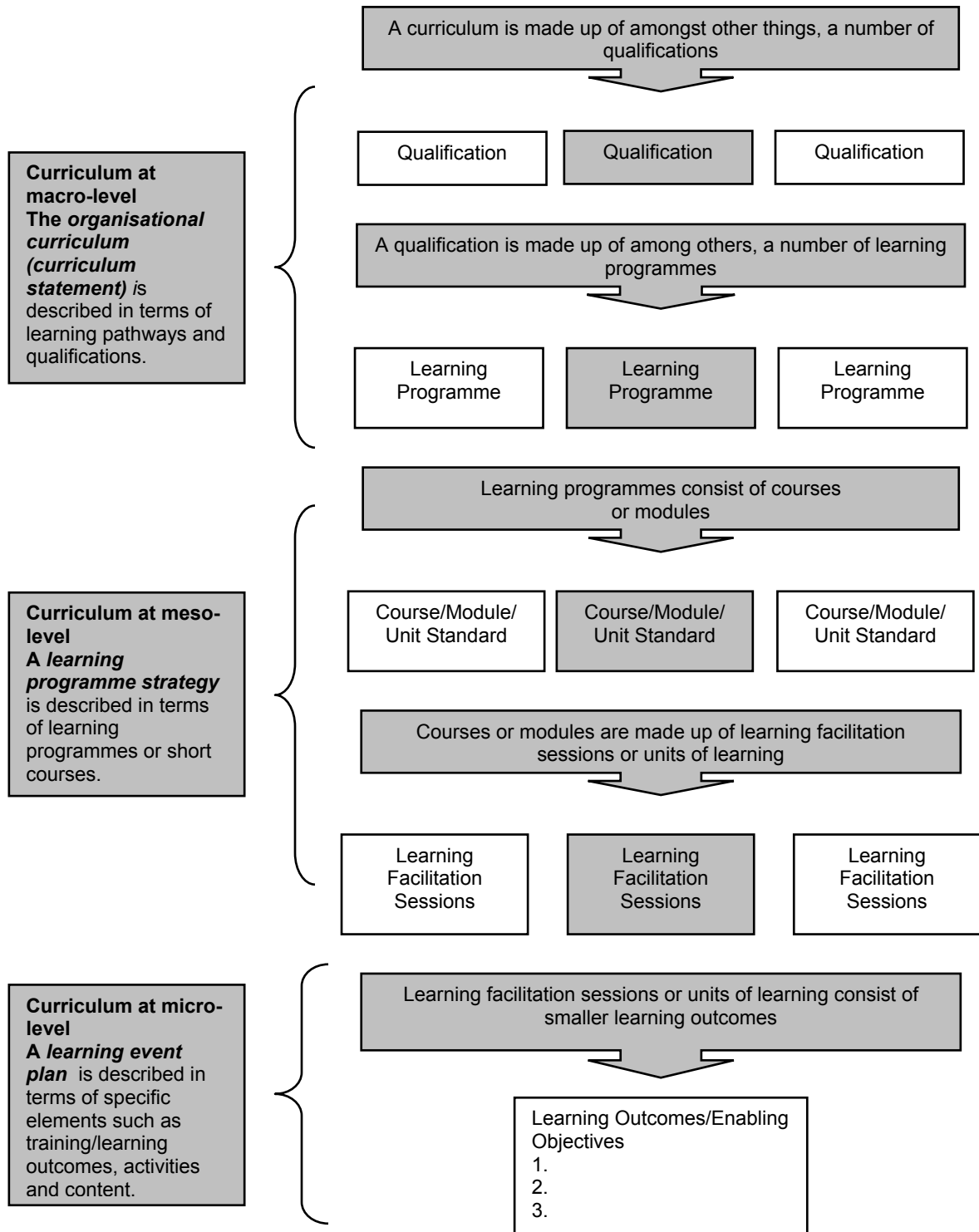
Defence the development of a curriculum statement should primarily be the responsibility of services and divisions.

- ❑ **Meso-level curriculum development.** Meso-level curriculum development concerns curriculum development within an individual department or section of a particular didactic environment, or a particular subject, course or year of study within such a department or section. It is mainly subject curricula or learning programme strategies, in the SAQA context, which are developed at the meso-level. In the Department of Defence learning programme strategies should primarily be developed at the formation and ETD provider level.
- ❑ **Micro-level curriculum development.** Micro-level curriculum development pertains to individual didactic situations. The micro-level curriculum would typically refer to a specific subject/module or learning facilitation session and would be in the form of a learning facilitation plan and learning event plan in the SAQA context. In the Department of Defence the responsibility for the development of learning facilitation plans and learning event plans should primarily be the responsibility of the ETD practitioners at an ETD provider.

Van Rooy (1993b:105) furthermore notes that curriculum development continually occurs at all three levels. Therefore, curriculum development at a specific level is not carried out independently of curriculum development at any of the other levels. Whatever changes are made to a curriculum at one level will influence the other levels. This interrelationship is demonstrated in Figure 2.5.

Outcomes-based programme strategies are also designed at different levels. The levels of outcomes-based programme strategies correspond with the different levels described by Van Rooy, as illustrated in Figure 2.5.

Figure 2.5 The interrelationship between curriculum levels and learning programme design (adapted from RAU, nd:53)



2.2.6 Didactic mechanisms for a competence profile

The terms that will be described in this section are often confused or used as synonyms. In order to set the foundation for further discussions and for describing the roles of the ETD practitioner and the various levels of the roles, it is necessary to clarify and discern between these terms.

2.2.6.1 Approach

An approach reflects a specific value or set of values, or conviction, or assumption or set of assumptions. An approach is a way of seeing things, a way of constructing things, a way of doing things. It describes how people see things, what people do and explains why they do it. All education, training and development activities conducted by an ETD practitioner, or a group of ETD practitioners at a provider of education, training and development services, will be influenced by these assumptions and/or values (Bellis, 2001:180).

In order to describe the roles of the ETD practitioner two approaches were selected, namely the outcomes-based education approach and the systems approach to education, training and development. These approaches and their relevance will be described in sections 2.3 and 2.4.

2.2.6.2 Model

Rothwell and Sredl (1992a:261) define a model as a "simplified representation of an otherwise complex phenomenon". A model describes the components or elements of a system and the interrelationship between the components or elements. A model refers to something that has been tested, established and that is in use. Most models for the design of instruction (teaching-learning) have five common elements, according to Van Dyk, Nel, Loedolff and Haasbroek (2001:163):

- ❑ data collection;
- ❑ assessment of learner entry skill;
- ❑ specification of behavioural objectives or performance requirements;
- ❑ a procedure for selecting presentation methods and media; and
- ❑ a procedure for implementation, evaluation and revision.

It is sometimes possible to present a model diagrammatically or graphically. In the education, training and development environment several models exist. Some of the general education, training and development models include the Dick and Carey systems approach model for designing instruction, the outcomes-based curriculum design model that describes the specific requirements in order to fulfil the prescripts of the National Qualifications Framework, Nadler's "critical events model" that describes the training process in holistic terms, the training model of Camp, Blanchard and Huszco that also focuses on the training process in holistic terms, and the high impact training model that focuses on providing effective, targeted training (Bellis, 2001:181, Erasmus & Van Dyk, 2003:55 - 61; Van Dyk et al., 2001:163-171).

2.2.6.3 Strategy

Van der Horst and McDonald (2003:121) define a teaching strategy as "a broad plan of action for teaching activities with a view to achieving an outcome".

Rothwell and Kazanas (2004:221) define instructional strategy as "an overall plan governing instructional content (what will be taught) and process (how will it be taught)".

When applied to the education, training and development environment an instructional strategy is a "blue-print" that describes all those instructional materials, procedures and activities employed in order to achieve a learning outcome or an instructional objective (Dick & Carey, 1996:183; Nadler & Tracy cited in Van Dyk et al., 2001:246; Rothwell & Kazanas, 2004:221; Rous, 2004b:11). It may include methods of training, techniques, media, material, devices, and so forth. Any learning situation involves the use of a combination of methods, devices and techniques and the term strategy is seen as embracing all of these enabling mechanisms that are required to plan and deliver education, training and development successfully.

Learning strategy versus instructional strategy

SAQA distinguishes between a learning strategy and an instructional strategy (Rous 2004b:11). According to this distinction the learning strategy refers to how and where learning takes place. In a learning strategy the focus is on "what the learner must do". The instructional strategy refers to the approach and methods used to establish an environment

that is conducive to the facilitation of learning. In an instructional strategy the focus is on "what the provider must do". Both the learning strategy and the instructional strategy have to be addressed in the learning programme strategy.

The differences between the learning strategy and the instructional strategy are illustrated in Table 2.2 (Rous, 2004b:11).

Table 2.2 Learning strategy versus instructional strategy

Learning strategy	Instructional strategy
Who: <ul style="list-style-type: none"> <input type="checkbox"/> Individuals <input type="checkbox"/> Small groups <input type="checkbox"/> Large groups 	Strategy: <ul style="list-style-type: none"> <input type="checkbox"/> Trainer centred <input type="checkbox"/> Learner centred <input type="checkbox"/> Combination (Trainer- and learner centred)
Where: <ul style="list-style-type: none"> <input type="checkbox"/> On-the-job <input type="checkbox"/> At home <input type="checkbox"/> In a formal learning environment 	Approach: <ul style="list-style-type: none"> <input type="checkbox"/> Direct learning <input type="checkbox"/> Indirect learning <input type="checkbox"/> Interactive learning
How: <ul style="list-style-type: none"> <input type="checkbox"/> Text-based <input type="checkbox"/> Computer-based <input type="checkbox"/> Television (satellite) <input type="checkbox"/> Video/Audio <input type="checkbox"/> Research 	Delivery Method: <ul style="list-style-type: none"> <input type="checkbox"/> Lecture <input type="checkbox"/> Practice <input type="checkbox"/> Case studies <input type="checkbox"/> Role play <input type="checkbox"/> Etc.
	Training Aids and Equipment: <ul style="list-style-type: none"> <input type="checkbox"/> Materials <input type="checkbox"/> Classroom equipment <input type="checkbox"/> Products, etc

It is clear from Table 2.2 that a distinction is also made between different instructional strategies. Rous (2004b:12-17) distinguishes between three instructional strategies in the SAQA context: trainer-centred strategy, learner-centred strategy and combination strategy (trainer- and learner-centred).

The instructional strategies are directly linked to instructional approaches: direct instruction, indirect instruction and interactive instruction.

Trainer-centred strategies versus learner-centred strategies

Trainer-centred strategies refer to direct instruction, deductive teaching or expository teaching. Lectures and demonstrations are examples of methods used. The facilitator controls what is to be taught and how learners are presented with the information they are to learn.

Learner-centred strategies refer to discovery learning, inductive learning, or inquiry learning. These approaches emphasise learners' role in the learning process. Examples of methods that are used are co-operative learning and learner research projects. In a learner-centred approach, the facilitator still sets the learning agenda but has much less direct control over what and how learners learn. The facilitator is no longer a filter through which all information must pass before reaching the learners.

The interrelationship between the instruction strategies, instructional approaches and instructional methods are summarised in Table 2.3.

2.2.6.4 Method

A distinction is also made between an instructional strategy and an instructional method. A method refers, according to Bellis (2001:181), to the specific and actual delivery of something, a doing of something. Instructional methods therefore refer to specific activities to enable the transfer of learning, such as lectures, role-play or group discussions.

Table 2.3 The relationship between instructional strategies, approaches and methods

Instructional strategy	Instructional approach	Instructional methods
Trainer-centred strategy	Direct instruction	Lecture
		Questioning
		Practice and drill
		Guides for reading, listening, viewing
Learner-centred strategy	Indirect instruction	Case studies
		Reflective discussion
		Field observation/Field trips
Combination strategy	Interactive instruction	Role-playing
		Simulations
		Games

2.3 OUTCOMES-BASED EDUCATION

The South African Qualifications Authority and National Qualification Framework are based on the notion of outcomes-based education. Van der Horst and McDonald (2003:4) summarise outcomes-based education in South Africa as a learner-centred, results-oriented approach to learning aimed at developing a thinking, problem-solving citizen who will be empowered to participate in the development of the country in an active and productive way. The Department of Defence has an obligation and responsibility to develop its human resources to ensure the achievement of the national military objectives, but also the national social objectives to enhance economic growth and the advancement of its members. The education, training and development approach to achieve these obligations is prescribed at national level and hence the Department of Defence also follows an outcomes-based approach

The outcomes-based approach differs from traditional content- and competency-based approaches. The traditional content-based approach was concerned with the mastering of knowledge, and the competency-based approach with identifying and listing the generic competencies that are required for a specific job or a range of job activities at a specific level. These two approaches were mainly content-/skills-driven and teacher-/trainer-centred. The outcomes-based approach, on the other hand, emphasises a holistic and integrated approach to learning, which entails the mastering of content, competencies and processes in a specific context (Olivier, 1998:1-2). The paradigm shift from content or competency-based learning to outcomes-based learning implies a change in the roles and related knowledge and skills of the ETD practitioner.

2.3.1 Defining outcomes-based education

According to Spady (1994:1): "Outcome-Based Education means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction and assessment to make sure this learning ultimately happens". Killen (2000:2) deduces therefore that an outcomes-based education approach presupposes that someone can determine what things are "essential for all students to be able to do", and that it is possible to achieve these things through an appropriate organisation of the education system and through appropriate classroom practices.

In outcomes-based education, the primary concern is on what learners must be able to do successfully at the end of their learning experiences. This means that the starting point in outcomes-based education is a clear picture of what is important for learners to be able to do, which is formulated as outcomes. Once a clear set of learning outcomes has been developed, the curriculum is designed, and instruction and assessment are organised to ensure the achievement of these learning outcomes (Spady, 1994:1).

The outcomes-based education approach, therefore, focuses on the following two things (Spady, 1994:4-5; Van der Horst & Mc Donald, 2003:5):

- Firstly, the focus is on desired end results, purposes, learning and accomplishment. The desired results are called outcomes of learning and learners need to demonstrate the

ability to perform them. Learners will also be assessed continuously to determine their progress.

- Secondly, the focus is on the what and whether learners learn successfully rather than on when and how they learn. The focus is therefore on the instructional and learning processes that guide the learners to the end results.

2.3.2 Principles of outcomes-based education

Spady (1994:10) identified four principles for outcomes-based education. The following discussion is based on Spady's description, unless otherwise indicated.

2.3.2.1 *Clarity of focus on exit outcomes*

Educators not only need to understand the outcomes that learners have to demonstrate, but must also focus their learning facilitation on these outcomes. Clarifying the desired outcomes is the starting point for the curriculum, for instruction and for assessment planning and implementation. The learning facilitation in the classroom revolves around the achievement of the outcomes. The facilitator begins the learning programme and each lesson by explaining the outcomes to be achieved during the programme and during each session, in order to put the learners in the picture. This enables the facilitators and the learners to work together as partners toward achieving a visible and clear goal.

Although clarity of focus emphasises that the facilitators of a learning programme should pursue the same set of outcomes, it does not mean that all of them should have the same focus and use the same methods. Instead, in outcomes-based education the differences in student learning rates and styles are acknowledged and therefore designers of learning programmes and facilitators of learning are encouraged to explore a variety of learning facilitation approaches and methods.

The implications of clarity of focus for the development of the ETD practitioner roles are as follows:

- The *needs analyst* should develop qualifications and unit standards that define the purpose and outcomes that need to be achieved.

- ❑ The *designer* should clearly specify the purpose of the programme and the desired outcomes in the curricula, learning programme strategies and learning facilitation plans.
- ❑ The *developer* of the learner support material and assessment instruments should ensure that these documents contribute to the achievement of the purpose and the outcomes.
- ❑ The *facilitator* should ensure purposeful training delivery towards the achievement of the outcomes by :
 - clarifying the outcomes;
 - using a variety of facilitation approaches and methodologies; and
 - promoting collaborative learning.

2.3.2.2 Expanded opportunity and support for learning success

The most important feature of outcomes-based education is that learners are expected to be successful, if granted sufficient opportunity for development (Van der Horst & McDonald, 2003:147; Killen, 2000). The traditional concern with instructional time is replaced with concern to help learners achieve significant learning outcomes and this has certain implications for expanded opportunity and support for learning success.

Expanding opportunity is usually described as giving learners more than one chance to learn important things and to demonstrate that learning. Learners are provided with opportunities and support, as well as the necessary time and assistance to reach their potential. This, however, does not mean that learners can take as long as they want to learn something or to complete their work (Killen, 2000). They have to be independent, hard workers, who take responsibility for their own learning and demonstrate performance ability within feasible time frames.

Clarity of focus and high expectations clearly define what is expected of learners, but learners have to do more than just performing tasks on schedule. This means that learners do not progress to the next higher level automatically, but that they need to demonstrate that they deserve to be promoted.

Learners must also demonstrate the ability to satisfy a defined standard. They are therefore continuously assessed during the programme to gauge their progress. It is thus necessary to stipulate clearly the conditions that must be met to "earn" an expanded opportunity to perform at a higher level. These conditions must be established at the outset of a learning experience.

Over time five dimensions of opportunity have emerged that have to be taken into consideration when designing outcomes-based learning programmes.

- **Time.** To achieve outcome-based education successfully, restructuring is proposed, which implies the redefinition and reorganisation of the patterns of facilitation time, learning time and eligibility in training providers by expanding the duration, frequency, and/or timing of learning programmes.
 - *Facilitation time (teaching time):* The amount of access and direct support for learning that the system offers the learners.
 - *Learning time:* The amount of time that the system gives learners before telling them it's too late to learn something.
 - *Eligibility:* The window of time that the system allows for learners to learn particular curriculum components.
- **Methods and modalities.** Using several methods and modalities could expand the opportunities for successful learning. Using a variety of learning and facilitation strategies as well as assessment strategies caters for various learner needs.
- **Operational principles.** The opportunity for learning success will expand if facilitators apply the following three principles consistently, systematically, creatively and simultaneously in their classrooms:
 - *Clarity of focus* enhances opportunity by establishing a clear target for learning performance.
 - *High expectations* increase learners motivation and their opportunity for success.

- *Design down* provides clear learning paths for learners to pursue and achieve the desired learning.
- **Performance standards.** A criterion-based system to measure performance clearly defines and applies the same standard for all learners. In addition, no limits are imposed on the number of learners who can reach a given performance level. It enables all learners to succeed eventually.
- **Curriculum access and structuring.** If learners have access to critical learning experiences at ever higher levels of complexity throughout their careers, the likelihood of continuous improvement and deep internalisation of the learning increases. Learners are less likely to internalise single, solitary curriculum events into their repertory of useable knowledge and competence.

Expanded opportunity and support for learning success have the following implications for the ETD practitioner roles:

- The *designer* has to consider the dimensions discussed in order to design curricula and learning programmes in such a way that they will ensure expanded opportunities and support for learning success.
- The *facilitator* and *learner supporter* have to create an environment conducive to expanded opportunities and support for learning success.
- *Training managers*, who are primarily responsible for the scheduling of courses and learning programmes, have to consider the dimensions of time, as well as curriculum access and structuring.

2.3.2.3 High expectations for all to succeed

In the outcomes-based education approach the notion exists that all learners have the potential to be successful. According to Spady (1994:16-17) this could be achieved by setting high expectations. High expectations imply increasing the level of the challenge to which learners are exposed and raising the standard of acceptable performance they must reach to

be called successful or competent. This principle is applied as follows within three key dimensions of high expectations:

- ❑ ***Raising standards of acceptable performance.*** Learners have to achieve a higher minimum standard than before.
- ❑ ***Eliminating success quotas.*** Successful throughput rates are not measured according to a bell-curve or quota grading system, but rather in terms of criterion-based systems.
- ❑ ***Increasing access to high level curriculum.*** Elimination of low-level courses or learning programmes stimulates learners to rise to the level of the challenge they are faced with.

High expectations for all to succeed have the following implications for the relevant ETD practitioner roles:

- ❑ The *researchers* and *designers* have to be able to analyse the target group in order to specify entry-level requirements and design challenging learning programmes and assessments.
- ❑ The *assessor* should apply the principles of assessment, such as fairness and objectivity, to ensure that they do not regress back to traditional norm-referenced ways of marking only. They should provide continuous constructive feedback that is more in line with criterion-based assessments.

2.3.2.4 Designing down from exit outcomes

Designing down means that one begins the curriculum and instructional planning where one wants learners ultimately to end up and build back from there. The starting point for curriculum design must be a clear definition of the significant learning that learners have to achieve by the end of the learning experience. Instructional decisions are made by tracing back from the desired end result and identifying the building blocks of learning that must be achieved in order eventually to reach the long-term outcomes. Killen (2000:30) argues that this does not mean that curriculum design is a simple linear process, but that all planning,

facilitation and assessment decisions should be linked directly to the significant outcomes that learners ultimately have to achieve.

Designing down has the following implications for ETD practitioner roles:

The ETD practitioner as *training manager, needs analyst, designer and developer* should be able to conduct a job and task analysis and compile a competence matrix, in order to determine the outcomes and the required standards and conditions of performance. The outcomes of qualifications are then filtered down to the learning outcomes for a learning facilitation session through the design, development and planning of learning opportunities.

2.3.2.5 Conclusion

SAQA adopted an outcomes-based approach to education, training and development. As a result, it is a necessity for this approach to be followed when the roles are defined for the ETD practitioners employed by the Department of Defence. The outcomes-based approach focuses on desired end results, learning and accomplishment, as well as on the instructional and learning processes that guide the learners to achieve these results. Given this study's focus on instruction, preceding paragraphs analysed the outcomes-based approach in terms of its implications for various ETD practitioner roles and related activities. Typical outcomes-based activities were aligned with the various ETD practitioner roles: researcher/needs analyst, designer and developer, facilitator, assessor and moderator, and training manager.

In Table 2.4 a summary is provided of the implications of outcomes-based education for some of the roles of the ETD practitioner.

Table 2.4 Overview of the implications of an outcomes-based education approach for education, training and development practitioner roles

ETD roles	Implications of the outcomes-based education approach
Needs analysis and research	<ul style="list-style-type: none"> ❑ The end product of needs analysis is reflected as qualifications and unit standards with the purpose and outcomes clearly defined. ❑ A target group has to be analysed in order to specify entry-level requirements.
Design	<ul style="list-style-type: none"> ❑ The purpose and outcomes of the qualification and unit standard should be emphasised in the designs of the learning programmes. ❑ Learning opportunities should be designed to provide the learners with opportunities and support, as well as the necessary time and assistance to reach their potential. ❑ The design of learning programmes and assessments should be challenging.
Development	<ul style="list-style-type: none"> ❑ Learning material and assessment instruments should be outcomes-driven. ❑ The learning material and assessments should be challenging. ❑ The learning material should enable the facilitator to use a variety of methodologies during the learning facilitation and assessments.
Learning facilitation	<ul style="list-style-type: none"> ❑ The facilitator should present purposeful learning facilitation aiming to achieve the outcomes. ❑ The learning facilitation should be presented in a flexible manner, using a variety of facilitation approaches and methodologies. ❑ The facilitator should promote collaborative learning. ❑ The facilitator should create an environment conducive to expanded opportunities for successful learning.
Learning support	<ul style="list-style-type: none"> ❑ The learner supporter should provide support for learning success.
Assessment and moderation	<ul style="list-style-type: none"> ❑ A variety of assessment activities should be used, for example simulations, portfolios, self-assessment, workplace assessment. ❑ Criterion-based assessments should be used instead of norm-referenced ways of assessment. ❑ Continuous constructive feedback should be given.
ETD management	<ul style="list-style-type: none"> ❑ The dimensions of time, as well as curriculum access and structuring should be considered in the scheduling of courses and learning programmes.

In the following section the ETD practitioner roles will be explored further to analyse and describe different performance levels within the various roles.

2.4 SYSTEMS APPROACH TO EDUCATION TRAINING AND DEVELOPMENT

Because a systems approach is followed in the Department of Defence with regard to education, training and development, it is imperative that a systems approach be followed in this study. The Department of Defence's interpretation of the systems approach is discussed in Chapter 3. This section aims to provide an overview of the basic aspect of systems, systems theory and a systems approach, to create an understanding of its relevance for the descriptions of ETD practitioner roles and competences.

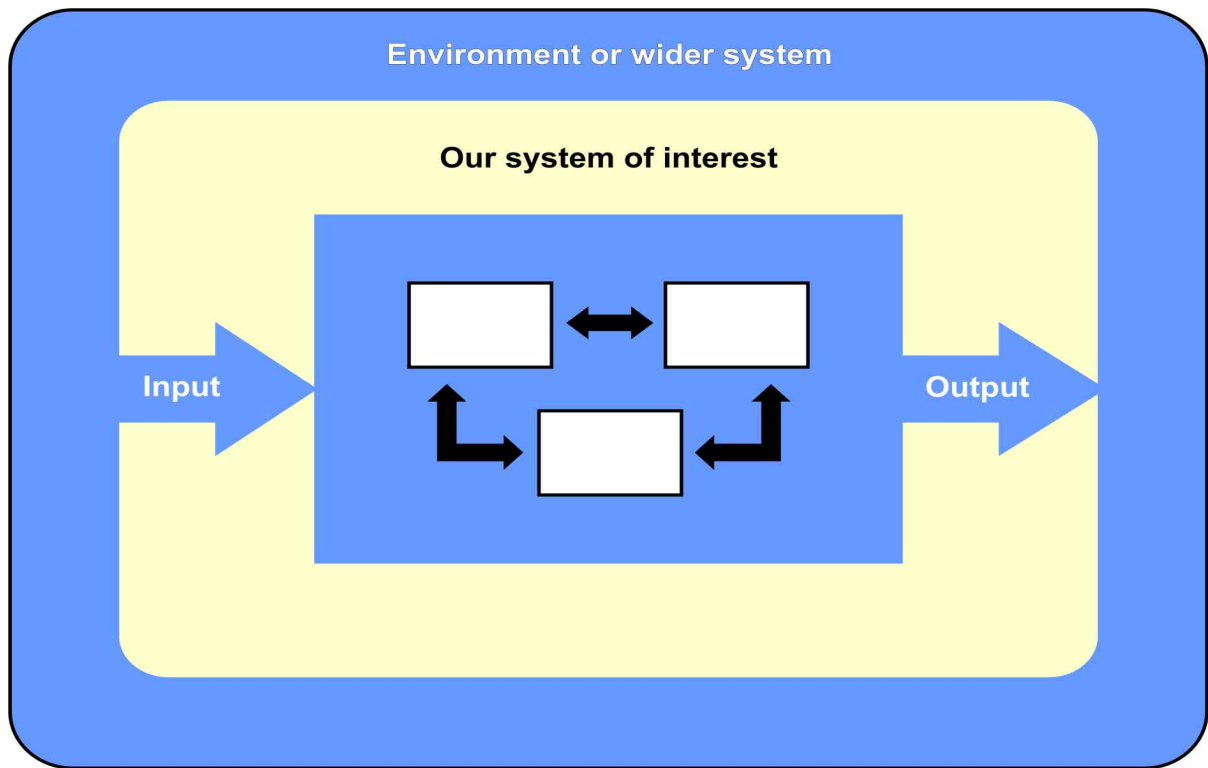
2.4.1 Systems and systems theory

Systems theories are concerned with the nature, i.e., the structure and functioning of systems in order to describe the organising principles of systems in general. The analysis and synthesis of systems are done to understand systems with the aim to design, organise, adapt and control other systems if necessary.

There are various definitions of a system, which could be summarised as follows: A system is traditionally described as a deliberately designed unit that consists of a set of diverse, clearly discernable and interdependent components that interact, and are united according to some organising idea, plan or control principle to accomplish the purpose for which they were designed (Erasmus & Van Dyk, 2003:49; Romiszowski, 1981:5; Van Dyk et al. 2001:80).

Romiszowsky (1981:5) criticises the above definition of systems, arguing that it "does not get [one] very far towards understanding the concept". He is of the opinion that it is better to describe a system as something that somebody has defined as a system. When one describes a system as something that someone has defined as such, the concept becomes more practical and less abstract. A system then exists because someone has chosen to define a particular set of interacting elements as a system. The onlooker (system analyst), "draws the boundary that limits the extent of the system, thus defining the components, or subsystems that compose the 'system of interest'" (Romiszowski, 1981:5). Once the system is defined in this way, it is possible to identify the principal connections between the system and its environment, the inputs from the environment to the system and the outputs from the system to its environment, as well as the mutual interactivity between the various system components. See Figure 2.6 for an illustration of Romiszowki's wider system.

Figure 2.6 The wider system



Source: Romiszowsky, 1981:6

As in the case of economic, health, religious and other sociological systems, education, training and development are also considered a system. The features pertaining to systems are just as applicable to education, training and development as a system. In Tables 2.5 and 2.6 a summary is provided of the most relevant features of systems and their applicability to education, training and development systems (ETD systems) in general (Erasmus & Van Dyk, 2003:49; O'Connor & McDermott, 1997:3-60; Romiszowski, 1981:5; Van Dyk et al., 2001:160; Van Niekerk, 1996:42-43). The system features will be analysed firstly in terms of their structural composition and secondly in terms of their cybernetic functioning.

Gagné, Briggs and Wager (1992:20) describe the instructional (teaching-learning) system as an arrangement of resources and procedures used to promote learning. They furthermore note that instructional systems have a variety of particular forms and that the military services have some of the largest instructional systems in the world.

Although the concept system is abstract, it is deduced from the above discussion that systems have clearly identifiable features that can be divided into structural elements and cybernetic elements. The structural element refers to the composition of the system as a whole, the various parts/elements/subsystems it consists of and the way in which the system as a whole and parts/elements/subsystems interact.

It is possible to discern the specific instructional system of interest and describe the reason for the system's existence (or the need for a new system) by examining the relationship between the system and its environment, the inputs and the outputs.

The word "cybernetics" comes from the Greek word "kybernetes", meaning a steersman, a pilot who steers a boat, i.e., a "governor" (Pearsall: 2002). Cybernetics is "the science of communication and control..."Cybernetics, including educational cybernetics, emphasises the dynamic, the changing, the adaptive and the evolutionary features of a system. Cybernetics focuses on how a system functions within a forever-changing environment, regardless of what the system is: living, mechanical or social. The essence of the cybernetics principle is that there is some kind of communication or interaction pattern among system parts/elements/subsystems and that these interaction patterns are governed or controlled by basic principles, which are the same for all systems (George, 1970:22-33).

The continuously evolving nature of any system and the mechanisms that contribute to sustaining and improving a forever-changing system should be kept in mind when a competence profile of ETD practitioners is developed.

Table 2.5 The structural element of systems

THE STRUCTURAL ELEMENT	
The <i>composition of the system</i> as a whole, the various parts/elements/subsystems it consists of and the way in which the system as a whole and parts/elements/subsystems interact.	
Feature	Education, training and development system
A system is a <i>conceptual or physical entity</i> .	The South African Education, Training and Development system is a conceptual entity that consists of various components that constitute the physical entities such as the Department of Education, tertiary, secondary, primary and other education, training and development providers.
A system consists of various <i>clearly discernable parts/sub-systems/components</i> . Each of these subsystems can be subdivided into sub-subsystems or sub-sub-subsystems. Each subsystem or sub-subsystem becomes a system in its own right. In this manner a hierarchy of systems is created.	An organisation usually consists of various subsystems such as the human resources, financial and production subsystems. The ETD function could be one of the subsystems. The sub-subsystems of an ETD system could be the research and design, delivery, assessment and moderation, evaluation and administrative sub-subsystems. The components of the ETD system are, for example, the curriculum, the learners, the instructional materials, the ETD practitioner.
Systems <i>function as a whole</i> . The properties of a system are the properties of the whole. The properties of the whole are more than the sum of its parts. These <i>emergent properties</i> are only shown by the system and not by its parts. The emergent properties of the system cannot be predicted by analysing the individual parts.	The impact of the training provided by a provider depends on the effective functioning of the provider as a whole and not on the effective functioning of separate subsystems.

THE STRUCTURAL ELEMENT (CONTINUED)	
Feature	Education, training and development system
The parts/subsystems/components are <i>interdependent</i> and influence the whole system.	The separate subsystems might function independently, but because of poor interaction and lack of communication the overall impact of the training provided might still make a negative impression on the client. For example, should the learning facilitators delay to forward the learner results to the administration department, the learners receive their results late and develop a negative impression of the learning institute.
Each system has a clear <i>boundary</i> . A <i>narrow</i> boundary includes only those things that are essential for achieving the core outputs. A <i>wide</i> boundary includes every element that is required to support the system.	In the ETD system the internal environment is included in the narrow boundary. Internal inputs refer to factors such as the needs of the employees and the enterprise. They also refer to the functioning of the organisation and are expressed in terms of productivity, turnover, grievances, absenteeism or morale. External environmental inputs will be included in the wider boundary. External outputs refer to changes in the market and technological environments that influence training. All the support components, such as human resources, finances and logistical resources, are regarded as mechanisms and are included in the wider boundary.
A system can be <i>closed</i> or <i>open</i> . A <i>closed system</i> in theory has no interaction with its environment. An <i>open system</i> interacts with its environment, gaining resources across the boundary. An open system has a perforated boundary and is very sensitive to changes within and inputs from the environment.	All organisations are regarded as open systems. Because education, training and development institutes and providers, as organisations, are influenced by and interact closely with their environments, they are regarded as open systems. ETD providers such as the universities, colleges and schools are all examples of ETD systems.
A system is always <i>part of a larger system</i> , which forms the <i>system environment</i> . The <i>system environment</i> is everything that lies outside the system boundary.	In many organisations, ETD systems are subsystems of the organisations. As a subsystem, the ETD system receives inputs from the internal and external environment of the organisation and is therefore exposed to influences such as politics, the economy, legislation and higher organisational level policies and instructions.

THE STRUCTURAL ELEMENT (CONTINUED)	
Feature	Education, Training and Development System
Interaction occurs between the system and the system environment by means of <i>inputs</i> from the system environment to the system where these are processed. <i>Outputs</i> are then provided from the system to the system environment.	<p>The primary inputs into a training system are training needs and untrained employees.</p> <p>The primary outputs are trained employees. The outputs are achieved by means of training processes such as analysis, design, development, learning facilitation and the evaluation of training.</p>

The following table (Table 2.6) describes the cybernetics features of systems in relation to education, training and development as a system.

Table 2.6 The cybernetic features of systems

THE CYBERNETIC FEATURES OF SYSTEMS	
This section concerns itself with the principles that govern the functioning of a system.	
Feature	Education, training and development system
An open system has a <i>control mechanism</i> that indicates dysfunctions in a system.	<p>Education, training and development quality assurance bodies are registered and accredited to monitor and audit the provision, assessment and achievement of specified standards and/or qualifications.</p> <p>All the ETD providers are required to establish and maintain a quality management system that is responsible for ensuring the quality of the learning experience and the impact of their learning programmes and services.</p>

THE CYBERNETIC FEATURES OF SYSTEMS (CONTINUED)	
Feature	Education, training and development system
<p><i>Feedback loops</i> as control mechanisms are crucial for self-regulating systems. Changes in one part will influence the other parts. These parts will change and as a result influence the initial parts again. Thinking in terms of feedback is <i>thinking in circles but with a spiral effect</i>. (Because of the time element and progress one never really returns to the exact point in time and place where one started off in the first place.)</p>	<p>When evaluations of ETD systems are conducted, the results of the evaluations should provide feedback on the effectiveness and efficiency of the ETD system. The implementation of suggestions for improvement creates a spiral effect of continuous improvement. This argument is central to the quality assurance system implemented and enforced by SAQA and NQF to ensure continuous improvement. Evaluations are, however, not only conducted by and at the macro ETD levels.</p> <p>Evaluations are part of ETD systems at all the levels: macro, meso and micro. Therefore, ETD providers and ETD practitioners also conduct evaluations. ETD providers would typically evaluate the effective and efficient execution of the ETD processes: needs analysis, design, development, learning facilitation and the evaluation of training. ETD practitioners would evaluate their own practices. Evaluations by ETD providers and ETD practitioners are not only conducted in order to comply with SAQA regulations, but also because they are an integral part of the instructional systems design process to ensure continuous improvement.</p>
<p>The parts/subsystems/components perform together <i>to achieve the purpose/goal of the system</i> as a whole. Feedback loops are necessary to reduce the difference between where a system is and where it “should” be. It drives the system towards a goal.</p>	<p>One of the characteristics of a system is that it aims to accomplish a purpose. In order to determine whether the system is achieving its goal, evaluations are conducted and feedback is given on the extent to which the goal has been achieved. As was described in the previous paragraphs, evaluations are conducted at the macro-, meso- and micro-levels. The achievement of business and education, training and development goals are, therefore, also evaluated on the macro-, meso- and micro-levels. For example, ETD providers, such as universities or the Department of Defence's ETD providers, frequently evaluate the status of education, training and development objectives in comparison to their business objectives. ETD practitioners could also evaluate the achievement of their personal and education, training and development goals.</p>

In conclusion, the analysis and synthesis of the principles of systems theory enable an analysis and description of the utilisation and training of the ETD practitioner from a systems approach, which in turn assist with the contextualisation of the competence profile of the ETD practitioner operating in the Department of Defence. It is imperative for any attempt to

compile a competence profile that will contribute to a dynamic and evolving ETD system, to take the structural and cybernetic features of an ETD system into consideration.

2.4.2 The systems approach

Gagné, Briggs and Wager (1992:140) note that the planning of instruction (learning facilitation) in a highly systematic manner, with attention to the consistency and compatibility of technical knowledge at each point of decision, is usually termed the systems approach to instructional design and development.

The Royal Air Force (1987:1) elaborates on this notion and defines the systems approach according to its applicability in the military environment as follows: "A training philosophy which emphasises the interrelationship between training and other systems, such as personnel management, supply and logistics and finance, and the interdependence of the component parts of a training system. In applying the Systems Approach to Training, training is undertaken on a planned basis in a logical series of steps. The number and description of those steps tend to vary, but, in general terms, they cover such aspects as development of training objectives and plan, formulation of an assessment scheme, implementation of planned training, validation and evaluation. Fundamental to the philosophy is that these steps constitute a cycle with the evaluation bringing about a reassessment of needs and a consequent refinement of the training given".

The systems approach originated in the field of systems engineering and was first applied to the design of electronic, mechanical, military and space systems (Romiszowski, 1981:18; Royal Air Force, 1987:2). It was introduced in education and training from the late 1950s and early 1960s. In the 1950s, as military weapon systems became more complex, military personnel became familiar with the term "weapon systems concept". This concept recognises, for example, that a successful engagement by an air-to-air missile involves much more than the missile itself; it involves, in addition, the launching aircraft, with all its complex on-board equipment and crew, together with the command and control network, which is a fundamental feature of a successful interception. The systems approach to the "weapon system" is therefore concerned with a multitude of elements that contribute to a successful engagement, with the interconnections between them and the manner in which the whole system reacts to the demand for an output (Royal Air Force, 1987:2).

It is therefore deduced that the systems approach is not limited to that of a philosophy or a way of thought, i.e., a procedure to figure out structures and processes. It is also a methodological approach to problem-solving through the provision of clearly defined conceptual tools and a description of general activities and stages. The following authors capture the essence of this dualistic nature of the systems approach:

- ❑ Davis, Alexander and Yelon (1974:6) distinguish between: "... a philosophy that conditions the attitude of the system designer towards reality" on the one hand and "a process and set of conceptual tools" on the other hand.
- ❑ Romiszowski (1984:50) describes the two aspects as follows: "...the systems approach is essentially a way of thought – a tendency to think about problems in systems terms. But it is also a methodology – scientific method applied to complex systems."

Given this dualistic nature of the systems approach it seems appropriate to analyse the utilisation and training of the ETD practitioners in the Department of Defence from a systems approach. Such an approach should contribute to:

- ❑ the clarification of the education, training and development structures and levels of ETD practitioners; and
- ❑ finding indicators and directives for the utilisation and timely training of ETD practitioners, as well as the possible development of a career path for ETD practitioners.

To summarise, the systems approach is firstly a way of looking at and analysing organisations, groups and problems. The systems approach of analysis and synthesis leads one to know and understand the structure of the system as well as the cybernetic processes that govern the existence of the system. When applied to this study, a systems approach means that deductions and conclusions regarding the system will be formulated with reference to the impact that the utilisation and development of ETD practitioners have on the ETD system and the Department of Defence's education, training and development and organisational system and vice versa.

The systems approach is secondly a practical directive and problem-solving tool that can be used to define the problem in more detail in order to determine sustainable solutions.

Thinking in systems terms helps to develop, implement, establish and maintain an effective and efficient ETD system, i.e., a system with integrity and thus an ETD system that provides for continuous quality improvement of Defence Act Personnel. The role and functions of the ETD practitioner, as an active participant in the design and development of such a quality ETD system, become more apparent and clearly defined when these are described from a systems approach.

In this scenario a systems approach will therefore be both a philosophy and a problem-solving tool. The aim is to analyse the competence requirements for the training and development of the individual ETD practitioner to develop and maintain the Department of Defence ETD subsystem to ensure continuous quality improvement of the Department of Defence system as a whole. The ETD competence requirements will be discussed with reference to the individual elements which feature in training systems.

2.4.3 Romiszowski's description of the five general stages in instructional systems design

In order to analyse the elements of the Department of Defence's education, training and development system, as well as the utilisation and training of ETD practitioners as part of the system, a model had to be identified that could be used as a constituent theoretical framework. To establish the theoretical foundation of the study, the instructional systems design model of Romiszowski is selected. The rationale behind selecting this model is as follows:

- ❑ Romiszowski's model of instructional systems design is based on a systems approach and captures the dualistic nature of the systems approach (see section 2.4.2). This model provides a mechanism, firstly to clarify the ETD structures and levels of ETD practitioners, and secondly to determine the indicators and directives for the utilisation and timely training of ETD practitioners in the South African National Defence Force. As a result this model contributes to answering the research problem and achieving the goals and objectives of the study as delineated in sections 1.3 and 1.4.
- ❑ Romiszowski's instructional systems design model forms a feasible foundation to many other significant training models such as Nadler's model, the training model of Camp, Blanchard and Huszco and the high-impact training model described by Erasmus and

Van Dyk (2003:55-61). Since Romiszowski's instructional systems design model is a primary source for other significant training models, it forms a suitable alternative to establish a theoretical framework for this study.

- Another reason for using Romiszowski's model is that the South African Qualification Authority's approach to education, training and development corresponds to a large extent with that of Romiszowski's model. The Department of Defence, as is the case with all other training providers in South Africa, has to adhere to the regulations and methodology stipulated by SAQA. An analysis of the utilisation of the ETD practitioner in the Department of Defence need to be conducted, therefore, against the background of the South African Qualification Authority requirements. Romiszowski's instructional systems design model provides a theoretical framework that suits the South African Qualification Authority's approach.

- Romiszowski's model describes instructional systems design in terms of five different stages: problem definition, problem analysis, design and development, implementation and evaluation. The problem analysis, as well as the design and development stages, is further subdivided into four different levels each. Since some ETD practitioner roles could be linked with the stages, it implies that some of the roles could also be subdivided into different levels of performance. It therefore seems appropriate to use this model for that purpose as well. The importance of the identification of the different levels of design becomes even more relevant, given the reality that the Department of Defence is subdivided into and functions at different strategic levels (see Chapter 3).

The following is an overview of the general stages of instructional systems design and their application to education, training and development, based on and as described by Romiszowski (1981:11 and 1984:50) from a systems approach.

2.4.3.1 Stage 1: Problem definition in systems terms - (Determine the education, training and development problem)

The systems approach process starts with identifying the "real" problems. Problems, like systems, exist in the eye of the beholder and it is therefore important to define the "real" problems. "Real" problems are those that generate sufficient dissatisfaction to justify that something should be done to solve them. The "what is" and "what should be" status should be stated in precise and measurable terms.

The primary element at this stage is therefore defining the "real" problem. This is achieved by identifying those problems that cause a significant and observable discrepancy between the current state of the system and the desired state. This discrepancy should be stated in input/output terms (Romiszowski, 1981:9-10).

Because this research is concerned with the ETD system, the main focus in defining "real" problems should be to determine whether the problems are education, training and development related and/or whether education, training and development will provide the solutions or not. If the real problem and its possible solutions are not related to education, training and development, it falls outside the scope of the ETD system and other organisational subsystems are then required to define and provide the solutions. If the problem is education, training and development related it should be formulated as an education, training and development (instructional) objective that needs to be achieved. It should also be determined whether the education, training and development problem and/or solution are worth spending money on.

2.4.3.2 Stage 2: Analysis of the problem to generate alternatives – (Analyse the education, training and development need)

The design process only starts once the "real" problem has been identified. When the "real" problem is defined in terms of an education, training and development (instructional) objective it needs to be analysed. Information is gathered and studied in depth in order to state in detail the specific objectives and possible appropriate solutions. On completion of this analysis, all solutions that appear to be feasible and appropriate are designed in general terms. The resources required for developing, producing and implementing each solution are identified.

In the education, training and development environment this stage includes a thorough analysis of:

- ❑ ***The training requirement.*** A training requirement analysis is done to ensure that training is designed in correspondence to the needs that were defined during the previous stage.
- ❑ ***The relevant learner characteristics.*** Learner assessments are conducted to determine their profiles in terms of factors such as their demographic characteristics, physiological

characteristics, aptitude, experience, knowledge, learning styles, attitudinal characteristics and life cycle stage.

- ❑ **The relevant work setting characteristics.** This involves the analysis of the development environment in which the instruction will be prepared; the delivery environment in which the instruction will be presented and the application environment in which the learners will be expected to apply what they learn.
- ❑ **The workplace.** Work analysis encompasses three different kinds of investigation, namely a job analysis to determine what people do, how they do it and what results they achieve by doing it, a task analysis to determine components of competent performance, performance activities, knowledge and values to learn and do something, clarify conditions (equipment and other resources) needed for competent performance, and minimum expectations (standards), and a content analysis to determine the subject matter that needs to be transferred. (Adapted from Rothwell & Kazanas, 2004)

The analysis stage culminates in the formulation of the various instructional objectives, referred to as the various outcomes specified in qualifications and unit standards, in the SAQA context. According to Nel (2006:11) the output of this stage is either a design report or an alignment report. In the absence of unit standards, a design report is compiled. Outcomes are defined in a design report, despite the absence of unit standards. An alignment report is used where authorised unit standards are available and the learning intervention needs to be aligned with these standards.

2.4.3.3 Stage 3: Selection and synthesis of an optimal solution - (Design and development of the education, training and development intervention)

Once the system requirements have been determined, alternative system designs are synthesised and instructional design products are generated. Various ways of achieving the agreed training objectives are explored during this stage. Possible options are compared and contrasted before a preferred design is selected in an effort to optimise system performance. After the design has been selected it needs to be developed. Inevitably, consideration of training costs will feature prominently in the selection process. In the education, training and development environment, this stage culminates in the design of instructional and learning strategies and the development of the assessment instruments and learning material.

The result of this stage is the compilation of products at various levels, as described in section 2.4.4.

2.4.3.4 Stage 4: Controlled implementation – (Education, training and development delivery)

When the necessary approval has been obtained, the chosen design should be implemented. All those concerned should be informed, motivated, involved and trained. One or more pilot courses should be run, if time and other constraints permit, in order to confirm the system design. Performance checks should be made and necessary modifications introduced, before the system is commissioned for routine operation. A management system should be designed to monitor results and to process learner administration and assessment data on a regular basis.

2.4.3.5 Stage 5: Evaluation and possible revision – (Education, training and development evaluation)

Once the ETD system is established and operates on a routine basis, it must be checked regularly for efficiency and effectiveness. Corrective measures must be introduced if required. A manufacturing system producing a commercial product will fail to achieve its expectations unless market requirements are monitored and accommodated. Similarly, a training system is likely to be ineffective unless efforts are made to ensure that the knowledge, skills and attitudes acquired by the learners match the input requirements for productive service.

2.4.3.6 Conclusion

In this section the systems approach to education, training and development was analysed to determine the implication of such an approach for the utilisation and training of ETD practitioners. It is deduced from the theoretical overview of systems theory that the structural and cybernetic features of systems have to be considered when one attempts to compile a competence profile and training strategy for ETD practitioners. It is important to understand the education, training and development system components and the underlying principles and mechanisms that will ensure adaptation, feedback and evolution of the utilisation and training of ETD practitioners in a forever-changing environment.

Romiszowski's systems approach to education, training and development was selected to describe the education, training and development system within which the ETD practitioner operates. It is deduced from the analysis of Romiszowski's model that although the systems approach could be described in five broad stages, systems do not function in such straightforward and uncomplicated ways. The overall stages could be subdivided into subsidiary procedures and activities undertaken during one stage will necessarily have a profound effect on those undertaken during other stages. The five stages are consequently arbitrary and their boundaries therefore not clearly defined.

The systems approach should therefore not be seen or used as a rigid step-by-step process. Analysis, synthesis and evaluation are recurring and mutually interactive stages that are repeated throughout the process. It does not necessarily display a logical sequential format with a clear beginning and end. The systems approach is a heuristic process that features the creative use of general principles rather than the employment of specific algorithmic procedures and rules (Romiszowski, 1984:50 and 1988:32). The systems approach therefore provides principles that guide behaviour and actions in a problem-solving situation – either a real situation or a purely imaginary (simulated) situation.

Hence, when one attempts to describe the utilisation and training of ETD practitioners, within a systems approach, it can only be done in terms of guidelines and not in terms of rigid rules. The distinctions between roles and activities, albeit clearly identifiable, should as a result not be defined as exact occurrences. The boundaries of the various roles and the levels of activities remain somewhat arbitrary.

2.4.4 A systems approach applied within the South African Qualifications Authority context

The purpose of this section is to integrate didactic and systems approach terminology with SAQA terminology. Currently much confusion reigns regarding the similarities, differences and coincidences of education, training and development terminology. Clarification is required, since in the Department of Defence the roles and performance levels of ETD practitioners will be described in SAQA terminology while the levels are initially described in traditional terminology. This section attempts to integrate the didactic theory, typically associated with a systems approach, with current ETD practices in South Africa in order to establish the baseline theory and accepted terminology to design a competence profile for

ETD practitioners in the South African National Defence Force. This is required to clarify the utilisation and training of ETD practitioners in the South African National Defence Force.

In section 2.4.3 an exposition was provided of the five general stages of instructional systems design as described by Romiszowski. Romiszowski also identified four levels for the analysis stage, as well as the *design* and *development* stages. In the next sections the focus will be on a description of the levels for the analysis, as well as design and development stages, based on and as described by Romiszowski. The reasons for this approach are as follows:

- ❑ A discussion of these two stages and the associated levels is sufficient to compare the similarities, differences and coincidences of the traditional and SAQA education, training and development terminologies.
- ❑ The delineation of these two stages provides sufficient theoretical substance to facilitate clarifying and defining the relevant ETD practitioner roles and levels of performance.
- ❑ Although Romiszowski did not identify four levels for the evaluation stage, it stands to reason that all the levels at all the stages will be evaluated, and therefore, that the evaluation stage will also reflect the terminology and levels identified at the mentioned stages. A similar conclusion applies to the management of education, training and development, since that should also be done for all the stages at all the levels.

2.4.4.1 Analysis of the problem to identify objectives and alternative solutions

Instructional design begins with the analysis of the confirmed education, training and development need and overall objectives. The result of the analysis is the formulation of instructional aims and objectives, also known as education, training and development outcomes in the SAQA context.

Romiszowski (1981:55) argues that if one intends to use a systems approach as a problem-solving approach, one must formulate objectives at each and every stage and level of the process. He is of the opinion that objectives form the cornerstone of problem solving and the systems approach. The formulation of objectives is considered a key activity for successful instructional design. SAQA supports this notion of the importance of objectives, but refers to

the concept of objectives as outcomes, and identifies a variety of outcomes such as exit outcomes, specific outcomes and critical cross-field outcomes.

Level 1. Job/subject analysis (training needs analysis)

According to Romiszowski (1988:47) this stage results in defining the overall training objectives. The course (learning programme) is treated like a black box. The focus is on the specification of the inputs, outputs and control mechanisms and not on the details of the course (learning programme) itself. The outcome of this level of analysis is to define the overall instructional objectives for the system, as well as particular other non-instructional action that should be taken to ensure success in resolving the initially defined problems. For example, the impact of external and internal environmental changes, such as the introduction of new equipment or the acceptance of new tasks, is analysed to determine the broader picture of the education, training and development need that developed. The result of this level of analysis is a list of "teachable topics" (the traditional course syllabus) or "overall objectives" (the training specification).

Within the SAQA framework this is reflected in the overall outcome or purpose of the learning programme. The overall outcome describes what the learning programme is intended to achieve. The overall outcome is an accurate description, of one or two sentences, of the main aim and objectives of the learning programme. It is like a roadmap to the end result/outcome. The statement of objectives in terms of overall outcomes describes as fully as possible the behaviour that trained personnel are required to display, the conditions under which they are to be able to perform and the standards they must be able to reach in order to carry out their duties safely and effectively (Rous, 2004a:21).

In addition, the purpose of level 1 analysis is to identify the worth of a subject/topic or programme. To determine the worth, Romiszowski (1981:82) argues that an analysis is required of the job, the subject, and the learner.

This analysis entails the following:

- ❑ a job analysis to identify the tasks worth teaching; and/or
- ❑ a subject/content analysis to identify the topics worth teaching; and always

- ❑ a clientele analysis (or target population analysis) to identify the gap between actual and desired levels of knowledge or performance. The gap that exists defines the "knowledge deficiency" or the "performance deficiency". From these deficiencies the training need is deduced, since the deficiencies enable sorting of tasks/topics that are worth teaching into those to be taught and those already learned.

In the SAQA context an analysis at this level will entail the scoping exercise that will result in the competence profile and matrix, which is usually done at the level of standard generating bodies.

Level 2. Task/topic analysis (outcome statements)

Level 2 analysis follows from level 1 and includes the description of various instructional objectives and activities as summarised below:

- ❑ The detailed intermediate objectives that have to be achieved to enable achievement of the overall objectives. These objectives, stated as exit outcomes, specific outcomes and critical cross-field outcomes in the SAQA framework, are derived from a job and task analysis, which is a critical ETD system element to ensure effective and efficient training. A job and task analysis is required to ensure that training is job-related and that superfluous training activities are avoided. In addition, an investigation is required into the availability of the manpower, space, time, materials and money that are necessary to provide effective and efficient training.
- ❑ The enabling objectives. There are the hidden elements of information (knowledge) or performance abilities (basic skill) necessary to achieve the intermediate objectives. In SAQA terms embedded knowledge refers to the knowledge and skills that are prerequisites for the achievement of the specific outcome.
- ❑ The interrelationship between these objectives (in terms of prerequisites) as well as the learning assumed to be in place.
- ❑ The operational or logical sequence of topics and thus instruction.

- ❑ The target population in more detail. Lower-level objectives are compared with the description of the target population to identify which objectives (outcomes) are to be taught and which may be safely required as prerequisites.
- ❑ The entry level requirements. This refers to the knowledge and skills which will not be taught but which the learner must have mastered before entering the ETD system. Learners might have to adhere to certain vocational, legal and organisational requirements before entering a learning programme.
- ❑ The assessment criteria. The assessment criteria, which are a requirement for SAQA standards setting, need to be specified at this level.

Level 3. Knowledge and skills analysis (classification in terms of taxonomies and level descriptors)

At this level the enabling objectives are defined. These objectives are classified according to some system or taxonomy of types of learning that assign specific instructional and assessment tactics to each objective or group of similar objectives.

Within the SAQA framework the outcomes are clustered into applied competences by demonstrating how foundational, practical and reflective competences are integrated and will lead to the achievement of the overall outcome. The applied competences are also analysed to determine the level/category of each learning outcome according to taxonomy levels and the National Qualification Framework level descriptors (Rous, 2004a:24-33).

Classification is usually done according to taxonomies described by Bloom for the cognitive domain, Kratwohl for the affective domain and Harrow for the psychomotor domain (Romiszowski, 1981:86). Determining the taxonomy level is considered important not only for analysing or writing outcomes, but also to ensure that the same level is carried through to delivery methods and assessment instruments.

In addition to classification in terms of taxonomies, SAQA also makes use of level descriptors to describe the nature of the learning achievement, its complexity and demand on the learner, at eight consecutive levels of the qualifications framework. The level descriptors are used to design qualifications and the assessment of learning at the appropriate level. The

level descriptors include descriptions of elements pertaining to "applied competence" as well as "autonomy of learning". Autonomy of learning refers to the learner's capacity for lifelong learning; i.e., the extent to which a learner can learn independently, takes responsibility for his/her own learning and is self-reflective about and can evaluate the quality of his/her learning and eventually that of others (SAQA, 2003).

Rous (2004a:33) warns that it is important to distinguish between the NQF level descriptors and taxonomy levels, such as that of Bloom. Although the NQF level descriptors and taxonomy levels are mutually interrelated, the levels are independent from one another. For example, a person working towards an NQF level 1 unit standard can be required to operate at Bloom level 4.

Level 4. Detailed analysis of the learning behaviour (defining learning outcomes and instructional and assessment activities)

At this level the objectives determined at Level 2 are not taken "as is".

- ❑ The objectives (outcomes) are analysed further in order to discover exactly what is required to achieve them. The result of this exercise is the formulation of learning objectives. In SAQA terms this would imply an analysis of the implications for each element of the applied competence, i.e., the specific requirements for foundational competence, practical competence and reflective competence, referred to as learning outcomes.
- ❑ The objectives (outcomes) are matched with the instructional tactics at the micro-level in order to develop and produce instructional strategies, materials and assessments with a specific purpose.

Conclusion for the analysis stage

The purpose of the analysis stage is to define the instructional objectives and outcomes that will provide the framework for the instructional design and development during the next stage, i.e., the synthesis stage.

Table 2.7 summarises the relation between different instructional aims and objectives, outcomes-based education outcomes and SAQA outcomes at the various levels of analysis, when considered from a systems approach.

Table 2.7 Summary of the levels of the analysis stage

ROMISZOWSKI'S MODEL	OUTCOMES-BASED EDUCATION	SOUTH AFRICAN QUALIFICATIONS AUTHORITY
Levels of training aims or objectives	Levels of instructional outcomes	Levels of education, training and development outcomes
LEVEL 1		
Organisational environment's (market) aims and constraints	Organisational environment's (market) aims and constraints	Organisational environment's (market) aims and constraints
Organisational (industry's) aims/objectives	Organisational (industry's) aims/objectives	Organisational (industry's) aims/objectives
Job (occupation) performance aims/objectives	Ultimate expectations expressed as <i>exit outcomes</i>	Job (occupation) performance outcomes and standards <i>scoping exercise and competence profile matrix;</i> <i>overall/exit outcome</i>
Training (course) aims/objectives	"Intermediate" outcomes expressed as <i>culminating outcomes</i>	Qualification/Learning programme <i>exit outcome</i>
LEVEL 2		
Course unit (module) aims/objectives	Building blocks for culminating outcomes expressed as <i>enabling outcomes</i>	Unit standard <i>exit outcome</i> and <i>range statement, specific outcomes, assessment criteria, embedded knowledge and critical cross-field outcomes</i>
LEVEL 3		
Lesson (session) aims/objectives	<i>Enabling outcomes</i>	Learning event outcomes in terms of <i>applied competence (foundational, practical and reflective)</i>
LEVEL 4		
Specific learning (exercise) aims/objectives	<i>Discreet outcomes</i>	<i>Specific learning (exercise) outcomes</i>

Although the four levels of analysis are in a sense arbitrary, they assist to define four levels of instructional design, which correspond more or less with the four levels of systems, which the instructional designer has to deal with. Hence, the levels of analysis are to an extent hierarchical owing to the nature of analysis required at the different levels.

The result is that specialised competences need to be acquired for each level of analysis. This would mean that the ETD practitioner, as a researcher and analyst, could be trained to function at the micro instructional design levels 3 and 4 or with additional training to perform analysis at the macro instructional design levels, i.e., levels 1 and 2.

2.4.4.2 Selection and synthesis of an optimal solution for design and development

On completion of the analysis, the next stage is to synthesise the results from the analysis to produce instructional design products. Dick and Carey (1996:197) note that once one has conducted the needs analysis one has already completed some of the work needed to develop products during this stage. During the analysis stage, one has already (1) identified objectives, (2) identified learning assumed to be in place, (3) identified the sequence for presenting instruction, (4) identified the content required, and (5) identified appropriate assessment criteria. Rous (2004a:33) states that the analysis of the outcomes of a unit standard is a prerequisite for this stage since it has a direct link to choosing an appropriate assessment strategy and therefore an appropriate delivery method.

All this information serves as input for the development of products during this third stage in Romiszowski's model. Romiszowski (1984:52) again identifies four system design levels, which are related to the analysis levels. Each design level results in education, training and development products that will answer the four instructional design questions pertaining to sequence, instructional methods, grouping and media.

Romiszowski (1984:1) categorises the decisions that are characteristic of Levels 1 and 2 as "macro-design" levels and the lesson planning and materials development decisions, which are characteristic of Levels 3 and 4, as the "micro-design" or development levels. In addition he distinguishes as follows between design and development:

- **Design** refers to the largely theoretical exercise that lays the foundation for a systematic approach to the planning of instruction and leads to the following levels of decision-making:
 - Is an instructional system really necessary?
 - What should its overall structure be?

- **Development** refers to the practical application of the plans and the actual production of prototype lessons and materials. During development the design decisions are very detailed, topic-specific or "tactical" and refer to:
 - The decisions involved in the detailed planning of lessons and exercises.
 - The decisions involved in the preparation of instructional materials.

Level 1. The project (curriculum) level - final objectives, principal measures and constraints

According to Romiszowski (1981:292) the product of this level is an "overall instructional strategy". He describes an "overall instructional strategy" as "a translation of a philosophical or theoretical position regarding instruction into a statement of the way in which instruction should be carried out in specific circumstances."

This level is the course system level (or, in a large course with many main objectives and possible options, the "course unit or module level"). At this level the purpose is to decide on overall strategies that will answer the following questions:

- **Sequence decisions.** Sequence decisions are decided by the pattern of interrelationships, which is discovered between the objectives during the analysis stage. Decisions on sequence are taken largely in terms of overall strategies and an overall curriculum structure may emerge at this stage. A linear curriculum structure is most commonly adopted, but other curriculum structures should also be considered, such as a spiral curriculum, pyramidal curriculum, core curriculum or an inquiry-centred curriculum (Romiszowski, 1984:54).

- **Instructional methods decisions.** At this level overall instructional strategies are described. Romiszowski (1984:56-57) distinguishes between an expositive strategy for reception learning and an experiential strategy for discovery learning, with a variety of intermediate positions between these two strategies.
- **Grouping decisions.** According to Romiszowski (1981:326) a mix of group and individual learning is best and the question is therefore not whether to use group or individual study methods, but rather when to use which.
- **Media selection decisions.** The selection of media is based on cost as well as the following considerations:
 - **Delivery mode:** The media that will be used during distance education will differ from those used during face-to-face instruction. Typical media for distance education could be interactive broadcasting, computer-based training programmes and work books. Typical media used during face-to-face instructions are PowerPoint presentations and posters.
 - **Learner factors:** The quantitative aspects of the target population (e.g. how many people are to be taught, with what frequency, in what size groups or geographical dispersion). Knowledge of these learner factors will, for example, influence the type of media that will be used, such as PowerPoint presentations or interactive television or radio broadcasting.
 - **Content factors:** Content could be transferred by means of instructional media, such as readers or learner guides or by means of informational media such as interactive television or radio broadcasting.
 - **Objectives:** If the learning outcomes are fixed with specific guidelines to the facilitators and learners, the facilitators and learners might be required to use only the prescribed media. If the learning outcomes are flexible in terms of the means to achieve the outcome, the selection of media might be left to the facilitator and learners. For example, learners might have to demonstrate their ability to use a variety of learning facilitation methodologies and be allowed to select any three

learning facilitation methodologies. The media that the learners select will depend on the learning facilitation methodologies they select.

In the SAQA context the "overall instructional strategy" is referred to as the "curriculum statement". Curricula, as defined by SAQA, refer to Level 1 synthesis and learning programme strategies to Level 2 synthesis.

Level 2. The instructional strategy or course units (the learning programme or unit standard) level - detailed objectives, sequence and content

A Level 2 synthesis is much the same as a Level 1 synthesis. The difference between the two levels lies in the fact that a Level 2 product will focus on the implementation of the Level 1 product (curriculum) and is therefore concerned with the "plan" to meet the objectives (outcomes) as set out in the curriculum.

Once the objectives (outcomes) have been defined, they need to be structured in order to compile general plans that include more detailed objectives, sequence, content, instructional and assessment methods. The relative merits of learning and instructional strategies are also determined at this level. These general plans are referred to as instructional strategies or instructional plans by educationists, and as learning programme strategies in the SAQA context. A learning programme strategy constitutes the plan for getting the learner to meet the specified outcomes as set out by the curriculum.

At this level the purpose is to decide on instructional strategies that will answer the following questions (Romiszowski, 1984:49-94):

- ❑ **Sequence decisions.** Whereas decisions on instructional sequence at Level 1 are influenced by particular theories of instruction, Level 2 decisions are determined by the interrelationship of the detailed objectives, in terms of learning prerequisites, difficulty, familiarity to the learner, ease of explanation and similar factors, which affect learning in a general way.
- ❑ **Instructional methods decisions.** At this level specific strategies and methods to be used will be described. The best strategy and instructional methods for the teaching of knowledge is determined by the type of knowledge to be taught, i.e., facts, principles,

procedures or concepts. The best strategy and instructional methods for the teaching of skills is determined by the skill category as reproductive (automated, reflex-type) or productive (creative, planning type).

- ❑ **Grouping decisions.** Grouping decisions are determined to a large extent by the type of knowledge that is required. Most skills could be successfully taught in groups.
- ❑ **Media selection decisions.** At this level the media are selected with more precision than at level 1, but depend to a large extent on the cost involved.

The information summarised in the learning programme strategy culminates in an instructional plan (learning-facilitation plan) that could typically include the information summarised in Appendix A. The structure of such a plan is not sacrosanct. There is no obligation to organise one's instructional plan in any form of map, chart or table. It could be written out as text. It is much more important that the variety of content, delivery and assessment methods, media and material should give a clear picture of the amount of variety or repetition built into the plan. The instructional plan should also provide the means to check the coherence, effectiveness, efficiency and viability of the planned methods and means (Caffarella, 2002:193; Romiszowski, 1984:72-78; SAQA, 2005a:1).

The instructional plan (sets of methods, in sequence) is determined by the overall instructional strategies or curriculum (Romiszowski, 1981:292).

Level 3. The lesson plan (learning event) level - the "instructional events" that should take place at each stage in a lesson

The third level of synthesis is concerned with the individual lesson and the instructional methods that will be used to put the instructional strategy/plan into operation. A distinction is made between instructional methods and strategies. The difference between strategies and methods is in principle one of specificity. Instructional strategies refer to the overall plan. Instructional methodologies refer to the specific activities planned and performed by the facilitator to facilitate the transfer of learning (Romiszowski, 1984:98; Rothwell & Kazanas, 2004:230).

The product at this level is a lesson plan or a learning event plan as referred to in the SAQA context. Learning event plans are essential to establish the link between the learners' achievement of specific outcomes and learning outcomes, as well as the instructor's intended activities to foster that achievement.

At this level the structure of each lesson (learning event) becomes apparent in its overall detail. The sequence of instructional events that should take place is according to a general plan that governs the way the lesson is structured, but the detail of exactly how each instructional event will take place is absent. The instructional events are specified in terms of their intended outcomes, but the internal structure of each remains, in Romiszowski's (1984: 53) terms, hidden in a black box.

The most common form of a lesson plan model is typically a list of events as stages that should be followed in presenting the lesson. Although it is suggested that a specific format be used when a lesson plan is developed (Nadler quoted by Jerling, 1997:133), it should be noted that there is no one standardised format for the specific content of a lesson plan (Rothwell & Kazanas, 2004:259).

Gagné, Briggs and Wager (1992:238) warn that events should serve as guidelines only for developing the lesson. It may not always be possible or appropriate to include all the events or to list them in strict linear order. The instructional strategy, the nature of the outcomes, the nature of the content and the profile of the learners should all be taken into consideration when designing the lesson. The events of instruction should, however, be based on the hypothesised sequence of instruction that is most suitable for the specific cognitive or skill category and learner profile.

Table 2.8 summarises the common forms of lesson planning and stages of learning events as described by Romiszowski (1984:97) and Gagné, Briggs and Wager (1992:189-203).

Table 2.8 **Examples of learning events**

Romiszowski	Gagné, Briggs and Wager
<ul style="list-style-type: none"> <input type="checkbox"/> Open the lesson and motivate the learners. <input type="checkbox"/> Review past work related to the current lesson's content and objectives. <input type="checkbox"/> Introduce the lesson topic and explain the objectives to be achieved. <input type="checkbox"/> Present new information and demonstrate, explain or illustrate, as required. <input type="checkbox"/> Reinforce the new learning by questioning, repetition, practice, etc. <input type="checkbox"/> Assess the learning and repeat, or practice further if necessary. <input type="checkbox"/> Summarise the lesson and close, indicating opportunities for further study. 	<ul style="list-style-type: none"> <input type="checkbox"/> Capture the attention of the learners. <input type="checkbox"/> Inform and describe to learners what performance objectives are to be achieved. <input type="checkbox"/> Help learners to recall prerequisite learning. <input type="checkbox"/> Present instruction to facilitate the learners' achievement of performance objectives. <input type="checkbox"/> Guide the learners through the material so they begin to meet the objectives. <input type="checkbox"/> Prompt the performance. <input type="checkbox"/> Give feedback to the learners. <input type="checkbox"/> Evaluate how well the learners are beginning to achieve the objectives. <input type="checkbox"/> Work toward helping the learners retain what they have learned and apply it.

Irrespective of the format, learning event plans should include sufficient detail to ensure that the instructors will know what to do and how to do it, especially if the instructors were not part of the instructional design. According to Romiszowski (1984:133), any learning event plan should at least specify the following to ensure that all three channels of communication (information, behaviour and feedback) are activated:

- ☐ What information should be communicated to the learners and how it should be done.
- ☐ What behaviour or response should be exhibited by the learner to indicate that the desired learning has taken place (learner activity and continuous assessment).
- ☐ What feedback or corrective action should occur, if the learner has not learned as expected.

It is therefore suggested that a learning event plan should include at least the information provided in Appendix B for a proposed lay-out.

The selection of appropriate tactics for specific lesson content refers to the design or adaptation of specific activities pertaining to:

- ❑ Explanations and definitions.
- ❑ Illustrations, examples and analogies.
- ❑ Learning activities, drills and games.
- ❑ Feedback questions, tests (assessments) and exercises.

Level 4. The learning event or individual exercise level

At this level the detailed lesson plans (learning event) plans are further analysed. This implies that a given learning event is planned in detail and written out in some form of script or self-instructional material. The development of learning material and instructional material, such as assessment and facilitation guides, is also a typical level 4 synthesis activity.

Table 2.9 illustrates the typical questions that an ETD practitioner will ask when performing a specific role.

Table 2.9 Examples of activities at level four

Designer and Developer	Facilitator	Media Expert	Evaluator
<ul style="list-style-type: none"> ❑ Learning step size? ❑ What content? ❑ What learning assessments? ❑ When to pilot? 	<ul style="list-style-type: none"> ❑ What language level? ❑ What examples? ❑ Common misconceptions? ❑ Good motivators? 	<ul style="list-style-type: none"> ❑ What media mix? ❑ Use of humour? ❑ Use of colour? ❑ Use of special effects? 	<ul style="list-style-type: none"> ❑ Formative procedures ❑ Summative procedures

Once the learning material and media have been developed they are subjected to field pilot tests and revised where necessary.

At this level the instructional events become "transparent", and it is now possible to see exactly what will take place during the learning-facilitation session.

Conclusion for the design and development stage

During the synthesis stage, plans and products are designed and developed at various levels to be used during the delivery stage. These plans and products, as summarised in Table 2.10, provide the means for the ETD practitioner to achieve the outcomes that were formulated during the analysis stage.

Table 2.10 Summary of the products of the design and development levels

Romiszowski's Model		South African Qualifications Authority Model	
Applying our:	Determines our:	Applying our:	Determines our:
LEVEL 1			
Philosophies and theories of instruction	Overall instructional <i>strategies</i> that include the final evaluation system, syllabus content, overall sequence of units in the course and overall choice of principal methods/media	Philosophies and theories of instruction	Curriculum statement to sequence qualifications and learning programmes and to provide overall instructional and assessment strategies.
LEVEL 2			
Overall instructional strategies	Instructional <i>plans</i> (sets of <i>methods</i> , in sequence) that include the formative evaluation system, diagnostic tests, curriculum structure, sequence of lessons, and selection of methods/media for each lesson	Curriculum statement	Learning programme strategies that include the unit standard alignment, assessment strategy, delivery strategy, learning strategy, learner support and programme evaluation Learning facilitation plans that include specific outcomes, instructional methods, assessment methods, media, resources and time
LEVEL 3			
Instructional plans	Lesson plans with instructional <i>methods</i> (for each objective of a lesson)	Learning programme strategies Learning facilitation plans	Learning packages that include learning material assessment instruments, facilitator guides, learner guides and assessment guides Learning event plans with instructional methods (for each event of a lesson)
LEVEL 4			
Lesson plans	Specific instructional <i>exercises</i> (using any medium: text, practical, audiovisual, human presenter, computer)	Learning event plans	Specific instructional <i>exercises</i> (in any medium)

2.4.4.3 Conclusion

As a result of a systems approach to the preceding discussion, it was deduced that the activities and products of the analysis and synthesis stages of the ETD system are situated at different levels. Although the boundaries and descriptions of the levels are arbitrary, there seems to be clearly distinguishable levels during the analysis and synthesis stages. In addition, these levels seem to be hierarchical in nature.

Therefore, to develop a competence profile for ETD practitioners within a systems approach, it would be meaningful to take cognisance of the different levels of activities associated with the analysis and synthesis stages. The development and utilisation of ETD practitioners as researchers, analysts, designers and developers should reflect the different performance levels for these roles.

In the same vein, given the systems approach to competence profiling, it is imperative that if the analysis and synthesis stages of instructional design operates at four levels, then training evaluation and the management of training should also reflect these levels to ensure that the outcomes associated with the different levels are achieved. Cognisance should, therefore, be taken of the impact of the various performance levels on the utilisation and development of ETD practitioners in their roles as evaluators and training managers.

2.5 SYNTHESIS: OUTCOMES-BASED COMPETENCE PROFILE OF THE EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONER WITHIN A SYSTEMS APPROACH

The Occupation Directed Education, Training and Development Task Team (2003:Part C) identified seven roles for ETD practitioners that are used in this study: needs analysis, design and development, learning facilitation, learning support, assessment and moderation, quality assurance and evaluation, and ETD management.

The chapter commenced with defining and clarification of various education, training and development terminologies to establish common ground for the discussion of the ETD practitioner roles and levels of performance associated with some of the roles. The following didactic terminologies were therefore defined in this context: ETD practitioner roles, didactics, outcomes, qualification, unit standard, learning programmes, curriculum, learning programme strategy, approach, model, strategy and method.

The outcomes-based education and systems approaches to education, training and development were used as the theoretical point of departure to determine the implications they have for the roles and performance levels of ETD practitioners. The outcomes-based education approach was used to explain the content of the different roles: it is the *what* that needs to be done within a role to ensure outcomes-based education and training. The systems approach was used to explain *where* the roles fit into the ETD process. The latter was also used to describe the relevant levels of education, training and development activities.

An outcome of the literature review has been that it is possible to distinguish between different performance levels within various ETD practitioner roles, even though the levels are arbitrary. Despite the arbitrary nature of the levels, it is possible to identify a hierarchical sequence of events to progress from one stage or role to the next and from one level to the next. (See Table 2.11 for a summary of the ETD practitioner roles and levels.)

Therefore, when a competence profile is developed from a systems approach, it is necessary to think in terms of different roles and levels of performance and the sequence of progress that is inherently implied. Hence, the utilisation and development of ETD practitioners should reflect these roles and performance levels and the subsequent sequential progress. This should also be the case for ETD practitioners in the South African National Defence Force.

In this chapter a generic didactic perspective was provided of the ETD practitioner roles and performance levels. In Chapter 3 the different roles, performance levels and the related ETD activities will be applied to ETD practitioners in the context of the South African National Defence Force, where they will be described in more detail.

Table 2.11 Education, training and development practitioner roles, competences and performance levels

Levels		Needs Analysis	Design and Development	Learning Facilitation	Learning Support	Assessment and Moderation	Quality Assurance and Evaluation	ETD Management		
Macro-Level	Level 1	Define organisational objectives					<div>Continuous quality assurance at different levels</div>	<div>Continuous evaluation at different levels</div>	<div>Continuous ETD management at different levels</div>	
		Conduct a scoping exercise and compile titles matrix								
		Compile qualifications								
		Design organisational curriculum								
		Design curriculum statement								
Meso-Level	Level 2	Compile learning programmes								
		Compile unit standards								
										Design learning programme strategy
										Develop learning-facilitation plans
Micro-Level	Level 3	Determine applied competences (Foundational, practical and reflective)								
				Develop learning package (learning material, assessment instruments, guides, media)						
				Develop learning event plan						
	Level 4	Determine learning outcomes								
			Decide on instructional exercises							
		Perform learning facilitation	Provide learning support	Assess						

Chapter 3

A Proposed Competence Profile for Education, Training and Development Practitioners in the South African National Defence Force

3.1 INTRODUCTION

In Chapter 2, a theoretical analysis was done of the different roles and performance levels for education, training and development practitioners (ETD practitioners), from an outcomes-based education and systems perspective. This chapter focuses on the integration of the theoretical framework established in Chapter 2 with the practice of education, training and development in the South African National Defence Force. The aim of this integration is to describe the ought to be end state for the utilisation and development of ETD practitioners in the South African National Defence Force in terms of their roles and performance levels as deduced from the theory of a systems approach to instructional design and development. A competence profile is constructed and proposed for ETD practitioners at tactical level in the South African National Defence Force.

In section 1.6.6 and 1.6.7, the difference between the Department of Defence and the South African National Defence Force was explained. To summarise, the Department of Defence is the overarching structure, which consists of the South African National Defence Force and the Secretariat of Defence. The responsibility for all education, training and development lies with the South African National Defence Force component of the Department of Defence. In this chapter, reference will be made to the Department of Defence as well as the South African National Defence Force. However, the focus of this study is on the ETD practitioners in the South African National Defence Force.

It was mentioned in section 1.1 that the Department of Defence is committed to provide education, training and development to its members to ensure proficient Department of Defence members. The Department of Defence undertakes to provide education, training and development according to a specific requirement that is considered necessary to uphold standards and ensure international competitiveness. The achievement of the Department of Defence's education, training and development goal, therefore, requires competent ETD practitioners.

ETD practitioners in the South African National Defence Force should be well trained and motivated to render an education, training and development service that will deliver highly competent Department of Defence members who are performing optimally. However, the education, training and development of ETD practitioners should not be done just for the sake of training. The main aim of the utilisation and development of ETD practitioners in the South African National Defence Force should be to assess and address skills deficiencies in the short and long term in order to ensure quality, sustainability and continuous improvement of services and products to the benefit of the nation, the organisation and the individual.

This chapter is introduced by an overview of the organisational structure of the Department of Defence. The organisation of the Department of the Defence will then be explained from a strategic point of view. This is followed by a discussion of the application of the systems approach in the South African National Defence Force and its education, training and development subsystem. The chapter is concluded with a proposed outcomes-based competence profile for ETD practitioners in the South African National Defence Force within a systems approach.

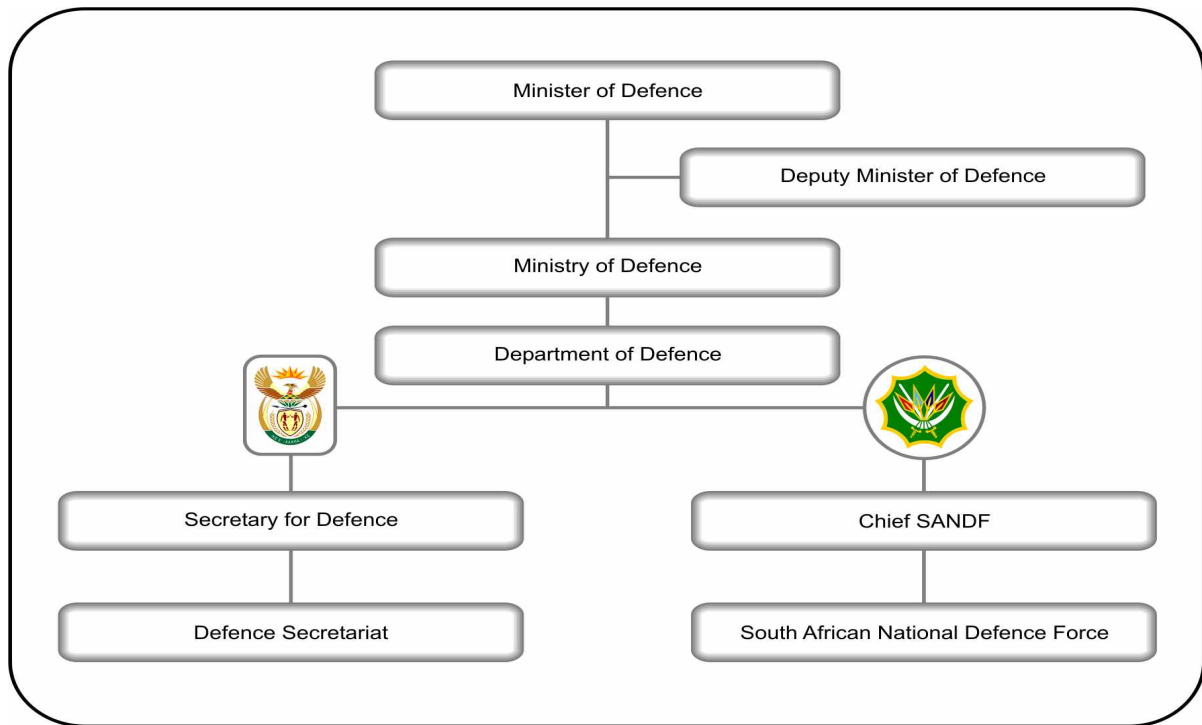
3.2 AN OVERVIEW OF THE DEPARTMENT OF DEFENCE STRUCTURE AND ASSOCIATED EDUCATION, TRAINING AND DEVELOPMENT NEEDS

3.2.1 The organisational structure of the Department of Defence

In order to contextualise the study and to provide perspective on the environment in which the ETD practitioner is utilised, trained and developed, an overview will be provided in this section of the organisational structure of the Department of Defence. The strategic imperatives of the Department of Defence will be explained, as well as the hierarchical structure, and the education, training and development needs at the various levels.

As was mentioned in sections 1.6.6 and 1.6.7, the Department of Defence consists of two components, namely the Defence Secretariat and the South African National Defence Force. The Defence Secretariat represents the civilian component that oversees the Department of Defence's plans and actions, while the South African National Defence Force forms the military component.

Figure 3.1 Organisational structure of the Department of Defence



The Department of Defence is the overarching body that is responsible for the drafting and maintenance of the Defence Strategy and Military Strategy and for giving strategic advice to the Minister of Defence, the Secretary for Defence and the Chief of the South African National Defence Force. The functions of the Ministry of Defence, the Defence Secretariat and the South African National Defence Force are best described through the responsibilities of the executive functionaries, as stipulated in the White Paper on Defence (DOD, 1998a:9) and the Defence Update (DOD, 2006:24-25), and are summarised as follows:

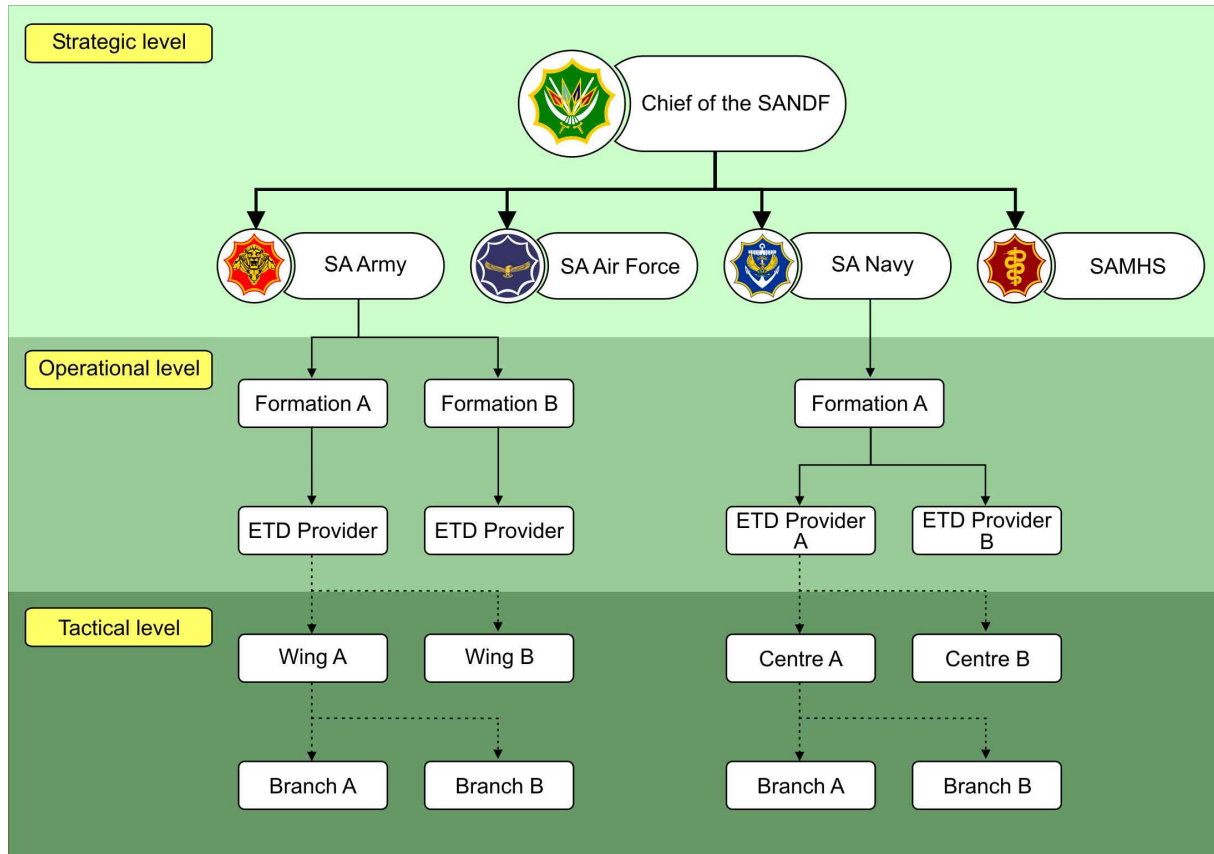
- The Minister of Defence is responsible for the defence function of government and is accountable to the President, the Cabinet and Parliament for the management and execution of this function. The Minister constitutes the civilian authority on military matters on behalf of Cabinet.

- The Secretary for Defence manages the Secretariat (the civilian oversight component) and is the accounting officer of the Department of Defence. He/she is the principal advisor to the Minister regarding defence policy matters. The Secretary performs such duties and functions as may be necessary for democratic and civilian management of the defence function and to enhance parliamentary and ministerial control over the South African National Defence Force (Chief of the SANDF). The Secretary monitors compliance with directions issued to the Chief of the SANDF by the President or the Minister.

- The Chief of the SANDF executes defence policy, directs the work of the Defence Headquarters and manages the overall functioning and operations of the Defence Force (the military component). He/she is the principal adviser to the Minister on military, operational and administrative matters within his/her directive. The Chief of the SANDF is responsible for formulating and issuing military policy and doctrines and must execute his command by issuing orders, directives and instructions, and by giving commands. The Chief of the SANDF is furthermore responsible for the direct management and administration of the Defence Force in an efficient way, including the effective utilisation and the education, training and development of all members of the Defence Force and employees of the Department where so required by the Secretary for Defence. This person is also responsible for the training of members in accordance with the Constitution and the law, including customary international law and international agreements binding on South Africa, the maintenance of a military response capability, planning for contingencies and the management of the Defence Force as a disciplined military force.

Figure 3.2 is an illustration of the organisational levels of the South African National Defence Force. Note that this is only a summary of the organisational structure and not a comprehensive illustration.

Figure 3.2 Schematic organisational structure of the South African National Defence Force



3.2.2 International, national and organisational strategic imperatives

The primary aim of education, training and development is to empower management and the workforce to pursue national, organisational and individual goals in the most efficient and effective manner. Hence, the education, training and development strategy of the Department of Defence should reflect this goal.

The Department of Defence's international and national obligations and needs were confirmed and established when South Africa was welcomed into international organisations, such as the United Nations, the African Union and the Southern African Development Community. The resulting involvement in multinational peace-support operations on the continent continuously provides the direction for training requirements at various levels.

The Constitution of the Republic of South Africa (1996) clearly provides in its preamble a national imperative for human resource development through education, training and development: "Improve the quality of life of all citizens and free the potential of each person". The South African Qualifications Authority Act (SA, 1995) states that the purpose of all education, training and development should be to equip learners with the knowledge, skills and values that will enable or enhance meaningful participation in society, contribute to developing sustainable communities, provide a basis for learning in further education and training and establish a firm foundation for the assumption of a productive and responsible role in the workplace.

The National Skills Development Strategy (SA, 1995), the Skills Development Act (SA, 2005) and the Department of Defence Human Resource 2010 Strategy (DOD, 2001) compel the organisation to develop learning programmes to enable its employees to transfer military knowledge, skills and values to meaningful civilian careers outside the Department of Defence.

This implies that the education, training and development strategy and career paths for employees of the Department of Defence should firstly meet military (organisational) and secondly individual requirements. To meet this dual requirement the Department of Defence undertakes to become a lifelong learning organisation committed to providing the individual member with the greatest mobility and career development in the work environment, at the same time preparing employees for meaningful civilian careers outside the organisation (DOD, 1998a:23; DOD, 1998b:84).

Because of international and national obligations and requirements, the Department of Defence, more specifically the South African National Defence Force, as an organisation is required to direct its education, training and development strategies accordingly. The South African National Defence Force is, however, a complex organisation with various organisational environments and levels. Each of these environments has different education, training and development needs.

3.2.3 Organisational environments in the South African National Defence Force

Meyer (1999:140) identifies three environments within any organisation: the development, delivery, and application environments. These three organisational environments are present in the South African National Defence Force as well and have specific implications for education, training and development at different levels. Within the South African National Defence Force these environments are referred to as the strategic, operational, tactical and technical environments respectively.

- ❑ **Development environment.** This would typically be the strategic environment of the South African National Defence Force. At this level, the primary responsibility is of a strategic nature. The organisational strategy should be in harmony with national strategies and legislation. The strategies specify the South African National Defence Force's vision, values, structure and goals, including those of education, training and development. An additional responsibility at this level is the provision of military instructions and policies to ensure that training within the South African National Defence Force complies with national legislation on education training and development. This involves the development, delivery and evaluation of education, training and development systems for the South African National Defence Force as a whole.
- ❑ **Delivery environment.** This is similar to the operational environment of the South African National Defence Force. The characteristics of the delivery settings are described at this level. In the South African National Defence Force this requires, among others, that an outcomes-based approach with the emphasis on adult learning be followed. Many of the education, training and development providers (training providers) are focusing on residential face-to-face training as a mode of training delivery. Mixed mode training delivery is increasingly being implemented by several of the training providers. At the operational level the divisions, the formations and the training providers are responsible for determining the education, training and development needs. They are also responsible for the planning and management of the design, development, delivery and evaluation of learning programmes, but only in terms of broad guidelines and strategies.
- ❑ **Application environment.** At this level learning is transferred to the workplace. This level correlates with the tactical and technical environments of the South African National Defence Force. The training providers are the responsible role players at this level. They

are responsible for the detailed planning and management of the design, development, delivery and evaluation of learning programmes. The individuals, in this study the ETD practitioners, apply their education, training and development knowledge, skills, values and experience at this level.

- ***At the tactical level*** the ETD practitioners are responsible for the design and development of new and existing learning programmes. In this process, the target group is analysed and learning outcomes are described in a curriculum (learning programme strategy), the course content is developed and overall media requirements are determined, ETD practitioners and other presenters are identified, assessment plans and instruments are designed and developed and the learning programme is evaluated for its impact on the effectiveness of education, training and development.
- ***At the technical level*** the ETD practitioners facilitate learning using one or more learning-facilitation methodologies, e.g., demonstrations, lessons, group discussions, etc. In doing so, the ETD practitioner conducts a target group analysis and presents learning outcomes in accordance with the learning programme/course that was developed. Learning event plans are developed and appropriate media selected for a specific learning event. Formative and summative assessments are conducted to assess the competency level of the learner bodies.

3.2.4 Education, training and development needs for the various organisational environments

Each environmental level has certain expectations and requirements regarding education, training and development. These expectations or needs are formulated in terms of education, training and development outputs to be accomplished. The different education, training and development needs for the Department of Defence are as follows, according to interviews held with De Vries, (2004, pers.comm., 22 November; 2005, pers. comm.10 February) and Eberlein (2005, pers. comm. 12 January):

- ❑ ***National education, training and development need.*** The Constitution stipulates that all members of the South African National Defence Force "shall be properly trained in order to comply with international standards of competency" (DOD, 1998a:10). Internationally verifiable standards prescribe the standard of the training.

This is particularly important to ensure inter-operability, for example in peace support operations with other forces (DOD, 1998b:84). It is also important for members who are required to comply with registered statutory standards, i.e., those laid down by statutory bodies, such as medical councils, or international bodies and the International Civil Aviation Organisation. Members of the South African National Defence Force who are to be engaged in such work will be trained to the standards set by the relevant statutory or international bodies.

- **Organisational education, training and development need.** It is required that training should be directed towards equipping its members with the necessary skills, knowledge and values for service in the South African National Defence Force. Training must ensure effective force preparation by supplying combat-ready user systems, which implies combat-ready task forces and task teams. The training standards are derived from and will be measured against the competences (based on the operational requirement) required to do the work, i.e., that which is required of an organisational unit to perform a given operational mission.

- **Individual education, training and development need.** It is reasonable to believe that most individuals aspire to progress in their careers and to develop to their full potential. All individuals experience a need for achievement and recognition of success. In order to satisfy this need for achievement and recognition at work individuals must feel and be competent to fill the post to which they are assigned. It is therefore important to develop the knowledge, skills and values of South African National Defence Force members to ensure that they are competent to fill an assigned post and able to perform their jobs successfully. The training standard will be measured against the competences (based on the tactical requirement) required to do the work, i.e., that which is required of a person to perform a given spectrum of technical, tactical or routine tasks.

It should be noted that the different levels and environments are arbitrary and not mutually exclusive. The borders are transparent and the environments overlap. Table 3.1 summarises the education, training and development needs for the different organisational environments.

Table 3.1 Education, training and development needs for the various organisational environments

Environment	Stakeholders/Drivers	Education, training and development needs
Strategic environment as it relates to the development environment	The Republic of South Africa (Constitution to the Department of Defence)	The South African National Defence Force must provide properly trained task forces and groups to comply with international standards for internal and foreign operations.
	National Skills Strategy South African Qualifications Authority	Train individuals to become responsible citizens that will contribute to the social and economic development of the country.
	Statutory bodies	Education, training and development in alignment with registered statutory standards.
Operational environment as it relates to the delivery environment	The South African National Defence Force (Commanders of task forces, divisions; type formations and units; and support formations and units)	Training to ensure the maintenance of technical, managerial and organisational skills and resources which enable the armed forces to perform their primary and secondary functions efficiently and effectively. This implies the provision of combat-ready systems of its specific type, including training and exercises of the systems and their personnel and support.
	DOD HR Strategy 2010	Individual empowerment through education, training and development, ranging from pre-employment training to post-employment re-skilling and re-integration into civilian society.
Technical/tactical environment as it relates to the application environment	Individuals in the workplace	Proper training to fill a post and to perform a task successfully and competently.

It is evident from the preceding discussion that the ETD practitioner is utilised, trained and developed in a complex organisation. In order to ensure purposeful, client-driven education, training and development, it is necessary to analyse the education, training and development needs of clients at the operational levels, as well as the adjacent levels. The delivery of education, training and development should aim to satisfy these education, training and development needs.

The implication of the comments in the preceding paragraphs is that the ETD practitioner should be appropriately skilled to plan, manage and execute education, training and development services and products that will meet the requirements at the various organisational levels. The responsibility for the development of education, training and development strategies and plans is primarily situated with the education, training and development managers at the strategic and operational environmental levels of the Department of Defence. To ensure the feasibility of these strategies and plans at the tactical and technical levels, it is necessary for the training providers to participate in these higher-level decisions.

As a result, ETD practitioners employed at the training provider level should be appropriately and sufficiently qualified to participate in a training needs analysis to design, develop and deliver effective and efficient education, training and development at the various organisational levels. This would mean that the ETD practitioners should be capacitated to perform in a number of ETD practitioner roles and various levels of expertise within the roles. In the following sections a model is proposed for the utilisation of ETD practitioners within these roles.

The model aligns the various organisational levels with the education, training and development system levels. The systems approach to education, training and development, as discussed in Chapter 2, forms the underlying theoretical foundation for the proposal.

3.3 SYSTEMS APPROACH TO EDUCATION, TRAINING AND DEVELOPMENT IN THE DEPARTMENT OF DEFENCE

The Department of Defence adopts a systems approach to education, training and development, which aims at achieving effectiveness, efficiency and economy. The Department of Defence describes its education, training and development system as (De Vries, 1997:23): "ETD in the Department of Defence functions as a system within the national and military development environments. Those with authority to present ETD opportunities within the DOD strive to usher the learner bodies to develop the required competence, through scientifically designed learning experiences, based on accepted ETD principles, with competent and inspired facilitators, sound financial support, appropriate facilities and equipment, within the framework of accepted values which give expression to the DOD culture."

In Chapter 2, a summary was provided of the most relevant features of systems and their applicability to education, training and development systems in general. The application of the system features to education, training and development as a subsystem in the Department of Defence is summarised in Tables 3.2 and 3.3. The delineation of the education, training and development subsystem pertains to the Department of Defence and not the South African National Defence Force in particular. This point of view was taken because the descriptions of the system's structure and cybernetic features are based on the overarching education, training and development strategy for the Department of Defence.

In concurrence with the exposition in section 2.4.1, the system features, as these apply to the context of the Department of Defence, are analysed, firstly in terms of their structural composition and secondly in terms of their cybernetic features. An analysis of the structural composition delineates the composition of the education, training and development subsystem of the Department of Defence as a whole, in terms of the various elements, and subsystems that it consists of, as well as the mutual interdependence and interactivity between the various components. The cybernetic analysis of the education, training and development subsystem of the Department of Defence describes the principles that govern this system to ensure its effective and efficient functioning.

Table 3.2 The structural composition of the education, training and development subsystem of the Department of Defence

THE STRUCTURAL ELEMENT OF THE EDUCATION, TRAINING AND DEVELOPMENT SUBSYSTEM OF THE DEPARTMENT OF DEFENCE	
<p>The <i>composition of the system</i> as a whole, the various parts/elements/subsystems it consists of and the way in which the system as a whole and parts/elements/subsystems interact.</p>	
System feature	Department of Defence education, training and development subsystem
<p><i>A conceptual or physical entity.</i></p>	<p>Education, training and development (ETD) in the South African National Defence Force is a conceptual entity that is based on the ETD delivered by formal mandated training providers. The Department of Defence's Education, Training and Development subsystem (DOD ETD subsystem) provides the overarching framework for the management of ETD in the South African National Defence Force. This subsystem is a separate one that links with others, such as the Human Resource Subsystem.</p>
<p><i>Various clearly discernable parts/sub-systems/components.</i></p>	<p>ETD is one of the subsystems of the Department of Defence. Services, divisions and formations and mandated ETD providers constitute ETD sub-subsystems within the DOD ETD subsystem.</p> <p>The DOD ETD subsystem provides the overarching framework for the management of ETD in the DOD.</p> <p>The core business of the mandated education, training and development providers in the ETD subsystem is to develop and present client-focussed learning programmes as directed and guided by DOD prescripts.</p>
<p><i>Function as a whole with emergent properties</i> that are only revealed by the system and not by its parts.</p>	<p>The success of training provided for integrated operations by the separate Services (Army, Air Force, Navy & Military Health) is tested under integrated simulated and real-life operational circumstances and not only by the separate monitoring of the effectiveness of the operational performance of services and divisions.</p>
<p>The parts/subsystems/components are <i>interdependent</i> and influence the whole system.</p>	<p>The DOD ETD subsystem and its sub-subsystems, among others the different DOD ETD providers, are clearly discernible in the Department of Defence. The various DOD ETD providers function, for example, as separate, clearly discernible systems. The DOD ETD subsystem and sub-subsystem components are, however, interdependent and linked through a complex communication network in order to compose an integrated force. See Figure 3.2 for an illustration of the DOD ETD subsystem structure.</p>

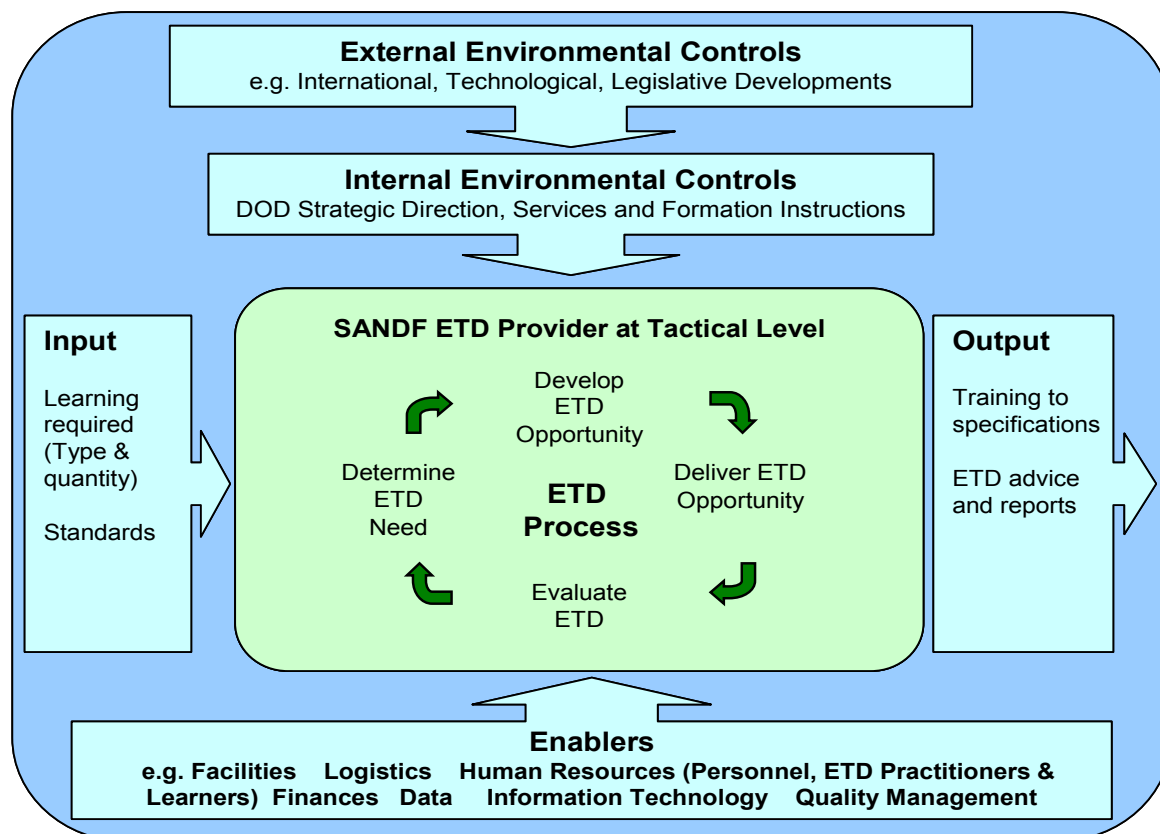
THE STRUCTURAL ELEMENT OF THE DEPARTMENT OF DEFENCE CONTINUED	
Feature	Department of Defence education, training and development subsystem
Clear <i>narrow</i> and <i>wide boundaries</i> exist.	Both narrow and wide boundaries are discernable, as in any other system. The boundaries are clearly demarcated by the different organisational levels within the Department of Defence. The narrow boundary of ETD providers will refer to the development and delivery of specific learning programmes. These providers have to satisfy the training requirements of the formations and services and therefore the boundaries are extended to perform needs analysis, design and development activities.
An <i>open system</i> that interacts with its environment.	The DOD ETD subsystem interacts with and is sensitive to changes in the environment and is therefore also an open system. It is especially the introduction of new technology that poses a challenge to the rendering of timeous updated training.
Each sub-subsystem and subsystem is always <i>part of a larger system</i> , which forms the <i>system environment</i> .	The DOD ETD subsystems and the sub-subsystems are all part of larger systems. The system environments have clear boundaries that constitute a hierarchical structure with different levels. See the illustration in Figure 3.2.
Interaction occurs between the system and the system environment by means of <i>inputs</i> and <i>outputs</i> .	<p>In the DOD ETD subsystem the primary inputs are the learners, the type of training required, the standard of training required and the number of learners who need to be trained.</p> <p>Four generic ETD sub-processes constitute the transformation process: determining the training need, design and development of learning programmes and learning support material, delivery of ETD and evaluation of ETD.</p> <p>The outputs are learners that received education, training and development to specification as well as ETD related advice and reports.</p>

Table 3.3 The cybernetic features of the education, training and development subsystem of the Department of Defence

THE CYBERNETIC FEATURES OF SYSTEMS IN THE DEPARTMENT OF DEFENCE	
This section concerns itself with the principles that govern the functioning of a system.	
System feature	Department of Defence education, training and development subsystem
The presence of a <i>control mechanism</i> that indicates dysfunctions in a system.	In addition to the implementation of quality management systems at the various DOD ETD providers to determine the quality of the ETD provided, the Department of Defence also has various other systems such as the Inspector General function to monitor the effectiveness and efficiency of all the Department of Defence functions, including that of the DOD ETD subsystem and its components.
<i>Feedback loops</i> as control mechanisms exist.	Formative and summative evaluations are conducted throughout all the DOD ETD systems to ensure effective and efficient education, training and development. Actions are taken to promote and ensure the continuous improvement of ETD Systems within the Department of Defence.
The parts/ subsystems/components perform together <i>to achieve the purpose/goal of the system as a whole</i> .	The Department of Defence follows a systems approach and therefore ETD outputs are continuously evaluated against input requirements, i.e., goals and objectives that need to be met.

Figure 3.3 is an illustration of the Department of Defence's Education, Training and Development sub-subsystem, namely the education, training and development provider as part of the wider ETD subsystem.

Figure 3.3 The education, training and development provider as a sub-subsystem of the education, training and development subsystem



The four main sub-processes adopted by the Department of Defence to facilitate the conversion of client needs to the outcome of competence in the workplace will be discussed in terms of the implications it has for the ETD practitioner roles. However, the discussion will be done by means of the five stages identified by Romiszowski. The Department of Defence focused only on the education, training and development process at the provider level. In order to understand and clarify the roles and levels of performance of the ETD practitioners, the discussion will be extended to those organisational levels that compose the environment of the education, training and development provider.

The education, training and development process of the Department of Defence is a generic, academically responsible approach to ensure systematic progress to a desired output of creating opportunities for learning. The aim of the output as described in Table 3.1 is to reach the desired education, training and development outcome of competence in the workplace and in the operation and management of the combat and support systems of the Department of Defence. Learning activities should therefore strive for the integration of theory, practice and the work situation.

In conclusion, applying the principles of a systems approach to the education, training and development subsystem of the Department of Defence, facilitate the analysis, description and understanding of the utilisation and training of ETD practitioners. It furthermore contextualises the competence profile of the ETD practitioner operating in the South African National Defence Force. In addition, given the fact that education, training and development in the Department of Defence are planned and managed from a systems approach, and according to a hierarchical structure, it seems possible to construct a proposed competence profile for ETD practitioners, which will be attempted in the next section.

3.4 A PROPOSED COMPETENCE PROFILE FOR EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE

The Department of Defence is unique in that it provides the opportunity for both professional and military development for its officers and other ranks to ensure continuous quality improvement of Defence Act Personnel (DOD, 2002/2003:32). The Department of Defence employs professional members such as medical practitioners, psychologists, dentists, engineers and human resource practitioners and provides opportunities for its members to complete their tertiary training in these fields. In the South African National Defence Force, all uniform members are expected to complete military development training, regardless of their profession. Military development refers to education, training or exposure (experience) designed to equip an individual to perform military duties in a multi-disciplinary role as an officer, warrant officer or non-commissioned officer. Because the Department of Defence views itself as a learning organisation and one of its core processes is the preparation of its forces for combat readiness, it requires the education, training and development of a sufficient number of ETD practitioners. Therefore, in addition to their professional and military training and development, many of the South African National Defence Force members have to be trained as ETD practitioners. These ETD practitioners have to acquire the necessary

education, training and development knowledge and skills to ensure effective and efficient learning facilitation in accordance with sound didactic principles. As a result, to determine the competence profile of the ETD practitioners in the South African National Defence Force, it is necessary to plan and manage their education, training and development, which will enable them to execute this function proficiently in a military context.

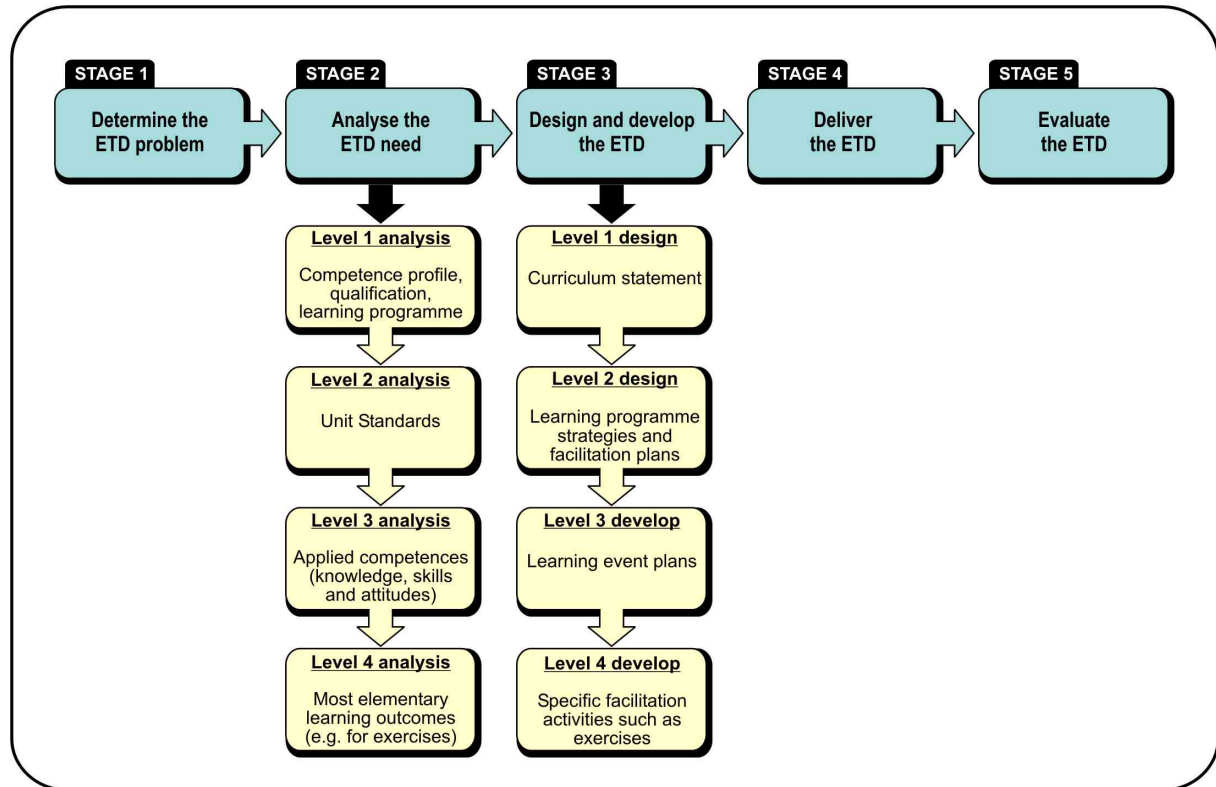
This section provides a proposed competence profile of ETD practitioners of the South African National Defence Force from a systems approach as well as an outcomes-based education and training perspective. The proposed competence profile is aligned with the organisational structure and education, training and development needs of the Department of Defence. This proposed competence profile was established through an analysis of the literature, using a systems approach to instructional systems design, as well as the relevant information being workshopped through several meetings with various ETD managers of the services and divisions of the South African National Defence Force. It should be noted that the compilation of the proposed competence profile is a workshopped consolidation of the views of individual expert participants on how the theory of a systems approach applies to education, training and development in the South African National Defence Force. It therefore remains only a proposed, but well-founded competence profile that has not been officially endorsed by the decision makers in the Department of Defence.

The purpose of this proposed competence profile is to describe the abilities that ETD practitioners have to demonstrate in the various education, training and development roles. This proposed competence profile serves as the desired competence profile with which the actual competence profile, obtained through the empirical research discussed in Chapter 5, is compared. This benchmarking is required to determine the real education, training and development need, as well as the career path needs of ETD practitioners in the South African National Defence Force for the future.

Romiszowski's model describes instructional systems design in terms of five different stages: problem definition, problem analysis, design and development, implementation and evaluation. The problem analysis and the design and development stages are further subdivided into four different levels each (see section 2.4.3). Figure 3.4 summarises the stages and levels of instructional systems design as based on and described by Romiszowski from a systems approach. In the following section each stage is discussed in

terms of its applicability to the roles and performance levels of ETD practitioners in the South African National Defence Force context.

Figure 3.4 Education, training and development within a systems approach



It should furthermore be noted that the features of an education, training and development system, as delineated in sections 2.4.1 and 3.3, were taken into consideration during the analysis of the stages and the levels of instructional systems design to clarify and define the ETD practitioner roles. An analysis of the system features indicated that the boundaries between system levels are not solid and rigid, but transparent. As a result it is deduced that the boundaries in terms of the responsibilities and areas of interests of the role players in an education, training and development system will also be transparent and interwoven at times. This implies that one role player could be involved in more than one stage and at various organisational levels. It also implies that different role players could be involved in one stage at a particular level at a specific point in time. Because of this phenomenon the responsibilities of the various other education, training and development role players, in addition to those of the ETD practitioner at the tactical level of the South African National Defence Force, were included in the analysis. This was done to clarify and define the roles

and responsibilities of the ETD practitioners at the tactical level in the South African National Defence Force.

3.4.1 Stage 1: Determine the education, training and development problem

The value of the education, training and development outcomes are dependent on among others the inputs and effectiveness and efficiency of the processes involved. As a result, Joubert (1998:57) and Romiszowski (1981:11 and 1984:50) argue that an extensive organisational needs analysis is fundamental to ensure effective and efficient education, training and development. Both these authors argue that it is critical at this stage to identify the real problems. It should firstly be confirmed that the problem is related to education, training and development. Secondly the real education, training and development need should be identified. According to them training is too often designed based on faith, hope and assumptions instead of an empirical needs analysis. Joubert (1998:58) further argues that defining the organisations' education, training and development need should be a multi-disciplinary activity. This multi-disciplinary team should consist of at least education, training and development design and development specialists, as well as subject matter experts who know the system and the context of the system.

Although there is an argument for a multi-disciplinary approach and the allocation of arbitrary levels, the hierarchical structure of the Department of Defence compels one to define areas of responsibility with clear boundaries. This means that a multi-disciplinary approach might be followed during each stage of the education, training and development process, but the final responsibility for execution will be dedicated to a specific organisation level at a particular stage. This notion will, therefore, be true for every education, training and development stage discussed in the rest of this section.

In the South African National Defence Force the primary responsibility for determining the education, training and development problem of the organisation at macro-level lies with the strategic level of the organisation. The people who are involved in education, training and development at this level are situated at the service and divisional levels and bear senior ranks. However, education, training and development providers at the micro organisational level are also involved in the identification of the education, training and development need at strategic level.

Stage 1 means, in the South African National Defence Force, the identification of an education, training and development need as a result of changes in the organisational, national and international environments. These changes are often the result of the purchasing of new equipment and weaponry platforms. They could also be a result of restructuring and transformation in the organisation. Another reason for determining the education, training and development need at this stage is the need to revise and update existing learning opportunities.

Table 3.4 Education, training and development practitioner roles at stage 1: Determine the education, training and development problem

STAGE 1: DETERMINE THE EDUCATION, TRAINING AND DEVELOPMENT PROBLEM		
<i>ROLE: TRAINING MANAGEMENT</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Strategic level	<ul style="list-style-type: none"> ❑ ETD managers at the services, divisions and formations ❑ ETD researchers ❑ ETD design and development specialists 	<ul style="list-style-type: none"> ❑ Conduct a situational analysis to determine the education, training and development problem. ❑ Compile education, training and development goals and objectives.

3.4.2 Stage 2: Analyse the education, training and development need

The purpose of this stage is to determine the learning outcomes at various levels. This stage entails an analysis of:

- ❑ ***The education, training and development need.*** In the South African National Defence Force this would mean a description of the operational specification for competence at the various organisational levels.
- ❑ ***The relevant learner characteristics.*** This means determining the desired and existing competence profiles of the learners.

- ❑ **The relevant work-setting characteristics.** This means an analysis of the instructional development environment, the delivery environment and the workplace environment in which the learners will apply the acquired knowledge, skills and attitudes.
- ❑ **The workplace.** This includes a job analysis, a task analysis and a content analysis.

In Chapter 2 (see section 2.4.4.1), four levels of analysis were identified and described. In this section it is argued that it is possible to link these four levels of analysis with the organisational levels of the South African National Defence Force. In Table 3.5 the typical activities and outputs associated with a particular organisational level are summarised for each level of analysis.

Table 3.5 Education, training and development practitioner roles at stage 2: Analyse the education, training and development need

STAGE 2: LEVEL 1 ANALYSIS (MACRO-SANDF)		
ROLE: RESEARCH AND NEEDS ANALYSIS		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Strategic level (Services and division level)	<ul style="list-style-type: none"> ❑ ETD managers* ❑ ETD researchers* ❑ ETD design and development specialists* <p>(* From various organisational levels and ranks)</p>	<ul style="list-style-type: none"> ❑ Conduct a macro (comprehensive) needs analysis to compile the performance and competence gap at macro-level. ❑ Conduct a scoping exercise and an outcomes analysis to compile a competence profile and titles matrix with the relevant standard generating bodies. ❑ Conduct a work setting analysis to compile overarching education, training and development strategies for the design, delivery and application of learning. ❑ Conduct a job analysis to compile learning pathways (if necessary). ❑ Determine the relevant subjects and/or the content. ❑ Analyse learner characteristics to compile overarching education, training and development strategies. ❑ Compile exit outcomes for qualifications and learning programmes

The education, training and development need is described, at level 1, in broad competency gap terms, for example: "The purchasing of the new armour will require the following new learning opportunities", or "Participation in joint operations with the United Nations will require the following learning opportunities". Exit outcomes for qualifications and learning programmes are also defined at this level.

STAGE 2: LEVEL 1 ANALYSIS (MESO-SANDF)		
ROLE: RESEARCH AND NEEDS ANALYSIS		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Operational level (Division or formation level)	<ul style="list-style-type: none"> <input type="checkbox"/> ETD managers* <input type="checkbox"/> ETD researchers* <input type="checkbox"/> ETD design and development specialists* <p>(* From various organisational levels and ranks)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Conduct a micro (situation specific) needs analysis that is appropriate for the specific division or formation. <input type="checkbox"/> Conduct a job and task analysis to analyse the knowledge, skills, attitudes and behaviours needed (if necessary). <input type="checkbox"/> Confirm education, training and development requirements with the client and ETD providers. <input type="checkbox"/> Define the competence gap. <input type="checkbox"/> Compile a competence profile of the competences necessary for a particular job. <input type="checkbox"/> Determine the relevant subjects and/or the content. <input type="checkbox"/> Conduct a work-setting analysis of the division/formation that includes the development, delivery and application environments. <input type="checkbox"/> Analyse learner characteristics to compile curriculum statements. <input type="checkbox"/> Compile exit outcomes for learning programmes.

Education, training and development role players at the meso-level are responsible for determining what competences or outcomes the clients require from the new (or old) learning opportunity that will enable learners to perform their duties in the workplace. Interviews could be conducted with job incumbents and their supervisors, if necessary and feasible, to complete the competence profile and to determine the competence gap. The exit outcomes for learning programmes will be confirmed and subjects and/or content will be identified. The learning programmes that need to be developed and delivered by the ETD providers will be defined.

STAGE 2: LEVEL 2 ANALYSIS (MESO- AND MICRO-SANDF)		
ROLE: RESEARCH AND NEEDS ANALYSIS		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
<input type="checkbox"/> Operational level (Formation level) <input type="checkbox"/> Tactical level (ETD provider level)	<input type="checkbox"/> ETD managers* <input type="checkbox"/> ETD researchers* <input type="checkbox"/> ETD designers and developers* <i>(* From various organisational levels and ranks)</i>	<input type="checkbox"/> Confirm education, training and development requirement and purpose. <input type="checkbox"/> Conduct a needs analysis for the relevant learning programmes, if it was not done by the higher organisational level. <input type="checkbox"/> Conduct a work-setting analysis if it was not done by the higher level or done in collaboration with the higher level. <input type="checkbox"/> Analyse the learner characteristics. <input type="checkbox"/> Conduct a task analysis if necessary. <input type="checkbox"/> Determine learning outcomes (i.e., exit outcomes, specific outcomes, assessment criteria, essential embedded knowledge and critical cross-field outcomes). <input type="checkbox"/> Align learning outcomes with unit standards (if applicable). <input type="checkbox"/> Compile unit standards if applicable. <input type="checkbox"/> Analyse learning outcomes to determine: <ul style="list-style-type: none"> ▪ The instructional content. ▪ The instructional sequence. ▪ The instructional methods. ▪ The learner group size. ▪ The entry level requirements. ▪ The learning support material. ▪ The required resources.

At level 2 of needs analysis, the intermediate and enabling objectives are determined and listed in terms of learning outcomes. The operational requirements stated by the client, and aligned with unit standard(s) where possible, are converted into practical, tangible and substantive learning outcomes.

The analysis is reflected in a formatted document that describes the strategy to be followed and resources required by the ETD practitioner to achieve the education, training and development goals and objectives.

STAGE 2: LEVEL 3 ANALYSIS (MICRO-SANDF)		
<i>ROLE: RESEARCH AND NEEDS ANALYSIS</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Tactical level (ETD provider level)	<input type="checkbox"/> ETD managers <input type="checkbox"/> ETD researchers <input type="checkbox"/> ETD design and development specialists	<input type="checkbox"/> Identify the applied competence requirements, i.e., the foundational competence, the practical competence and the reflective competence. <input type="checkbox"/> Classify applied competence (knowledge, skills and attitude in terms of taxonomies and SAQA level descriptors. <input type="checkbox"/> Identify learning outcomes and cluster them to form learning units. <input type="checkbox"/> Determine learning events. <input type="checkbox"/> Identify suitable instructional methods. <input type="checkbox"/> Identify assessment requirements. <input type="checkbox"/> Align learning outcomes with content; instructional methods and tactics; and assessment methods.

Level 3 of needs analysis is reflected in a formatted document that describes the learning outcomes and events planned for a learning facilitation session. It is better known as a learning event plan.

This level also means analysing learning outcomes (unit standards if they exist) to determine what the learners should know and do to achieve the outcome and what the ETD practitioner should do and have in terms of learning support materials to foster the achievement. The learning outcome to demonstrate the ability to use the equipment is now linked with, for example, a lecture, a demonstration and a practical exercise to transfer learning and assess the learners' competence.

STAGE 2: LEVEL 4 ANALYSIS (MICRO-SANDF)		
ROLE: RESEARCH AND NEEDS ANALYSIS		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD provider level)	<input type="checkbox"/> ETD designers and developers	<input type="checkbox"/> Analyse learning outcomes to identify and describe the underpinning knowledge, skills and attitude requirements to compile: <ul style="list-style-type: none"> ▪ The learning support material. ▪ The assessment instruments and guides.
	<input type="checkbox"/> ETD facilitator	<input type="checkbox"/> Determine the detail for facilitating the learning event. <i>This means planning examples, motivators and exercises.</i>

Level 4 of the needs analysis entails an analysis of the learning outcomes (unit standards if they exist) to determine the content of the learning support material and assessment instruments and guides. The media experts will decide at this level on the media mix and the use of humour, colour and special effects. Examples, motivators and exercises are planned.

3.4.3 Stage 3: Design and develop the education, training and development intervention

As in the case of the analysis stage, the design and development stage is characterised by four levels. The design and development levels correspond with the levels of needs analysis. Information that was obtained and decisions that were made at the different levels of the needs analysis stage direct, guide and influence the products that are designed and developed at the different levels.

In the South African National Defence Force the purpose of this stage is to design and develop education, training and development products, such as strategies, plans and learning support material that will ensure the systematic provision of education, training and development opportunities. This stage is essentially the conversion of the outcomes determined at the various levels of analysis into practical education, training and development strategies, plans and learning support material that could be used by ETD practitioners to facilitate the transfer of learning.

Table 3.6 Education, training and development practitioner roles at stage 3:
Design and develop education, training and development

STAGE 3: LEVEL 1 DESIGN AND DEVELOPMENT (MACRO-SANDEF)		
<i>ROLE: DESIGN AND DEVELOP</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Strategic level (Service and division level)	<ul style="list-style-type: none"> <input type="checkbox"/> ETD managers* <input type="checkbox"/> ETD researchers* <input type="checkbox"/> ETD design and development specialists* <p>(* From various organisational levels and ranks)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Compile learning pathways for functional and military training: <ul style="list-style-type: none"> ▪ Common learning pathways for the Department of Defence. ▪ Unique learning pathways for the services and divisions. <input type="checkbox"/> Compile workplace skills plans for the Department of Defence, services and divisions. <input type="checkbox"/> Compile qualifications.

In essence learning means a list of the relevant qualifications and/or courses, which could be either credit-bearing or non-credit-bearing or both (in sequence if possible).

STAGE 3: LEVEL 1 DESIGN AND DEVELOPMENT (MESO-SANDF)		
ROLE: DESIGN AND DEVELOP		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
<input type="checkbox"/> Strategic level (Service and division level) <input type="checkbox"/> Operational level (Formation level)	<input type="checkbox"/> ETD managers* <input type="checkbox"/> ETD researchers* <input type="checkbox"/> ETD design and development specialists* <i>(* From various organisational levels and ranks)</i>	<input type="checkbox"/> Compile curriculum statements that: <ul style="list-style-type: none"> ▪ Provide an overview of the qualification in terms of its purpose, the background, the structure, entry level requirements and the target group description. ▪ Align the learning programmes and unit standards with qualification and describe articulation with other qualifications(s) and learning pathways. ▪ Describe the assessment strategies in terms of the patterns of assessment, the methods of assessment, moderation strategies, recognition of prior learning opportunities, and assessment and moderation requirements. ▪ Describe the qualification design and delivery in terms of the preferred training delivery mode, practical reinforcement requirements in the work environment, time allocation, prescribed content, suggested instructional strategies and methods, learning strategies, and learning support material and equipment. ▪ Describe the learner support requirements in terms of the learner roles and responsibilities, provider roles and responsibilities, line management responsibilities. ▪ Describe the programme evaluation.

The curriculum statement that is designed at level 1 provides an overview of the learning opportunities that are provided by the various ETD providers within that service, division or formation. In the curriculum statement the focus is on providing a holistic picture of the education, training and development in the service, division or formation.

STAGE 3: LEVEL 2 DESIGN AND DEVELOPMENT (MESO- AND MICRO-SANDF)		
ROLE: DESIGN AND DEVELOP		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
<input type="checkbox"/> Operational level (Formation level) <input type="checkbox"/> Tactical level (ETD provider level)	<input type="checkbox"/> ETD managers* <input type="checkbox"/> ETD researchers* <input type="checkbox"/> ETD design and development specialists* <i>(* From various organisational levels and ranks, for example ETD practitioners from ETD providers.)</i>	<input type="checkbox"/> Compile learning programme strategies that: <ul style="list-style-type: none"> ▪ Provide an overview of the learning programme in terms of its purpose, the background, the structure, entry level requirements and the target group description. ▪ Align the learning programme with unit standards and describe articulation with other qualifications(s) and learning programmes. ▪ Describe the assessment strategies in terms of the patterns of assessment, the methods of assessment, moderation strategies, recognition of prior learning opportunities, and assessment and moderation requirements. ▪ Describe the learning programme design and delivery in terms of the preferred instructional and learning strategies, practical reinforcement requirements in the work environment, time allocation, prescribed content, suggested instructional methods, learning strategies, and learning support material and equipment. ▪ Describe the learner support requirements in terms of the learners' roles and responsibilities, providers' roles and responsibilities, line management responsibilities. ▪ Describe the programme evaluation. <input type="checkbox"/> Compile learning facilitation plans to serve as a guide to facilitators on the learning outcomes and content as well as suggested facilitation and assessment methods.

The content of the learning programme strategy that is designed at level 2 of the design and development stage, is similar to that contained in the curriculum statement. It is, however, much more specific and detailed. Learning programme strategies that are developed are applicable to a specific ETD provider. Depending on the size of the ETD provider and the organisational structure, it might be necessary to compile several learning programme strategies, for example a learning programme strategy for each wing or centre. The learning programme strategy will describe in detail the who, what, with what, when and where of facilitation, learning, assessment, learner support and evaluations. In the learning programme strategy the focus is on implementation and execution.

STAGE 3: LEVEL 3 DESIGN AND DEVELOPMENT (MICRO-SANDF)		
<i>ROLE: DESIGN AND DEVELOP</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Tactical level (ETD provider level)	<input type="checkbox"/> ETD design and development specialists	<input type="checkbox"/> Compile learning support material that comprises: <ul style="list-style-type: none"> ▪ Learning material. ▪ Learning media. ▪ Assessment instruments. ▪ Assessment guides. ▪ Facilitation guides.
	<input type="checkbox"/> ETD facilitators	<input type="checkbox"/> Compile learning event plans that describe the learning facilitation events to put the learning programme and learning facilitation plans into action. It should include at least: <ul style="list-style-type: none"> ▪ Facilitator activities. ▪ Learner activities. ▪ Assessment activities. ▪ Feedback activities for continuous improvement. ▪ Time allocation. ▪ Resources required.

At level 3 of the design and development stage, the learning event plan is the plan compiled by the facilitator and used to execute the transfer of learning. The ETD facilitator who presents the learning event usually compiles the learning event plan. ETD designers and developers are usually only involved in a consultative capacity in the compilation of learning event plans.

STAGE 3: LEVEL 4 DESIGN AND DEVELOPMENT (MICRO-SANDF)		
ROLE: DESIGN AND DEVELOP		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD provider level)	<input type="checkbox"/> ETD designers and developers	<input type="checkbox"/> Make design and development decisions on, for example: <ul style="list-style-type: none"> ▪ The sizes of the learning steps. ▪ Diagram and illustrations to enhance comprehension. ▪ Assessments to be conducted. ▪ When to pilot.
	<input type="checkbox"/> ETD facilitator	<input type="checkbox"/> Make facilitation decisions on, for example: <ul style="list-style-type: none"> ▪ The language level. ▪ What examples to use. ▪ What motivators to use.
	<input type="checkbox"/> ETD media expert	<input type="checkbox"/> Make media design and development decisions on, for example: <ul style="list-style-type: none"> ▪ The media mix. ▪ The use of humour. ▪ The use of colour. ▪ The use of special effects.
	<input type="checkbox"/> Computerised learning designer and developer	<input type="checkbox"/> Develop computerised learning material to transfer knowledge contents through step-by-step processes in a format similar to that of PowerPoint presentations. <input type="checkbox"/> Develop computer assisted instruction materials where the computer packages supplement facilitator-led training by providing additional drills and tutorials. <input type="checkbox"/> Develop computer managed instruction material where the computer assesses the trainee's initial level of competence and then provides a customised set of learning modules and exercises. <input type="checkbox"/> Develop computer-based learning material through which an entire learning programme is mediated by the computer in terms of presentation of content, active learner participation, guidance for the learner, assessment of the learner's progress and tracking of the learner's progress. <input type="checkbox"/> Develop hypermedia environments interlinking on-line information through an intranet or internet. <input type="checkbox"/> Develop knowledge construction environments through collaboration such as e-mails, chat rooms or bulletin boards.

3.4.4 Stage 4: Deliver education, training and development

The delivery of education, training and development is primarily the responsibility of the ETD provider. The ETD practitioner performs mainly three roles during this stage: facilitator, assessor/moderator and learner supporter. Involvement during the delivery process entails the presentation/delivery of the designed education, training and development opportunities. It also entails an evaluation of the effectiveness and efficiency of the learning opportunity by formally assessing the learner body performance through diagnostic, integrated, formative and summative assessments. Learner support is provided throughout the delivery process. The delivery process is initiated, performed and concluded by way of the prescribed ETD administrative actions. Although the performance of administrative tasks is an integral aspect of delivery, the administrative role is discussed separately since it forms part of the management and administration role, which applies to all the stages of the ETD process, not only the delivery stage.

Table 3.7 Education, training and development practitioner roles at stage 4: Deliver education, training and development

STAGE 4: DELIVER EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF)		
ROLE: FACILITATION		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD provider level)	<input type="checkbox"/> ETD facilitator	<input type="checkbox"/> Present purposeful learning facilitation aimed at the achievement of outcomes. <input type="checkbox"/> Present learning facilitation in a flexible manner, using a variety of facilitation approaches and methodologies. <input type="checkbox"/> Facilitate computerised training (if applicable). <input type="checkbox"/> Use and operate a learning management system (if applicable). <input type="checkbox"/> Promote collaborative learning. <input type="checkbox"/> Create an environment conducive to a variety of opportunities for successful learning.

During the fourth stage learning is facilitated at a specific time and place, with given resources, according to the learning facilitation plan and learning event plans, using a variety of appropriate facilitation methods and activities.

STAGE 4: DELIVER EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF) (CONTINUED)		
ROLE: ASSESSMENT		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD provider level)	<input type="checkbox"/> ETD assessors	<input type="checkbox"/> Assess learning against stated outcomes. <input type="checkbox"/> Use a variety of appropriate assessment methods and activities to conduct assessments. <input type="checkbox"/> Provide continuous constructive feedback to learners.

Assessment means making judgements on the progress made in terms of the transfer of learning. Formative, summative and integrated assessments are conducted using a variety of assessment methods and activities. The assessments are performed according to an assessment plan that should concur with SAQA prescripts. The assessment results in feedback to the learner for corrective action and reinforcement.

STAGE 4: DELIVER EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF) (CONTINUED)		
ROLE: MODERATION		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD provider level)	<input type="checkbox"/> ETD moderators	<input type="checkbox"/> Moderate assessments to ensure that fair, valid and reliable assessments are conducted.

Assessments are, therefore, moderated to ensure compliance with SAQA prescripts and principles for assessment.

STAGE 4: DELIVER EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF) (CONTINUED)		
<i>ROLE: LEARNER SUPPORT</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD provider level)	<input type="checkbox"/> ETD facilitators	<input type="checkbox"/> Assist and support learners in, for example: <ul style="list-style-type: none"> ▪ The completion of assignments. ▪ The establishment of a learning community. ▪ Obtaining recognition of prior learning. <input type="checkbox"/> Guide and counsel learners in, for example: <ul style="list-style-type: none"> ▪ Personal problems. ▪ Study problems. <input type="checkbox"/> Coach learners to improve their competence. <input type="checkbox"/> Mentor learners to develop and empower them for their future careers.

During the delivery stage, it is the responsibility of ETD practitioners to identify learning support needs and to provide guidance and support where necessary. It also implies monitoring learners' progress and referring them when necessary.

3.4.5 Stage 5: Evaluate education, training and development

The evaluation of education, training and development entails the validation of the quality of the outcome in terms of a formal comparison of the client specifications with the actual job performance of the learner body. The purpose is to show quality improvement as proof of the transfer of learning. The result is suggestions for reinforcement of desired practices and corrective action to address quality gaps.

Because of the hierarchical structure of the Department of Defence, as well as the existence of various levels for analysis and design, it is deduced that the evaluation outcomes will also be hierarchically distributed. This implies that, as in the case of stages 2 (analysis) and 3 (design and development), the responsibilities of ETD practitioners in terms of the evaluation of education, training and development should differ from one organisational level to the other. The proposal for the evaluation responsibilities associated with the levels of the South African National Defence Force is summarised in Table 3.8.

Table 3.8 Education, training and development practitioner roles at stage 4: Evaluate the education, training and development

STAGE 5: LEVEL 1 EVALUATION OF EDUCATION, TRAINING AND DEVELOPMENT (MACRO-SANDF)		
<i>ROLE: QUALITY ASSURANCE AND EVALUATION</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Strategic level (Services and division levels)	<input type="checkbox"/> ETD managers	<input type="checkbox"/> Determine whether the education, training and development provided by the Department of Defence as an organisation will comply with the legislation, obligations, strategies, goals and objectives of the international environment, national environment, Department of Defence and statutory bodies. <input type="checkbox"/> Determine whether education, training and development in the Department of Defence are effective and efficient. <input type="checkbox"/> Determine whether the curriculum statements will contribute to the design, development, implementation and maintenance of effective and efficient education, training and development systems. <input type="checkbox"/> Determine the impact of the education, training and development on the organisation.

Quality assurance and evaluations at level 1 are conducted to confirm that the South African National Defence Force will provide properly trained task forces and groups that will comply with international standards for internal and foreign operations. It also means confirming that the South African National Defence Force will succeed in providing education, training and development that will concur with the national training strategy to develop responsible citizens that will contribute to the social and economic development of the country.

STAGE 5: LEVEL 2 EVALUATION OF EDUCATION, TRAINING AND DEVELOPMENT (MESO-SANDF)		
<i>ROLE: QUALITY ASSURANCE AND EVALUATION</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Operational level (Formation level)	<input type="checkbox"/> ETD managers <input type="checkbox"/> ETD quality assurors and evaluators	<input type="checkbox"/> Determine whether the education, training and development goals of the formations will comply with national and international standards. <input type="checkbox"/> Determine whether the curriculum statements will contribute to the design, development, implementation and maintenance of effective and efficient education, training and development systems. <input type="checkbox"/> Determine whether the learning programme strategies developed by ETD providers will contribute to the design, development, implementation and maintenance of effective and efficient education, training and development systems at the ETD provider level. <input type="checkbox"/> Determine whether the education, training and development delivered by the ETD provider is cost-effective. <input type="checkbox"/> Determine the effectiveness and the efficiency of the quality management systems of the ETD provider. <input type="checkbox"/> Determine the extent to which a change in behaviour has occurred and is being applied and demonstrated by the incumbent as a result of the education, training and development.

Level 2 quality assurance and evaluations mean confirmation that education, training and development will be provided that comply with operational specifications, i.e., the provision of combat-ready systems of a specific type, including training exercises and the support of these. It also means that the organisation's education, training and development outcomes are clearly defined and will be met by the proposed strategies and plans of action. It means, furthermore, confirming that the ETD provider will implement education, training and development according to plan in the most effective and efficient manner.

STAGE 5: LEVEL 3 EVALUATION OF EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF)		
<i>ROLE: QUALITY ASSURANCE AND EVALUATION</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Tactical level (ETD provider)	ETD practitioner at ETD provider performing roles as: <input type="checkbox"/> ETD managers <input type="checkbox"/> ETD quality assurors and evaluators	<input type="checkbox"/> Determine whether the education, training and development provided by the ETD provider will concur with the legislation, obligations, strategies, goals and objectives of the international environment, national environment, Department of Defence and statutory bodies. <input type="checkbox"/> Determine whether the learning programme strategies are aligned with the curriculum statements. <input type="checkbox"/> Determine whether the quality management systems comply with SAQA guidelines and criteria. <input type="checkbox"/> Determine whether the education, training and development provided by the ETD provider are effective and efficient. <input type="checkbox"/> Determine whether the learning facilitation is successful in achieving the transfer of learning to the workplace. <input type="checkbox"/> Determine the learners' reaction to the learning opportunities.

Quality assurance and evaluations are conducted at level 3 to confirm that the ETD provider provides an effective and efficient education, training and development service in accordance with the organisational (clients') need to deliver properly trained individuals who are able to perform a task successfully and completely. The evaluation is also performed to determine whether the processes and procedures comply with SAQA guidelines in order to achieve and maintain accreditation as an ETD provider. Evaluations should also confirm that the education, training and development comply with the required national and international standards of standards-regulating organisations and associations. It also means identifying those aspects that need to be rectified or re-inforced to ensure continuous improvement.

STAGE 5: LEVEL FOUR EVALUATION OF EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF)		
ROLE: QUALITY ASSURANCE AND EVALUATION		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD practitioner)	<input type="checkbox"/> ETD facilitator	<input type="checkbox"/> Determine whether the learning outcomes have been achieved successfully during the learning facilitation sessions. <input type="checkbox"/> Determine the learners' reaction to the learning opportunities. <input type="checkbox"/> Review the learning facilitation session to determine strengths and weaknesses for continuous improvement. <input type="checkbox"/> Review own performance and identify areas for improvement.

At level 4 of quality assurance and evaluation, the facilitator reviews the learning facilitation sessions and learning events to determine whether the learning outcomes have been achieved. It also means identifying those factors that impede successful facilitation of learning, as well as identifying best practices to ensure continuous improvement.

3.4.6 Manage, administer and coordinate education, training and development

In the South African National Defence Force the term *ETD manager* refers to those incumbents whose primary responsibility is the management of the education, training and development function. ETD managers are appointed at the various organisational levels of the organisation and their responsibilities in terms of the management of education, training and development will differ depending on the level they are appointed at. Some of the ETD managers, including those appointed at the ETD provider level, do not always form part of the ETD practitioner occupation. If their primary responsibility is the general management of education, training and development for the service, division, formation or ETD provider, they form part of the management occupation

At the ETD provider level the ETD practitioners who are referred to as ETD managers include those members that are responsible for commanding an organisational element such as a wing or a branch at the ETD provider. In addition to their general management tasks, these incumbents are primarily responsible for the administration and coordination of the

education, training and development provided by the ETD provider. They are frequently involved in the facilitation of learning as well.

Education, training and development management responsibilities also correspond with the various organisational levels of the South African National Defence Force. In Table 3.9 a summary is provided of the management responsibilities of ETD practitioners at the various levels of the South African National Defence Force.

Table 3.9 Education training and development practitioner roles: Manage, administer and coordinate education, training and development

LEVEL ONE MANAGEMENT OF EDUCATION, TRAINING AND DEVELOPMENT (MACRO-SANDEF)		
<i>ROLE: MANAGE, ADMINISTER AND COORDINATE</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Operational level (Strategic level)	<input type="checkbox"/> ETD managers	<input type="checkbox"/> General management of education, training and development of the service or division. <input type="checkbox"/> Compile and oversee long-term education, training and development strategies for the Department of Defence, services and divisions. <input type="checkbox"/> Compile and oversee overarching education, training and development strategies and policies for the Department of Defence, services and divisions. <input type="checkbox"/> Compile and oversee short-term plans to address immediate challenges.

Education, training and development management at level 1 entails providing the framework and direction for lower levels to plan and deliver education, training and development. It also means leveraging support mechanisms to enable education, training and development in the Department of Defence, the services and divisions.

LEVEL 2 MANAGEMENT OF EDUCATION, TRAINING AND DEVELOPMENT (MESO-SANDF)		
<i>ROLE: MANAGE, ADMINISTER AND COORDINATE</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Operational level (Formation level)	<input type="checkbox"/> ETD managers	<input type="checkbox"/> General management of education, training and development of the formation. <input type="checkbox"/> Compile and oversee education, training and development policies, orders and instructions for the formation. <input type="checkbox"/> Establish collaborative partnerships between the role players. <input type="checkbox"/> Compile and oversee short-term plans to address immediate challenges.

Level 2, education, training and development management provides the framework and direction for lower levels to plan and deliver education, training and development. It also means leveraging support mechanisms to enable education, training and development in the formation.

LEVEL 3 MANAGEMENT OF EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF)		
<i>ROLE: MANAGE, ADMINISTER AND COORDINATE</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Tactical level (ETD provider)	<input type="checkbox"/> ETD managers	<input type="checkbox"/> General management of education, training and development of the ETD provider, or an element of it such as a school, centre, wing or a branch. <input type="checkbox"/> Compile and oversee education, training and development standard operational orders and instructions for the ETD provider. <input type="checkbox"/> Establish collaborative partnerships between the role players. <input type="checkbox"/> Compile and oversee short-term plans to address immediate challenges. <input type="checkbox"/> Coordinate learning programme(s). <input type="checkbox"/> Manage the accreditation status of the unit. <input type="checkbox"/> Manage recognition of prior learning. <input type="checkbox"/> Manage the quality management system of the unit.

Education, training and development management at level 3 means providing the framework and direction for ETD practitioners to plan and deliver education, training and development. It also means leveraging support mechanisms to enable education, training and development by ETD practitioners.

LEVEL 4 MANAGEMENT OF EDUCATION, TRAINING AND DEVELOPMENT (MICRO-SANDF)		
<i>ROLE: MANAGE, ADMINISTER AND COORDINATE</i>		
Responsible organisational level	Education, training and development role players	Education, training and development role competence
Technical level (ETD practitioner)	<input type="checkbox"/> ETD practitioner	<input type="checkbox"/> Plan and prepare the learning facilitation sessions in accordance with the learning programme strategy. <input type="checkbox"/> Plan and prepare media for the learning facilitation sessions. <input type="checkbox"/> Ensure cost-effective handling of learning materials and facilitation of learning. <input type="checkbox"/> Administer learner records. <input type="checkbox"/> Ensure timely notification of problems and suggestions for the improvement/solution of all training-related matters. <input type="checkbox"/> Review the learning facilitation session to determine strengths and weaknesses for continuous improvement. <input type="checkbox"/> Review own performance and identify areas for improvement.

Education, training and development management at the technical level, i.e., level 4, means planning and preparing the learning facilitation sessions to ensure successful facilitation of learning in a cost-effective manner. It also means managing personal individual development plans.

3.5 CONCLUDING REMARKS

The ETD practitioner is a key role player in the execution of the education, training and development process, and thus the ETD subsystem of the South African National Defence Force. ETD practitioners not only form an integral part and key element of the ETD system, but their continuous commitment and competence are also fundamental to any South African National Defence Force system's efficiency and effectiveness. In this regard Cole (2002: 38)

notes: "The competence of the 'ETD practitioners' both with regard to their ability to transfer learning and their functional specialisation needs to be determined, and they should have enthusiasm and commitment for the task at hand." Hence, it is necessary to understand the competences required by the ETD practitioner to ensure the effective and efficient utilisation of ETD practitioners. An understanding of the competences is also required to design training and development strategies to ensure qualified ETD practitioners for the continuous maintenance and improvement of the Department of Defence as a whole.

To understand the roles and levels of competence of ETD practitioners in the South African National Defence Force, a proposed competence profile was constructed from a systems perspective, as well as the outcomes-based education and training perspective. Each of the competences that were described at the various instructional systems design stages and levels, and the applicable roles and performance levels, require a specific set of knowledge, skills and attitudes that could be hierarchically structured from less complex to more complex.

The proposed competence profile clearly indicates that although an ETD practitioner might be appointed in a post with a specific post title, that post title could refer to the primary education, training and development role that is performed. However, the ETD practitioner will most probably perform several other roles as well, within a given post title. It is, therefore, imperative for developing a learning pathway for ETD practitioners in the South African National Defence Force, that the focus should not only be on the post title, but also on the job description for the particular incumbents at the various organisational levels.

The proposed competence profile, outlined in this chapter, forms the desired competence profile against which the actual utilisation of ETD practitioners are tested in the chapters to follow. To understand the arbitrary nature and complex environment of the ETD practitioner, the macro-, meso- and micro-organisational levels of the South African National Defence Force were discussed in this chapter with reference to the impact it has on the various ETD practitioner roles. However, to demarcate the study, the research in this study has been limited to ETD practitioners at the ETD provider level only, i.e., the micro organisational level of the South African National Defence Force. In the discussions in Chapters 4 and 5, the focus will therefore be on the competence profile of ETD practitioner at the micro-organisational level of the South African National Defence Force only.

Chapter 4

Research Design and Methodology

4.1 INTRODUCTION

The purpose of this chapter is to describe the research design and methodology that were used in this study. The chapter commences with a description of the research problem. The research problem emphasises the need for the development of a competence profile of education, training and development practitioners (ETD practitioners) that will describe the different roles they perform in the South African National Defence Force in order to develop suitable and appropriate training strategies that are aligned with career path strategies. Thereafter the research design and methodology are described. A primarily positivist social science approach was followed. The study was grounded on the theory of a systems approach to education, training and development by means of inductive and deductive reasoning processes. An applied research approach and a primarily quantitative approach were used as the research strategy. Needs assessment was selected as the methodology to compile the competence profile. A purposeful and convenience non-random sample was selected. Because the research was primarily quantitative in nature, a survey research methodology was used with structured and semi-structured questionnaires to collect the data. Descriptive statistics was used to analyse the data and crosstabs were selected to perform the statistical tests. The chapter is concluded with a description of the various measures that were put in place to increase the reliability and validity of the study.

It is important to note that the research problem described in this study is part of a larger project in the South African National Defence Force to develop career path strategies and training strategies for ETD practitioners that are aligned with one another. The magnitude of the larger project renders it inappropriate for the purposes of this study, which therefore focuses only on a specific aspect of the larger Department of Defence project. In addition, a restriction has been placed on the disclosure of information pertaining to the Department of Defence. Hence the research design and methodology discussed in this chapter are appropriate for only those results that could be disclosed and that are subsequently discussed in Chapter 5.

4.2 THE RESEARCH BACKGROUND TO THE STUDY

4.2.1 The research problem and motivation for the study

The Department of Defence is described as a learning organisation in which education, training and development are considered essential and at the core of military proficiency and the upholding of standards. The ETD practitioner is a key role player in the education, training and development subsystem of the Department of Defence. Hence, the ETD practitioners in the Department of Defence have to be well trained and motivated themselves in order to render an education, training and development service that will deliver highly competent Department of Defence members who are performing optimally to ensure that the organisation will achieve its goals and objectives. The ETD practitioners are, therefore, in just as much, if not greater, need of professional development as those that they have to train.

In an attempt to motivate and retain qualified ETD practitioners, the Department of Defence is investigating the possibility of a special dispensation for ETD practitioners that will recognise their unique profile and roles. One of the proposals to achieve this is to provide ETD practitioners with an education, training and development career in the Department of Defence for which they will be thoroughly prepared and effectively utilised (DOD, 1998b:84). At the same time, while investigating such a career, the training requirements that are associated with it have to be investigated to ensure that the ETD practitioners will be sufficiently qualified in good time to perform successfully.

A need was identified to gain insight into how the ETD practitioners in the South African National Defence Force are utilised, in order to develop a career pathway, as well as a training strategy for them. Hence, this study was undertaken to investigate the main research problem of the lack of a clearly defined competence profile of ETD practitioners involved in mixed mode training delivery in the Department of Defence, in order to develop a flexible, progressive, portable and output-driven education, training and development career path and training strategy for them. The purpose of the study is to compile a competence profile that would describe the utilisation of ETD practitioners in the South African National Defence Force.

4.2.2 Research questions

The following sub-problems and research questions are deduced from the main research problem:

Firstly, competence profiling is useful for recruiters to select, managers to manage, trainers to train, and career planners to plan concurrent to collective national and organisational images of the capabilities required to do a job. It seems, however, that the competence profiles of ETD practitioners in the South African National Defence Force, including those involved in mixed mode training delivery, are not sufficiently and adequately formulated in terms of the roles and competences that are required to fulfil their education, training and development task. There is, therefore, a need for a suitable and sufficient competence profile for ETD practitioners in the Department of Defence. The following research questions are consequently posed to clarify and describe the nature of the required ETD practitioner roles and the competences:

- ? *What roles are required of ETD practitioners in the South African National Defence Force?*
- ? *What core competences are required for the different roles associated with ETD practitioners in the South African National Defence Force?*

Secondly, there is a need to link the training and development of ETD practitioners with their career paths. According to the research results from a preceding study (see par. 1.2.3) it seems that competency profiling might provide an appropriate organising principle to map the developmental requirements of an ETD practitioner and subsequently an ETD career path. Competence profiling might contribute to the identification and description of the different levels of progression of ETD practitioners from the lower levels to the higher ones in terms of roles and competences. The following research questions are posed to explore the different levels with regard to roles and competences:

- ? *Are there clearly discernable levels for the different roles and competences of ETD practitioners in the South African National Defence Force, and if so, which levels and how many levels exist?*

- ? *What clusters of competences are required by ETD practitioners in the South African National Defence Force and at what levels do these competences apply for the different roles?*
- ? *What factors in terms of, for example, appointment, rank and institutional category, provide the best discernable criteria for an organising principle?*

4.3 RESEARCH DESIGN

In this section the design of this research study is described in terms of the particular research approach, the reasoning processes and the type of research.

The study followed primarily a positivist social science approach to research through an *exploratory and descriptive study*, which seeks to describe the competence profile of ETD practitioners in the South African National Defence Force. The study aims to explore and describe the utilisation of ETD practitioners in the South African National Defence Force in terms of the various ETD practitioner roles and levels of performance.

Several avenues of inquiry, associated with a positivist social science approach, were followed to determine the applicable ETD practitioner roles at the various performance levels (Neumann, 2006:81-87; Puttergill 2000:24):

- ❑ A theoretical model of a systems approach to instructional systems design was analysed to determine the content of the various roles, as well as the various levels of performance within the education, training and development system.
- ❑ A proposed competence profile was compiled for ETD practitioners in the South African National Defence Force within the instructional systems design.
- ❑ Questionnaires were compiled to determine the actual utilisation of ETD practitioners in the South African National Defence Force. The content of the questionnaires was based on a literature review that was conducted on a systems approach to education, training and development, the instructional systems design model based on and described by Romiszowski, the principles of didactics, and the outcomes-based education and training approach.

- ❑ Empirical data were collected by means of the questionnaires to determine the context for the utilisation of ETD practitioners and the actual utilisation of these members of the South African National Defence Force.
- ❑ The data were statistically processed by means of the Statistical Package for Social Sciences (SPSS^X). Crosstabs were used as the statistical test for descriptive analysis.
- ❑ The results that were obtained from the statistical analysis were finally compared with the theoretical assumptions that were deduced from the literature review and summarised in a proposed competence profile. The purpose of this comparison was to determine the gap between the desired and actual competence profiles of ETD practitioners in the South African National Defence Force.

It is envisaged that the results of this study will contribute to improved measures for the recruitment, selection, appointment, utilisation and development of ETD practitioners in the South African National Defence Force.

Because of the positivist approach, this study was primarily quantitative in nature. Confirmation of a primarily quantitative approach is provided by means of the following summary of the research methodologies used in the study. The research methodologies included a literature review, interviews and focus group discussions to compile a proposed competence profile for ETD practitioners. The aim of these methodologies was to describe the desired end state in hypothetical terms. The construction of a hypothetical model enabled the researcher to compare the reality in terms of the utilisation of ETD practitioners in the South African National Defence Force with the desired result as deduced from the theory. Empirical data collection methods were used that included semi-structured and structured questionnaires. The data were objectively processed and analysed and interpreted by means of statistical techniques. The research methodologies are described in more detail in sections 4.4 and 4.5.

Despite the argument that a positivist social science approach is usually associated with deductive reasoning (Neumann, 2006:82), both inductive reasoning, and deductive reasoning were used to ground this research in theory.

This study did not aim to develop abstract concepts, which are typical of inductive reasoning. Inductive reasoning was, however, used to integrate the results of the literature review into a consolidated understanding of the systems approach to instructional systems design. This led to the development of a proposed competence profile for ETD practitioners in the South African National Defence Force. Deductive reasoning was applied to compare the results of the empirical evidence with this proposed competence profile, which served as a hypothetical model that was derived from the relevant theory (Mouton, 2001:179; Babbie 2001:35).

The literature review focused on theories that provided a holistic overview of the roles and performance levels pertaining to education, training and development. Romiszowki's model of instructional systems was selected, since it provided the best overview of the different stages and levels associated with a systems approach to instructional systems design, which could be applied to the utilisation of ETD practitioners. The empirical design was planned and executed, based on the analysis of this theory. This research approach facilitated an analysis and understanding of the utilisation of ETD practitioners in the South African National Defence Force with the aim to develop suitable and appropriate career and training strategies for these members in future.

In accordance with the typical tools associated with applied research, a needs assessment was selected as the research methodology to pursue the problem of this study. Although applied research usually does not focus much on theory (Grobbelaar, 2000:82; Neumann, 2006:24-25), this study is grounded in a proposed competence profile, which was deduced from the theory of a systems approach to instructional systems design.

4.4 NEEDS ASSESSMENT AS A RESEARCH METHODOLOGY

In section 4.3 it was mentioned that needs assessment is one of the tools used in applied research. This section expands on how needs assessment was used in this study as a research tool, what measures were taken to counter the disadvantages associated with needs assessments and the impact of critical success factors for a needs assessment on this study.

The research methodology described in this chapter is typical of the process used by instructional designers for the development of needs assessment plans (Gupta, 1999; Rothwell & Kazanas, 2004:62-82, Rothwell and Sredl, 1992b:87-133). In education, training

and development, needs assessments are conducted to determine the performance gap, which is an indication of the training need. The performance gap is expressed as the difference between the actual state of competence and the desired state of competence (Dick & Carey, 1996:18; Gupta, 1999:4; Rothwell & Kazanas, 2004:58-59). Two needs assessment approaches were applicable to this study: a strategic needs assessment, and a job and task analysis.

- **A strategic needs assessment approach** based on the work of Gupta (1999:41-42) was adapted and applied as follows in this study:
 - To link performance improvement needs to the business strategy of the organisation it was argued that it is necessary to link the education, training and development outcomes with the organisational requirements of the Department of Defence at the strategic, operational, and tactical levels to ensure that performance improvement is linked to the business strategy of the Department of Defence. As a result a proposed competence profile was compiled to describe the aforementioned linkage.
 - To identify performance improvement opportunities at the organisation's process and job level, a competence profile was compiled for ETD practitioners in the South African National Defence Force. The compilation of a competence profile enabled the identification of the roles that ETD practitioners are required to fulfil, as well as the different levels they are expected to perform at. The competence profile, therefore, provided a map for the education, training and development of ETD practitioners in the South African National Defence Force that will ensure their continuous improvement, progression and transportability.
 - To provide for long-term performance improvement measures, given the reality of a dynamic and ever-changing education, training and development environment, it became necessary to compile an education, training and development plan that would ensure long-term performance improvement. This study identified, as one of the performance improvement measures, the roles and associated activities at various levels that will contribute to the compilation of long-term career and training strategies that are aligned with one another.

- To identify processes that would add value to the organisation, a systems approach was followed in this study. Through compiling a competence profile for ETD practitioners in the South African National Defence force, the progression was indicated from lower to higher levels. This progression from lower levels to higher levels within an education, training and development system implies the identification of a long-term process that should add value to the organisation. ETD practitioners could consequently be educated, trained and developed in time to meet their job requirements.
 - To solve problems that affect core business processes, a systems approach was followed, since it provides justifiable solutions to problems. Using a systems approach made it possible to identify those factors that pose challenges to the education, training and development of ETD practitioners. An environmental analysis was conducted to identify the factors that impede education, training and development service delivery, and affect the utilisation as well as the education, training and development of the ETD practitioners. Although the environmental analysis revealed significant factors that need to be addressed to ensure the required standard of education, training and development service delivery in the South African National Defence Force in the future, some of the results cannot be included in this study, owing to restrictions placed on access to information pertaining to the Department of Defence.
- ***A job and task analysis approach*** based on the work of Gupta (1999:90-92) and Rothwell and Kazanas (2004:127-128) was adapted and applied as follows in this study:
- To develop new or existing job descriptions or position profiles for managerial and non-managerial jobs as part of a performance management system of ETD practitioners in the South African National Defence Force, this study clarified the roles and the associated levels of responsibility of these members. This study also provided a profile of skills sets that are necessary for people to perform competently in a given job. Non-performance according to the competence profile could be an indicator of a training need.
 - To redesign the job of the ETD practitioner in terms of roles and the tasks for each role and to identify the knowledge, skills and attitude required to perform these tasks,

this study included structured questionnaires that listed the roles and associated tasks. From the responses of the ETD practitioners it was possible to compile a competence profile that indicated the actual utilisation of ETD practitioners in the South African National Defence Force. From this competence profile it is possible to deduce the training need, since it indicates what training is required by ETD practitioners at what time in their careers as ETD practitioners in the South African National Defence Force.

- To determine and describe the minimum entry level requirements that are necessary for the selection and recruitment of ETD practitioners, as well as for attending certain education, training and development learning programmes, the competence profile provides a useful tool. The compilation of a competence profile is furthermore useful to conduct performance assessments and workplace skills analysis to determine the performance gap that needs to be addressed. This in turn enables the compilation of individual development plans and workplace skills plans for the ETD practitioners in the South African National Defence Force.
- To determine what additional knowledge, skills, or abilities must be acquired in order for ETD practitioners to move laterally, across or upward, this study described the various roles as well as the levels of performance that could be expected from the ETD practitioners.
- To create a consistent set of training requirements, the terminology that is associated with the roles, tasks and training of ETD practitioners in the South African National Defence Force was standardised in this study. The standardisation of terminology was based on the comparison of traditional ETD terminologies with the terminology recently introduced through the establishment of the South African Qualifications Authority.
- To provide for external factors that may have an impact on the job description and job performance of ETD practitioners, an environmental analysis was conducted to determine environmental factors that might influence the utilisation, performance and training of the ETD practitioners in the South African National Defence Force.

Various corrective measures were taken to address the disadvantages regarding time and cost associated with needs assessments. Appointments were made with the units at times that would not only prove most convenient for the unit in terms of minimal disruption of its normal routines, but that would also ensure the availability of as many of the ETD practitioners as possible. Because of the size of the South African National Defence Force, field workers were trained to assist with the administration of the questionnaires.

To address the disadvantage of an unstable environment because of the practice to rotate ETD practitioners on average every two to three years between education, training and development posts and functional posts, as well as the natural attrition of ETD practitioners, a large sample was purposely selected. It was envisaged that a large sample might counter the effect of this phenomenon on the generalising of the findings.

In this study several critical success factors that are required for a successful needs assessment were achieved. Senior management and line management in the South African National Defence Force welcomed and supported the research throughout. As a result they assisted in coordinating the participation of the identified units and ensured access to these resources. The South African National Defence Force is a learning organisation. Despite the bureaucratic nature that slows down processes, it always tries to keep abreast of external and internal environmental challenges and readiness to change was observed.

To stimulate commitment and interest in the project and the proposed changes, the education, training and development managers (ETD managers) and practitioners were involved in defining the jobs of the ETD practitioners through their participation in the study. In compiling the questionnaires, the ETD managers were granted an opportunity to comment on the content of the pilot questionnaires to ensure that the results would satisfy their needs as well. The pilot questionnaires were also sent to several ETD practitioners for comment. In addition, letters were distributed to the education, training and development providers (ETD providers) included in the sample via their services, divisions and formations to explain the aim, objectives and foreseeable outcomes of the project. This information was also included in the cover letter of the questionnaires. During the collection of the data the respondents were briefed on the aims and objectives of the research.

4.5 RESEARCH METHODOLOGY

In section 4.4 it was described how a needs assessment was used as a tool to conduct applied research and in this case to determine how ETD practitioners are utilised in the South African National Defence Force and what factors influence their utilisation. The typical stages associated with the research process were followed to collect, analyse and interpret the data. In this section sampling, data collection and the processing and analysis of the quantitative data are described.

4.5.1 The research sample

In this study a non-probability sampling technique was used to collect data from ETD practitioners at selected education, training and development providers in the South African National Defence Force.

A purposive and convenience sample was chosen, since it was necessary to select:

- ❑ education, training and development providers that would be representative of:
 - the different services and divisions in the South African National Defence Force,
 - the different categories of education, training and development providers in the South African National Defence Force, and
 - a residential mode of training delivery, as well as mixed mode training delivery; and
- ❑ education, training and development practitioners who:
 - would be representative of the different rank groups, and
 - who were available at the time of research.

The Department of Defence currently has 59 officially mandated ETD providers. Twenty-three ETD providers, representing 40% of the ETD provider population, participated in the project. Because of restrictions placed on access to information pertaining to the Department of Defence, the identity of the ETD providers who participated in the project remains confidential and codes are used instead to label the relevant ETD providers. Table 4.1 provides a broad overview of the composition of the sample of ETD providers and the number of respondents who participated in the research project.

Table 4.1 Sample composition

SAMPLE COMPOSITION		
Service	ETD provider	Number of respondents
SA Army	Unit A1	43
	Unit A2	20
	Unit A3	18
	Unit A4	5
	Unit A5	30
	Unit A6	33
	Unit A7	18
	<i>Subtotal for SA Army</i>	<i>167</i>
SA Air Force	Unit B1	34
	Unit B2	17
	Unit B3	31
	Unit B4	24
	<i>Subtotal for SA Air Force</i>	<i>106</i>
SA Navy	Unit C1	3
	Unit C2	6
	Unit C3	18
	Unit C4	31
	<i>Subtotal for SA Navy</i>	<i>58</i>

SAMPLE COMPOSITION (CONTINUED)		
Service	ETD provider	Number of respondents
South African Medical Health Service	Unit D1	23
	Unit D2	8
	Unit D3	18
	Unit D4	18
	<i>Subtotal for South African Medical Health Service</i>	67
Other (Defence Intelligence Division and Joint Support Division)	Unit E1	21
	Unit E2	13
	Unit E3	4
	Unit E4	10
	<i>Subtotal for Other</i>	48
Total N Value		446
Total Percentage		100%

The total number of respondents was 446. The percentages of ETD practitioners who participated in the research project ranged between 19,8% and 100% for the individual ETD providers.

In this study the sample size was large for the reasons provided below (Struwig & Stead: 2001:119-120).

In this study various characteristics of ETD practitioners in the South African National Defence Force had to be included in order to investigate the existence of an organising principle. Variables that had to be controlled were among others the services of the South African National Defence Force, the rank levels of ETD practitioners and their ETD training and experience. Therefore, although the sample was purposely and conveniently selected, the respondents had to be representative of the population in terms of a variety of characteristics and this could only be accomplished through a large sample.

A disadvantage of non-probability sampling is that it decreases the statistical precision of research. Despite this disadvantage, a convenience sample still seemed to be more appropriate for the study because of the reasons provided in the preceding paragraph. This disadvantage was considered during the processing and interpretation of the data, as well during the drawing of conclusions and the making of recommendations.

4.5.2 Data collection

Survey research was used in this study by means of structured and semi-structured questionnaires to collect data. Survey research in the form of structured and semi-structured questionnaires enabled a clear description of the characteristics of the heterogeneous population that is utilised in several roles simultaneously. As a result all seven roles associated with ETD practitioners had to be included and the structured questionnaire provided a manageable option.

The commanding officers or the training managers at the ETD providers were requested to complete two questionnaires. The first one that had to be completed by the managers was a semi-structured questionnaire (Appendix C) that consisted of open-ended questions. Through these questionnaires, a situational analysis was conducted to gain insight into the context within which ETD practitioners are utilised, as well as educated, trained and developed. This information enables the design of future career and training strategies for ETD practitioners in the South African National Defence Force, since it provides information on key factors that have an impact on the utilisation and training of ETD practitioners and that need to be taken into consideration during the design of career and training strategies.

The second questionnaire that had to be completed by the managers (Appendix D) was a structured one. The structure of this questionnaire was similar to the one completed by the ETD practitioners, except that it focused on the perceptions of the managers as to which ETD practitioner rank groups should perform which tasks. The aim of this questionnaire was to compare the perceptions of the ETD practitioners on their utilisation with those of the ETD managers in order to determine similarities and discrepancies between the two sample groups.

In addition to the questionnaires that were completed by the command element, the ETD practitioners also completed a questionnaire (Appendix E), which was structured and consisted of functional task listings for each of the seven roles. This questionnaire was used to confirm the seven roles performed by ETD practitioners in the South African National Defence Force (see sections 2.2.1 and 2.5): research and needs analysis, design and development, facilitation, learner support, assessment and moderation, quality assurance and evaluation, and education, training and development management and administration. They were also used to determine the various levels of performance within the roles.

Structured questionnaires were selected to collect data, since they ensure completion in a standardised way that minimises the kind of bias that is associated with interviews. Structured questionnaires furthermore provide a substantial amount of information that can be quantified, summarised and reported to management and decision makers in a manageable format. Lastly, structured questionnaires provide a manageable solution to the collection and processing of the voluminous amount of data resulting from the large sample size and the extensive questionnaires to address all seven roles associated with the ETD practitioner's job.

As a result of the limitations posed by the existing post profiles and job descriptions (see section 1.2.3), the content for the structured questionnaires had to be sourced from several other sources:

- ❑ A description of the roles of ETD practitioners as described by the Occupation Directed Education, Training and Development Task Team (2003: Part C).
- ❑ A literature review of sources on instructional systems design pertaining to residential learning, to identify the tasks associated with the various ETD practitioner roles (see Chapter 2).
- ❑ A literature review of sources on instructional systems design pertaining to distance learning, to identify the tasks associated with the various ETD practitioner roles (Adendorff, 2004; Fouche, nd:13; Jedrzejowicz, 2004:30-35; Jordaan, 2001; Viljoen, 1999:3-32 to 3-45 and 4-14 to 4-415).
- ❑ An analysis of a systems approach to instructional systems design that described the different levels associated with the various ETD practitioner roles (see Chapter 2).

- An analysis of the following unit standards to identify the tasks associated with the various ETD practitioner roles at the various National Qualifications Framework levels:
 - Conduct elementary field research in ETD or occupation, Level 4 (SAQA US ID: 9940)
 - Design and conduct research, NQF level 5 (SAQA US ID: 9941)
 - Plan learning events, NQF level 4 (SAQA US ID: 9950)
 - Prepare learning aids, NQF level 5 (SAQA US ID: 9953)
 - Develop training materials, NQF level 5 (SAQA US ID: 9954)
 - Plan a learning programme, NQF level 5 (SAQA US ID: 9951)
 - Plan a curriculum, NQF level 6 (SAQA US ID: 9952)
 - Coach learners, NQF level 3 (SAQA US ID: 9926)
 - Facilitate targeted skills development, NQF level 4 (SAQA US ID: 9956)
 - Facilitate learning using a variety of methodologies, NQF level 5 (SAQA US ID: 9957)
 - Facilitate learning through selecting and integrating methodologies, NQF level 6 (SAQA US ID: 9958)
 - Plan and conduct an assessment of learning outcomes, NQF level 5 (SAQA US ID: 7978)
 - Design integrated assessment for a learning programme, NQF level 6 (SAQA US ID: 9928)
 - Moderate an assessment, NQF level 5 (SAQA US ID: 9929)
 - Advise and refer learners, NQF level 4 (SAQA US ID: 9931)
 - Guide and support learners, NQF level 5 (SAQA US ID: 9932)
 - Guide and counsel learners, NQF level 6 (SAQA US ID: 9933)
 - Manage a skills development course, NQF level 4 (SAQA US ID: 9934)
 - Manage a learnership/skills programme, NQF level 5 (SAQA US ID: 9935)
 - Manage a learning system, NQF level 6 (SAQA US ID: 9936)
 - Evaluate a course, NQF level 4 (SAQA US ID: 9937)
 - Evaluate learning programmes, NQF level 5 (SAQA US ID: 9938)
 - Evaluate learning systems, NQF level 6 (SAQA US ID: 9939)
 - Manage a quality assurance system, NQF level 6 (SAQA US ID: 9930)

The two structured questionnaires, which were completed by the command element and the ETD practitioners, were divided according to subsections representing each of the seven roles of ETD practitioners. Typical tasks were listed for each role. The listed tasks were

based on the literature review as described in the preceding paragraph. The response categories were selected to indicate:

- ❑ Firstly, whether a respondent is expected to perform a task. This would indicate the utilisation of ETD practitioners in terms of roles and performance levels.
- ❑ Secondly, the ETD practitioners' perceived level of competence for performing a task. This would indicate the competence gap, which could result in determining the training need.
- ❑ Thirdly, whether respondents understood the question. Answers to this question could result in excluding that particular response from the data set, to avoid bias and enhance the reliability of the responses.

The questionnaires were self-administered because of the sample size and its cost effectiveness. Self-administration of questionnaires also ensures confidentiality and anonymity.

4.5.3 Data analysis

Descriptive statistics were used in this study for describing the utilisation of ETD practitioners in the South African National Defence Force in terms of roles and associated tasks. Because the aim of this study is to describe how ETD practitioners are utilised in terms of roles and associated tasks, the questionnaires on roles and levels of performance yielded nominal data.

Since the data is on the nominal level, it had the following implications for this study:

- ❑ The mode was the only option for statistical analysis in this study to determine the central tendency.
- ❑ Both the dependent and independent variables were nominal, and as a result crosstabs were the only suitable descriptive statistical analysis test that could be used in the study.

Contrary to the conservative approach that tests of significance should only be used when all assumptions are met, Babbie (2001:462) encourages the use of any statistical technique if it will help to understand the data. He argues and suggests that tests of significance can be

valuable to the researcher to understand data. Therefore, despite the use of purposive and convenient non-random sampling techniques in this study, inferential statistics were used to determine the statistical significance of correlations between certain variables. This approach was necessary to determine the possible existence of an organising principle for the utilisation of ETD practitioners in the South African National Defence Force. It was envisaged that the identification of an organising principle would simplify the development of career and training strategies. However, because of the implications of non-random sampling for the validity of the study, the focus was primarily on the results obtained by means of descriptive statistics.

4.6 RELIABILITY AND VALIDITY

To increase the reliability of this study, the researcher put the following measures in place:

- ❑ All constructs were clearly conceptualised (Neumann, 2006:190). Each of the roles of ETD practitioners was treated as a separate construct and described in functional terms. The descriptions of the roles were then used to construct the questionnaire. A set of tasks was listed for each role, based on the theoretical analysis and descriptions.
- ❑ The questionnaires were subjected to a pre-test of a pilot version (Neumann, 2006:191). The questionnaires were distributed to education, training and development experts, as well as training managers in the South African National Defence Force for comment and were also piloted at one of the ETD providers to ensure clarity.
- ❑ The research was designed in such a way that the respondents were only questioned on the tasks that enabled them to reflect on their utilisation as ETD practitioners (Babbie, 2001:141). Confusion among ETD practitioners in the South African National Defence Force about the meaning of some of the terminology was minimised by including both the traditional and South African Qualification Authority terms in the task listings. In addition, a response category called "terminology unclear" was included. It seems that the measures that were taken to ensure clarity were sufficient, since only a small number of respondents indicated that the terminology was unclear. Such responses were treated as missing responses during the analysis of the data, in accordance with the procedures described by Babbie (2001:329).

- ❑ In order to reach the ETD providers, it was necessary to make use of field workers at times. To avoid unreliability associated with the use of field workers, they were trained to ensure clarity and specificity regarding the administration and content of the questionnaires (Babbie, 2001:142).

To increase measurement validity in this study, the research design and methodology were aligned with the principles and guidelines of the South African Qualifications Authority, the National Qualification Framework and the principles of outcomes-based education. In addition, the following measures were integrated in the research design and methodology to increase the validity of the study further (Neumann, 2006:192-194):

- ❑ To ensure face validity the questionnaires were designed in such a manner that they satisfied the judgement of others that the indicators really measured the constructs. The questionnaires were sent to various role players for comment to determine if in their view they captured the essential functional tasks of each of the seven education, training and development roles.
- ❑ To ensure content validity the questionnaire and indicators were designed in such a way that the indicators address the full content of the construct, i.e., the competence profile of ETD practitioners in terms of their education, training and development roles, as well as the various levels of performance for each role. The indicators also addressed aspects pertaining to mixed mode training delivery.
- ❑ To ensure construct validity the questionnaires were designed in a consistent manner. The multiple indicators were consistently grouped to ensure that they were associated with one another and that each group of indicators measured a specific construct and that construct only. To achieve this, the questionnaires were divided into different sections. Each section addressed a specific education, training and development role. Sets of multiple functional tasks were listed for each education, training and development role.

4.7 CONCLUDING REMARKS

The research was designed to investigate the utilisation of ETD practitioners in terms of the seven roles of ETD practitioners as described by the Occupational Directed ETD Task Team

and various levels of performance as described by a systems approach. This study was conducted from a positivist and primarily quantitative approach. Data collection methods included three questionnaires. One was a semi-structured questionnaire that was completed by the command element, i.e., the commanding officers or training managers of an ETD provider. The purpose of this questionnaire was to obtain information that would describe the context for the utilisation and training of ETD practitioners in order to understand the actual competence profile. The second questionnaire was a structured one that was also completed by the command element, to collect information on what tasks it expected the ETD practitioners to perform at what rank levels. The third questionnaire was completed by the ETD practitioners to determine the roles that they are involved in, the tasks they perform and the instructional design levels at which they perform the tasks. The sample was purposely and conveniently selected. Data were collected at 23 ETD providers in the South African National Defence Force. As many as possible of the ETD practitioners completed the questionnaires. Descriptive analysis enabled the researcher to describe the profile of ETD practitioners in terms of the roles and competences expected from them, as well as the various levels of performance. Because the data that were gathered yielded nominal data, crosstabs were used to analyse the data. Various measures were taken to ensure the reliability and validity of the study.

Chapter 5 reports on the results of the data collected. The focus of Chapter 5 is on a description of the actual utilisation of ETD practitioners in the South African National Defence Force. The description of the utilisation of the ETD practitioners in the South African National Defence Force is based on the analysis of the results that were obtained through empirical research. In addition, the results of the empirical research are compared with the proposed competence profile that was discussed in Chapter 3 to determine the competence gap, which will in turn indicate the training need for ETD practitioners in the South African National Defence Force.

Chapter 5

Analysis and Interpretation of Research Data

5.1 INTRODUCTION

The purpose of this chapter is to describe the results of the analysis and interpretation of the research data that were collected for this study to address the research problem that was mentioned in section 4.2. In section 4.5.2 it was reported that three questionnaires were used in this study. The managers of the education, training and development providers (ETD providers) completed two of the questionnaires and the education, training and development practitioners (ETD practitioners) completed the third. In this chapter the results of these questionnaires are discussed from an integrated approach, which means that not only will the results of two main groups of respondents be compared with one another, the results will also be compared with the proposed competence profile described in Chapter 3 to determine the competence gap and the subsequent training need.

The chapter commences with an overview of the environmental analysis based on the results of the first questionnaire, which describes the context within which the ETD practitioners are utilised. Thereafter the biographical composition of ETD practitioners who participated in the study is summarised. This is followed by a discussion of the competence profile of ETD practitioners. This discussion includes a comparison of the perceptions of the ETD practitioners on how they are utilised, with the perceptions of the education, training and development managers (ETD managers) regarding their expectations for the utilisation of the ETD practitioners. This comparison provides an overview of the actual utilisation of the ETD practitioners in the South African National Defence Force. The findings in terms of the actual utilisation of ETD practitioners in the South African National Defence Force are furthermore compared with the proposed competence profile for ETD practitioners that were discussed in Chapter 3. These comparisons enable the identification of key aspects that need to be considered during the development of a competence profile for future career and training strategies for ETD practitioners in the South African National Defence Force. The chapter is concluded with a summary of the findings.

5.2 RESULTS OF THE ENVIRONMENTAL ANALYSIS

An environmental analysis was conducted in order to understand the context within which the ETD practitioners are utilised and developed. An unstructured questionnaire was completed by either the commanding officer or the ETD manager at ETD providers that were selected as part of the sample for this study. Twenty-one of the 23 ETD providers completed and returned the environmental analysis questionnaires. Because of the restriction on the publication of information on the Department of Defence, the following summary includes only some of the findings of the environmental analysis:

- ❑ There seems to be incompatibility between the South African Qualifications Authority (SAQA) processes for the accreditation and registration of ETD providers and learners; and the Department of Defence's processes to manage and administrate the required SAQA processes, as well as the processes to appoint and train ETD practitioners. The incompatibility is the result of the drawn-out processes that are common to the practices of both these macro-organisations. The SAQA processes to accredit ETD providers and register ETD practitioners for unit standards are time-consuming. In addition, unit standards are revised every three years. At the same time the South African National Defence Force has a practice to rotate its ETD practitioners on average every two to three years between the education, training and development environment and the functional environment. It also has a practice to transfer ETD practitioners into ETD posts rather than to recruit and select ETD practitioners according to human resource appointment practices. The result of the combined effect of the SAQA processes, the frequent rotation of ETD practitioners and the transfer practices, is that it remains a challenge to ensure that ETD practitioners are trained in time, qualified and up to date with developments in the education, training and development field.
- ❑ Because of the challenge to train and register ETD practitioners in time according to the relevant unit standards, a situation has developed where some of the ETD practitioners seem to be unqualified. For example, they may be subject matter experts, but they cannot be used as assessors, since they are not yet registered assessors on the National Learner Record Data Base. Because some of the ETD practitioners are not yet competent, the burden on the other competent and more experienced ETD practitioners increases. This results in the overloading of some of the competent and registered ETD practitioners.

- In addition, with the introduction of the South African Qualifications Authority, the demand for standardised training has increased. The increasing demand for standardised training, together with the administrative demands of standardised training, creates certain challenges for ETD practitioners in the South African National Defence Force. These ETD practitioners are faced with increasing learner-facilitator ratios and tighter time schedules to fit in as many learning programmes as possible in one year. The ETD practitioners, furthermore, have limited time available to attend and complete education, training and development related learning programmes. As a result, they find it difficult to perform the various education, training and development roles (ETD roles) expected of them, such as to design learning programmes, develop learning material, facilitate learning, conduct assessments and moderations, and to evaluate the education, training and development.

The impact of the environmental factors on the utilisation of ETD practitioners in the South African National Defence Force will become clearer in the subsequent sections.

5.3 BIOGRAPHICAL DATA OF THE RESPONDENTS

In this section the biographical composition of the ETD practitioner respondents who participated in the study is described.

Most of the respondents were male (81,6%). Half of the respondents (49,9%) were between 25 and 35 years of age. Approximately one third of the respondents (36,6%) were between 35 and 44 years of age.

Approximately half of the respondents (55,5%) indicated that their highest academic qualification was Grade 11 to Grade 12. Thirty-eight percent (38,0%) of the respondents indicated that they had a tertiary qualification.

The South African National Defence Force focuses primarily on residential training as the mode of training delivery. Therefore, smaller numbers of ETD practitioners are involved in a distance learning mode of training delivery. The respondents indicated that 20,5% of the ETD providers are involved in paper-based distance learning, 19,1% are involved in computer-based training and 7,7% are involved in online learning.

In Table 5.1 the biographical composition of the respondents is summarised in terms of the military ranks of the respondents.

Table 5.1 ETD practitioner sample composition in terms of rank groups

Rank groups	Percentage
Officers	
Colonel or captain (SAN*)	1.6
Lieutenant colonel or commander	8.8
Major or lieutenant commander	10.6
Captain or lieutenant (SAN)	13.5
1 st , 2 nd Lieutenant or sub-lieutenant	6.7
Warrant officers	
Warrant officer class 1	4.5
Warrant officer class 2	8.1
Non Commissioned officers	
Staff sergeant, flight sergeant or chief petty officer	20.7
Sergeant or petty officer	20.0
Lance corporal or able seaman to corporal or leading seaman	5.5
TOTAL	100

* SAN = South African Navy

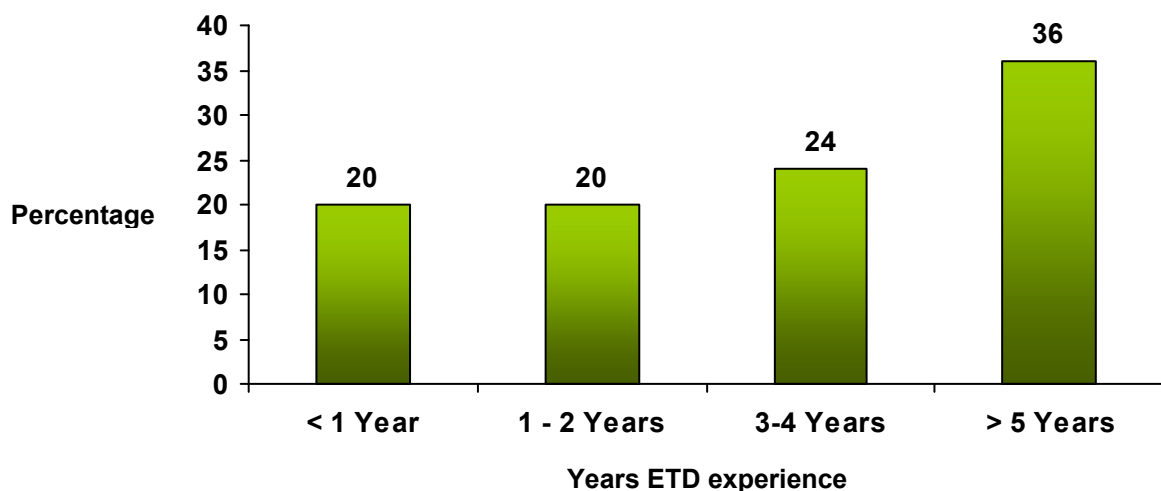
Table 5.2 summarises the profiles of ETD practitioners in terms of their post descriptions. The table also indicates how the ETD practitioners described the posts and how this information was recoded.

Table 5.2 ETD practitioner sample composition in terms of post descriptions

Recoded post description	Original labelling of posts by respondents	Percentage
ETD managers	Managers, staff officers, wing commanders	4.0
Warrant officer managers	Warrant officer managers, training managers	1.6
Officer co-ordinator	Co-ordinators	4.0
Directing staff	Directing staff at colleges	7.2
Senior officer facilitator	Senior officer instructors, chief instructors, branch commanders	5.8
Senior warrant officer facilitator	Senior facilitator, chief facilitator, company warrant officer	4.5
Senior non-commissioned officer facilitator	Senior facilitator, chief instructor	5.8
Officer facilitator	Instructors, facilitators, ETD practitioners	18.2
Warrant officer facilitator	Instructors, facilitators, squadron warrant officer	5.6
Non-commissioned officer facilitator	Instructors, facilitators	39.1
ETD specialists	ETD researchers, designers, developers, evaluators	4.0
TOTAL		100

Figure 5.1 summarises the education, training and development experience of the respondents. Although 36,6% indicated that they had more than five years' experience, these years spent in education, training and development were not always consecutive. ETD practitioners are rotated on average every two to three years in the South African National Defence Force between their functional environments and their education, training and development environments.

Figure 5.1 Education, training and development experience



The results, furthermore, indicate that the focus of the training of ETD practitioners is on the facilitation of learning and assessments. ETD practitioners mostly attended courses associated with the following education, training and development areas:

- ❑ Plan learning events (75.5% attendance);
- ❑ Prepare learning events (74.5 % attendance);
- ❑ Facilitate learning at NQF Level 4 (67.7% attendance); and
- ❑ Conduct outcomes-based assessments (55.9% attendance).

The respondents indicated that their attendance of courses in the education, training and development areas stated below is much lower. It is deduced that low attendance might indicate a need for training.

- ❑ ***Education, training and development research and needs analysis.*** The majority of the ETD practitioners (82.7%) indicated that they had never attended relevant courses for research and needs analysis. The low attendance rate for this key performance area of education, training and development that is necessary to design and develop successful learning opportunities, signifies a training need in this regard.
- ❑ ***The design and development of education, training and development.*** Most ETD practitioners responded that they had never attended courses in the design of a curriculum (86.3%) or the design of an assessment (63.7%). A training need for ETD practitioners becomes evident, when the low attendance rate of design and development courses is compared with the emphasis that the South African Qualifications Authority places on the design and development of learning programme strategies, learning material and assessment instruments.
- ❑ ***Facilitate learning using a variety of methodologies.*** The results indicate that the majority of the respondents (64,7%) had not attended courses at this more complex level of facilitation. Given the importance of being able to use a variety of learning facilitation methodologies in the outcomes-based education and training approach, a training need is identified for ETD practitioners at this level.

- ❑ **Outcomes-based assessments.** Although 55.9% of the respondents indicated that they had attended such a course, a large number of ETD practitioners who are expected to perform this role responded that they still need training in outcomes-based assessment (44.1% never attended a course).
- ❑ **Moderation of assessments.** Since 72.6 % of the respondents never attended a course in moderation, a training need exists in this area of education, training and development expertise.
- ❑ **Learner support.** Most of the ETD practitioners indicated that they had never attended a course on advising and referring learners (62.5% never attended one) or on guiding and supporting learners (75.6% never attended one). However, despite not attending of courses of this nature, the ETD practitioners perceived themselves as competent to perform this role. A lower priority can therefore be assigned to training ETD practitioners in this education, training and development area of expertise.
- ❑ **Quality assurance and evaluation of education, training and development.** The majority of ETD practitioners have never attended courses on evaluating education, training and development (80.2% never attended a course) or on managing a quality assurance system (86.4% never attended one). The evaluation of education, training and development and quality assurance are specialised roles and one would expect this to be performed by a limited number of ETD practitioners who are specialists in these topics. It is necessary to ensure that ETD practitioners who are responsible for performing this role are sufficiently qualified to perform this function, given the emphasis that the South African Qualifications Authority places on the quality management of education, training and development.
- ❑ **Education, training and development management and administration.** Most of the ETD practitioners have never attended courses on managing a skills development course (70.2% never attended one) or on managing a skills programme (86.4% never attended one). However, the South African Qualifications Authority emphasises the importance of ETD practitioner skills development and the accreditation of ETD providers. A training need for performing these tasks is, therefore, identified.

5.4 THE UTILISATION OF EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN TERMS OF EDUCATION, TRAINING AND DEVELOPMENT ROLES

In this section, the utilisation of the ETD practitioners who participated in the study will be described for each of the seven identified roles of ETD practitioners. An integrated approach is followed in this discussion on the perceived utilisation of ETD practitioners in the South African National Defence Force. Using this approach, the perceptions of ETD practitioner respondents on their utilisation will be compared with the expectations of ETD managers at the ETD providers on how ETD practitioners should be utilised to describe the current competence profile of ETD practitioners, as well as to identify the competence gap and the training need that transpires from this. In addition, the empirical research results are compared with the desired competence profile that was described in Chapter 3 in order to determine the gap between the desired competence profile and the current profile, which will give an indication of the competence that is needed for subsequent training.

To establish an organising principle for the utilisation of ETD practitioners, the correlations between several biographical variables and the utilisation of the ETD practitioners in terms of their education, training and development roles (ETD roles), were statistically calculated. Table 5.3 summarises the effect of the biographical variables on the utilisation of ETD practitioners in the identified ETD roles.

According to Table 5.3 few of the correlations between the biographical variables and the utilisation of ETD practitioners in the identified ETD roles are statistically significant. Significant correlations were found for facilitation and management. These findings, however, do not really add value, since most of the respondents scored high on facilitation and management (see Tables 5.9 and 5.17).

It is clear that there is no organising principle for the utilisation of ETD practitioners in the South African National Defence Force with regard to the identified ETD roles. One of the ETD managers summarised the utilisation of ETD practitioners in the South African National Defence Force as follows: "ETD practitioners are utilised as needed, where needed, when needed". This conclusion concurs with the findings of a previous study that was conducted in 2004 (see section 1.2.3).

Table 5.3 Pearson's product-moment correlation to determine an organising principle

		Research	Design	Facilitation	Assessment	Support	Quality Assurance	Management
Service	<i>r</i>	.023	.034	.080	.110*	.043	.030	.109*
	<i>p</i>	.634	.471	.091	.021	.369	.534	.021
Post Description	<i>r</i>	-.079	-.039	-.075	-.038	-.006	.027	-.135**
	<i>p</i>	.095	.413	.115	.428	.894	.563	.004
Rank	<i>r</i>	-.081	-.103*	-.096*	-.049	-.040	-.051	-.180**
	<i>p</i>	.088	.030	.042	.307	.396	.286	.000
Gender	<i>r</i>	-.015	.040	-.002	.000	.004	-.001	.030
	<i>p</i>	.762	.406	.961	.992	.928	.982	.530
Age	<i>r</i>	.046	-.021	-.010	.003	.018	.002	.034
	<i>p</i>	.340	.658	.839	.954	.707	.966	.485
Qualification	<i>r</i>	.139**	.070	.126**	.075	.023	.032	.107*
	<i>p</i>	.003	.143	.008	.115	.635	.506	.024

"*r*" is the correlation coefficient and "*p*" is the corresponding *p*-value

** Statistically significant at the 1% level of significance

* Statistically significant at the 5% level of significance

Despite the absence of a significant organising principle, this study proceeded to investigate the utilisation of ETD practitioners in the South African National Defence Force by means of descriptive statistics. It is argued that this approach to analysing the descriptive statistics is justified by the applied and practice-driven research approach followed in this study (Dede, 2005:5). It is envisaged that this type of analysis will add value to the design and development of career paths and training strategies for ETD practitioners in the South African National Defence Force.

Military members of the South African National Defence Force are promoted from one rank to the next pending the successful completion of learning programmes (military courses) at each military rank level. It therefore seemed the most suitable and appropriate option to analyse the descriptive results primarily in terms of the rank groups, in the absence of a clearly defined organising principle. In addition to the analysis of the utilisation of ETD practitioners in terms of the different rank groups, the impact of post titles on their utilisation

was also analysed. It was possible to categorise the post title descriptions of ETD practitioners into two main groups. The first group refers to ETD practitioners (officers and warrant officers) who described their post titles in managerial or co-ordinating terms. The second group described their post titles as facilitators (officers, warrant officers and non-commissioned officers).

Because of the categorisation of post titles into these two groups it was necessary to distinguish between two types of ETD managers at the ETD provider level. On the one hand there are ETD managers whose primary responsibility is the general management of education, training and development, although they might have to present and assess learning opportunities at times if the need arises. This group of ETD managers are not part of the ETD practitioner occupation and they are referred to as the command element in the discussions to follow. These were also the ETD managers who completed the questionnaires on how the managers envisage the utilisation of ETD practitioners in terms of their rank groups. On the other hand there are ETD practitioners whose primary responsibility is the design, development and delivery of education, training and development, although they also have general management functions. The latter group of ETD managers are part of the ETD practitioner occupation and they will be referred to as ETD practitioners in managerial positions.

Although the exposition of the utilisation of ETD practitioners will be in terms of rank groups and post titles, the trends that will be described in the rest of this section remain arbitrary because of the use of descriptive statistics.

5.4.1 Findings and conclusions for the research and needs analysis role

Research is an important competence at every stage of instructional systems design, but even more so during needs analysis, design and development, and evaluation. Ideally, persons in more senior positions with sufficient research experience should conduct the needs analysis to identify the learning needs that could be addressed by the qualifications, learning programmes, courses, or subject areas. Determining the operational requirements and the impact of external factors should be done in consultation with community members, prospective users and relevant members of the organisation (O'Rourke, 1993:16, Romiszowski, 1984:99). This implies that in the South African National Defence Force the more senior or experienced members should perform these tasks.

In the proposed model discussed in section 3.4.2 it was argued that ETD managers, ETD designers and ETD researchers from various organisational levels and rank groups should be responsible for conducting research at levels 1 to 4 of a needs analysis. The results confirmed the theoretical perspective and suggestion in the proposed model that ETD practitioners in more senior rank groups and in managerial positions are involved in the needs analysis at all four levels. However, contrary to expectations, a discrepancy was found in terms of the involvement of ETD practitioners who are not in managerial positions and who are in junior rank groups. The results indicated that ETD practitioner respondents in more junior rank groups who are not in managerial positions are also involved in all four levels of needs analysis, although to a lesser extent (summarised in Table 5.4).

According to Table 5.4 most of the ETD practitioner respondents in all the rank groups indicated that they are expected to conduct education, training and development research and training needs analysis. This finding is confirmed by the responses of the command element who indicated that they expect ETD practitioners in almost all the rank groups to conduct research and training needs analysis, with the exception of non-commissioned officers in some cases.

Although the results show that most of the rank groups are involved in all four levels of needs analysis as described in section 2.4.4.1, there is a slight variance in the involvement of the various rank levels. Senior rank groups are more involved in needs analysis compared to junior rank groups. This is especially the case for the officers' cadre. The results indicate progressive utilisation of ETD practitioners at increasing levels of complexity of needs analysis in terms of their rank distributions. Senior rank groups of officers, warrant officers and non-commissioned officers are involved to a higher extent in needs analysis on levels 1 and 2, which are associated with the identification of outcomes and standards for job performance, qualifications, learning programmes and unit standards. All the rank groups are involved in level 3 and 4 needs analysis, which is associated with micro-level outcomes such as learning event outcomes and exercise outcomes.

Table 5.4 Education, training and development research and needs analysis results

	<p>The percentage of ETD practitioners utilised in terms of <u>ETD research and training needs analysis</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
a	Conduct a situational analysis to determine the Department of Defence's operational requirements.	100.0 *	79.5 *	72.3 *	62.1 *	71.4 *	66.7 *	90.0 *	81.3 *	74.4 *	82.6 *
b	Identify and determine training needs.	100.0 *	74.4 *	57.4 *	60.3 *	51.7 *	52.8 *	85.0 *	70.7 *	66.3 *	66.7 *
c	Analyse physical and human resource constraints imposed on the design and presentation of learning programmes.	100.0 *	79.5 *	63.8 *	60.3 *	55.2 *	66.7 *	85.0 *	69.2 *	68.2 *	91.3 *
d	Formulate ETD outcomes (learning objectives) for:										
	• The unit.	100.0 *	74.4 *	57.4 *	60.3 *	51.7 *	52.8 *	85.0 *	70.7 *	66.3 *	66.7 *
	• A learning programme (course).	100.0 *	79.5 *	63.8 *	60.3 *	55.2 *	66.7 *	85.0 *	69.2 *	68.2 *	91.3 *
	• A module.	100.0 *	79.5 *	72.3 *	62.1 *	71.4 *	66.7 *	90.0 *	81.3 *	74.4 *	82.6 *

Table 5.4 Education, training and development research and needs analysis results (continued)

	<p>The percentage of ETD practitioners utilised in terms of ETD research and training needs analysis.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/ Commander	Major/ Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/ Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/ Flight Sergeant/ Chief Petty Officer	Sergeant/ Petty Officer	Corporal/ Leading Seaman
e	Determine the impact of external factors (e.g. national and/or international) on the ETD provided at the unit.	100.0 *	74.4 *	57.4 *	60.3 *	51.7 *	52.8 *	85.0 *	70.7	66.3	66.7
f	Produce research reports on ETD related aspects.	100.0 *	79.5 *	63.8 *	60.3 *	55.2 *	66.7 *	85.0 *	69.2	68.2	91.3
g	Identify unit standards that are aligned with the ETD outcomes (learning objectives).	100.0 *	79.5 *	72.3 *	62.1 *	71.4 *	66.7 *	90.0 *	81.3	74.4	82.6
h	Write unit standard(s).	100.0 *	74.4 *	57.4 *	60.3 *	51.7 *	52.8 *	85.0 *	70.7	66.3	66.7 *
i	Determine the most feasible mode of training delivery, i.e. residential and/or distance learning.	100.0 *	79.5 *	63.8 *	60.3 *	55.2 *	66.7 *	85.0 *	69.2 *	68.2	91.3 *

An analysis of the effect of post titles on the utilisation of ETD practitioners revealed that this factor needs to be considered as well. The results show that ETD practitioners whose post titles reflect managerial and co-ordinating functions, as well as those who are appointed as ETD specialists, tend to be more involved in needs analysis at level 1, which focuses on the environmental analysis and the design of education, training and development strategies.

In conclusion, the results confirm the utilisation of ETD practitioners at all four levels of needs analysis. They furthermore confirm that the command element expects ETD practitioners to be involved at all four levels of needs analysis. The results of the ETD practitioners as well as those of the command element indicate that ETD practitioners should develop the necessary applied competence to conduct needs analysis at the different levels. The findings confirm the hypothesis that senior rank groups and ETD practitioners as managers, as well as ETD specialists, are more involved in level 1 and 2 analysis. There should, therefore, be differentiation in terms of the content of needs analysis training for the different needs analysis levels and the associated target groups categorised in terms of rank groups and post titles.

The design for needs analysis training should include two levels. The first level should provide basic training in needs analysis with an introduction to the required research competences. ETD practitioners of all rank groups at this level should at least be able to conduct a performance analysis and target group analysis. The second level should provide advanced training in needs analysis with more advanced research techniques. ETD practitioners with senior ranks and in managerial positions should receive training in at least environmental analysis at macro-, meso- and micro-organisational levels. This group of ETD practitioners should also be capacitated to write unit standards. The implications of the preceding findings for the development of ETD practitioners are summarised in Table 5.5

Table 5.5 Applied competences for research and needs analysis

Level	Rank groups	Post titles	Applied competences	Needs analysis level
Advanced needs analysis training	Colonel/captain (SAN*) Lieutenant colonel/Commander Warrant officer class 1 Warrant officer class 2 Staff sergeant/flight sergeant/chief petty officer	ETD practitioners in managerial or co-ordinating posts or ETD specialists	<input type="checkbox"/> Conduct a needs analysis that entails the following: <ul style="list-style-type: none"> ▪ A work-setting analysis ▪ A job analysis ▪ A subject/content analysis ▪ A target population analysis <input type="checkbox"/> Conduct an environmental analysis to determine operational requirements. <input type="checkbox"/> Conduct a situation analysis to determine the availability of resources. <input type="checkbox"/> Define learning outcomes for qualifications and learning programmes. <input type="checkbox"/> Define training strategies.	ETD system level 1 (NQF L6) [#]
			<input type="checkbox"/> Compile unit standards.	ETD system level 2 (NQF L6)
Basic needs analysis training	All ranks (corporals to colonels)	ETD practitioners as facilitators	<input type="checkbox"/> Define target audience profiles and skills gaps. <input type="checkbox"/> Conduct a unit standard alignment. <input type="checkbox"/> Define outcomes for learning events and exercises.	ETD system level 3 (NQF L4)
			<input type="checkbox"/> Determine the detail to facilitate the learning event. <input type="checkbox"/> Analyse learning outcomes to identify and describe the underpinning knowledge, skills and attitude requirements to compile learning support material and assessment instruments.	ETD system level 4 (NQF L4)

* SAN: South African Navy

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

Finally, the evidence that a large number of ETD practitioners are utilised in this role (Table 5.4), combined with the evidence that only a small percentage of ETD practitioners (17, 3%) attended courses in research and needs analysis (see section 5.3), signifies that there is a training need in research and needs analysis for ETD practitioners in the South African National Defence Force.

5.4.2 Findings and conclusions for the design and development role

In the proposed model (section 3.4.3) for ETD practitioners in the South African National Defence Force it was suggested that the design and development of education, training and development strategies, plans and learning support material should be done by education, training and development designers and developers (ETD designers and developers). Designing curriculum statements and learning programme strategies, in particular, require education, training and development expertise and experience. It is therefore argued that the education, training and development facilitators (ETD facilitators) who are involved in the design of education, training and development strategies and plans in the South African National Defence Force should be appropriately qualified and experienced. Although ETD practitioners could be expected to develop learning support material, even this competence requires specialised education, training and development skills and experience to ensure quality provision of education, training and development according to SAQA guidelines and criteria.

It is therefore expected that fewer ETD practitioners would be involved in the design of education, training and development curricula and learning programme strategies and that these members should have higher ranks and managerial or co-ordinating post descriptions. It is furthermore hypothesised that it should be possible to distinguish between ETD designers and developers, and ETD facilitators in terms of their utilisation in design and development activities. Finally, it is hypothesised that a limited number of ETD practitioners would be involved in the design and development of especially computer-based products, since this mode of training delivery requires highly specialised competences.

Although all the rank groups indicated that they were involved in the design of qualifications, learning programmes and modules, the results confirmed progressive utilisation of ETD practitioners at increasing levels of complexity of education, training and development designs (Table 5.6). It was found that the senior rank groups (colonels and warrant officers class 1) are more involved (75% and higher) in the design of qualifications than the other rank groups. All the senior rank groups (colonels to majors, warrant officers class 1 and 2, and staff sergeants and sergeants) are more involved (74.4% and higher) in the design of learning programme strategies than the rest of the rank groups. Almost all the rank groups were involved in the design of modules (69.5% and higher).

Contrary to the hypothesis that senior rank groups should be more involved in the design of learning programme strategies, assessment strategies and evaluation strategies, it was found that almost all the rank groups are utilised to design these products to a large extent (Table 5.6). Exceptions to this were only found for the junior rank groups, i.e., the lieutenants and the corporals, who indicated that they were involved to a lesser extent in the design of learning programme strategies, assessment strategies and evaluation strategies.

According to Table 5.7, all the rank groups are involved in the development of learning packages and assessment instruments for the different modes of training delivery: residential learning, paper-based distance learning, computer-based learning and online learning. However, compared to other rank groups, senior rank groups (colonels, lieutenant colonels and warrant officers class 1) are more involved in the development of learning packages and assessment instruments for paper-based distance learning, computer-based learning and online learning. All the rank groups are involved to a large extent (66% and more of the respondents) in the development of learning aids and PowerPoint presentations.

The ETD practitioner respondents indicated significantly lower rates of involvement in the development of computer-based learning material. Just more than half (57,6%) of the colonels compared to 28% and less of the other rank groups indicated that they were involved in the development of various types of computerised learning material. Despite the low percentages of involvement, it was evident that senior rank groups (colonels, lieutenant colonels and warrant officers) are used more for the development of computerised learning materials than the other rank groups. In addition, respondents with the rank of colonel outweighed the other rank groups regarding their involvement in the development of different types of computerised learning materials.

Tables 5.6 and 5.7 show that the command element expects ETD practitioners at all rank levels to perform tasks from the most basic to the most complex design and development levels (see sections 2.4.4.2 and 3.4.3). These expectations of the command element are applicable to all the different modes of training delivery: residential learning, paper-based distance learning, computer-based learning and online learning.

An analysis of the effect of post titles on the utilisation of ETD practitioners as designers and developers indicate that managers, co-ordinators, warrant officer managers and facilitators, senior facilitators and education, training and development specialists (ETD specialists) are

more involved in the design of qualifications and learning programmes than the rest of the respondents. ETD practitioners from all the positions are involved to a large extent (66% and higher) in the design of modules. Although all ETD practitioner respondents from all the positions indicated that they are involved in the design of learning programme strategies, assessment strategies and evaluation strategies, the managers, co-ordinators, warrant officers and senior facilitators and ETD specialists are involved in the design of these products to a larger extent.

The respondents indicated that ETD practitioners from all the positions are involved to a large extent (76% and higher) in the development of learning material and assessment instruments for residential learning. It is mostly the managers, co-ordinators, directing staff, senior officer facilitators, senior warrant officers and ETD specialists that are involved in the development of learning material and assessment instruments for paper based-distance learning (66% and higher).

There does not seem to be a trend to use ETD practitioners with specific post titles for the development of computerised and online learning material. A possible reason for this phenomenon is that the introduction of computerised and online distance learning is still in the beginning stages in the Department of Defence. ETD practitioners who are involved in the development of computerised and online distance learning material are usually selected to develop this type of material because of their personal interest and competence in information technology.

ETD practitioner respondents from all positions (managers, co-ordinators, directing staff, facilitators, warrant officers, and ETD specialists) are involved to a large extent (71% and higher) in the development of learning aids and PowerPoint presentations. It is mostly the directing staff of colleges, senior facilitators of all rank groups and ETD specialists that indicated that they were involved in the development of evidence guides for recognition of prior learning (61% and higher).

Table 5.6 Design of learning programmes results

	The percentage of ETD practitioners utilised in terms of <u>design of learning programmes</u> . * ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
a	Design a:										
	• Qualification.	100.0 *	61.5 *	57.8 *	56.7 *	51.7 *	75.0 *	61.0 *	59.3	68.2	58.3
	• Learning programme/skills programme (course) consisting of several modules.	83.3 *	76.9 *	75.6 *	63.3 *	51.7 *	90.0 *	77.8 *	74.4 *	75.9	58.3
	• Module.	83.3 *	79.5 *	75.6 *	69.5 *	65.5 *	90.0 *	69.4 *	73.3 *	74.7 *	58.3
b	Design broad assessment strategies	85.7 *	76.9 *	76.1 *	67.8 *	63.0 *	80.0 *	75.0 *	59.1 *	72.4 *	62.5
c	Design a learning programme strategy (curriculum) .	85.7 *	74.4 *	68.9 *	65.0 *	55.2	85.0 *	72.2 *	71.4 *	64.8 *	50.0
d	Design ETD evaluation strategies to determine adherence to training principles.	85.7 *	71.8 *	71.1 *	65.0 *	62.1	73.7 *	66.7 *	67.0	65.9	47.8

Table 5.7 Development of learning material results

	<p>The percentage of ETD practitioners utilised in terms of <u>development of learning material and guides</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
a	<p>Develop learning material for:</p> <ul style="list-style-type: none"> Residential learning (facilitator or instructor-led learning). Paper-based distance learning. Computer-based learning. Online/E-learning. 	100.0 *	92.3 *	83.0 *	85.0 *	80.0 *	95.0 *	86.1 *	84.6 *	87.5 *	87.5 *
		100.0 *	76.3 *	53.2 *	63.3 *	53.3 *	80.0 *	63.9 *	66.7 *	70.1 *	62.5 *
		100.0 *	68.4 *	46.8 *	60.0 *	66.7 *	75.0 *	47.2 *	65.2 *	66.3 *	54.2 *
		100.0 *	57.9 *	44.7 *	52.5 *	46.7 *	68.4 *	44.4 *	49.5 *	63.5 *	52.2 *
b	Develop learning aids for residential learning (e.g. transparencies, posters).	100.0 *	94.7 *	91.5 *	91.4 *	90.0 *	95.0 *	77.8 *	89.9 *	90.8 *	95.8 *
c	Develop PowerPoint presentations .	100.0 *	97.4 *	93.6 *	91.5 *	82.8 *	89.5 *	83.3 *	87.6 *	88.5 *	91.7 *

Table 5.7 Development of learning material results (continued)

	<p>The percentage of ETD practitioners utilised in terms of <u>development of learning material and guides</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
d	<p>Develop assessment instruments for:</p> <ul style="list-style-type: none"> Residential learning (facilitator or instructor-led learning). Paper-based distance learning. Computer-based learning. Online/E-learning. 	100.0 *	89.7 *	83.0 *	89.9 *	90.0 *	100.0 *	91.7 *	87.0 *	85.4 *	83.3 *
e	Compile installation guides for computer-based learning material.	100.0 *	56.4 *	41.3 *	53.3 *	46.7 *	68.4 *	36.1 *	57.8 *	64.8	54.2
f	Develop evidence guides for recognition of prior learning .	100.0 *	71.8 *	55.3 *	59.3 *	53.3 *	80.0 *	52.8 *	67.0	65.1 *	66.7

In conclusion, the results confirm the utilisation of ETD practitioners at all four levels of design and development as described in section 2.4.4.2. This means that ETD practitioners are involved in education, training and development design and development from the basic to the complex levels. The results furthermore confirm that the command element expects ETD practitioners to be involved in all the levels of design and development, from the basic to the advanced levels. The results of the ETD practitioners as well as those of the command element indicate that ETD practitioners should develop the applied competences to design and develop education, training and development products at the various design and development levels.

Despite the involvement of most of the ETD practitioners in design and development, the results indicate progressive utilisation of ETD practitioners at increasing levels of complexity of design and development. Differentiation in terms of rank distribution and post description is mostly evident for the more complex education, training and development designs, such as learning programme strategies, assessment strategies and evaluation strategies, as well as the development of learning packages and assessment instruments for paper-based distance learning, computer-based learning and online learning. There seems to be a tendency to utilise senior rank groups, managers and ETD specialists to a larger extent to perform more advanced design and development activities. These findings confirm the suggestion in the proposed model that ETD specialists and senior rank groups should be more involved in more advanced education, training and development design and development activities. The findings furthermore confirm that a limited number of ETD practitioners are involved in the design and development of computer-based and online learning products and services.

The findings indicate that a training strategy for design and development should consist of several levels. A distinction should firstly be made between design competences compared to development competences. Thereafter, both the design competences and development competences should be subdivided into different levels in order to accommodate the different rank groups and positions sufficiently. The implications of the preceding findings and conclusions are summarised in Table 5.8. Table 5.8 confirms the complexity and volume of training required by ETD practitioners to perform their design and development tasks successfully.

Table 5.8 Applied competences for design and development

Level	Rank groups	Post titles	Applied competences	Design and develop level
DESIGN				
Advanced design	Colonel/captain (SAN*) Warrant officer class 1	ETD practitioners in managerial and ETD specialist posts	<input type="checkbox"/> Design a qualification <input type="checkbox"/> Compile a curriculum statement	ETD system level 1 (NQF L6) [#]
Intermediate design	Colonel/captain (SAN*) Lieutenant colonel/Commander Warrant officer class 1 Warrant officer class 2 Staff sergeant/flight sergeant/chief petty officer ETD specialists	ETD practitioners in managerial, co-ordinating, senior facilitator and ETD specialist posts	<input type="checkbox"/> Design a learning programme consisting of several modules (unit standards) <input type="checkbox"/> Compile a learning programme strategy for learning programme consisting of several modules (unit standards) <input type="checkbox"/> Develop learning facilitation plans	
Basic design	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Design a module (consisting of one unit standard) <input type="checkbox"/> Compile a learning programme strategy for a module	ETD system level 2 (NQF L5)
DEVELOPMENT				
Advanced development	Colonel/captain (SAN*) Lieutenant colonel/Commander Warrant officer class 1	ETD practitioners with interface design knowledge and skills ETD media experts	<input type="checkbox"/> Develop learning packages for computerised and online learning.	ETD system level 3 (NQF L6)
Intermediate development	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Develop learning packages that include learning material, assessment instruments, facilitator guides, learner guides and assessment guides. <input type="checkbox"/> Develop learning event plans	ETD system level3 (NQF L5) (NQF L4)
Basic development	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Develop learning media of various types, including PowerPoint presentations.	ETD system level 4 (NQF L4)

* SAN: South African Navy

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

Finally, based on the evidence discussed in section 5.3 and the findings of this section, it is deduced that ETD practitioners who are involved in education, training and development design at the more advanced levels should receive first priority for nominations for this type of training. With the introduction of distance learning as a mode of training delivery, the importance of ensuring that materials are of the best possible quality for effective learning has been emphasised. As a result of the increasing demand for the development of instructional materials for distance learning, whether it is paper-based, computer-based or online, it is recommended that ETD practitioners who have this need should be sufficiently and appropriately trained.

The training need for design and development is further emphasised by the finding (section 5.3) that few of the ETD practitioners indicated that they had attended courses in curriculum design (13,7%) and assessment design (36,3%). The low attendance rate for courses in education, training and development is of concern when it is compared with the actual utilisation of ETD practitioners and the expectations of the command element that almost all the ETD practitioners should be involved in design activities.

5.4.3 Findings and conclusions for the facilitation role

To comply with the principles of outcome-based education (see section 2.3.2), ETD practitioners have to use a variety of facilitation approaches and methods. In addition they are responsible for creating an environment that will promote collaborative learning and that will expand opportunities for successful learning. It was therefore suggested in the proposed competence profile that ETD practitioners should be able to use a variety of ETD methodologies (see section 3.4.4).

According to Table 5.9, ETD practitioner respondents of all the rank groups indicate a high level of involvement in all the learning-facilitation methods (65,5% and higher). The results indicate that it is imperative for colonels, in particular, to be trained in all the various learning-facilitation methods, since this rank group showed a 100% response rate to all the various learning-facilitation methods. It can be deduced from the in-basket method, management games and radio and television broadcasts that a response pattern possibly exists. However, the command element confirmed the responses of the ETD practitioners, that ETD practitioners of all the rank groups are expected to be able to use all the facilitation methods that were listed (see section 5.4.4.2).

Table 5.9 Facilitation of learning results

	<p>The percentage of ETD practitioners utilised in terms of <u>facilitation/instructional strategies</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
a	A lecture, e.g. to inform with limited learner activity.	100.0 *	100.0 *	89.4 *	95.0 *	89.7 *	90.0 *	100.0 *	96.7 *	94.2 *	100.0 *
b	Case studies, e.g. for simulated real-life or fictitious situations.	100.0 *	100.0 *	98.4 *	89.8 *	82.8 *	90.0 *	88.9 *	90.2 *	95.3 *	87.5 *
c	The incident method, e.g. to describe a managerial situation and an "incident" which has occurred and needs to be resolved.	100.0 *	100.0 *	89.1 *	88.3 *	67.9 *	90.0 *	88.9 *	89.10 *	94.1 *	91.3 *
d	The in-basket method, e.g. for simulation of a manager's (commanding officer's) tasks and responsibilities.	100.0 *	97.4 *	85.1 *	76.7 *	65.5 *	80.0 *	67.6 *	72.5 *	76.5 *	83.3 *
e	Group discussions.	100.0 *	100.0 *	93.6 *	95.0 *	90.0 *	95.0 *	100.0 *	93.9 *	96.6 *	100.0 *
f	Syndicate work.	100.0 *	100.0 *	91.5 *	93.3 *	83.3 *	95.0 *	97.2 *	96.7 *	94.3 *	100.0 *
g	Brainstorming, e.g. for problem-solving purposes.	100.0 *	100.0 *	95.7 *	95.0 *	90.0 *	100.0 *	97.2 *	97.8 *	97.7 *	100.0 *

Table 5.9 Facilitation of learning results (continued)

	<p>The percentage of ETD practitioners utilised in terms of <u>facilitation/instructional strategies</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
h	Role-playing.	100.0 *	100.0 *	95.7 *	94.9 *	89.7 *	100.0 *	97.2 *	97.8 *	97.7 *	100.0 *
i	Demonstration, e.g. the instructor demonstrates to the learners what to do and how a job or task should be performed and how equipment should be used.	100.0 *	97.4 *	93.6 *	96.7 *	90.0 *	100.0 *	94.4 *	97.8 *	98.8 *	100.0 *
j	Theory lesson.	100.0 *	100.0 *	93.6 *	96.7 *	90.0 *	100.0 *	100.0 *	98.9 *	98.9 *	95.8 *
k	Outdoor training/Field exercises.	100.0 *	87.2 *	91.5 *	89.9 *	86.2 *	85.0 *	88.9 *	95.6 *	98.9 *	95.8 *
l	Simulations, e.g. war gaming and technical equipment or computer simulators.	100.0 *	92.3 *	78.7 *	85.0 *	80.0 *	80.0 *	66.7 *	81.5 *	80.2 *	75.0 *
m	Management games.	100.0 *	84.6 *	80.9 *	83.3 *	70.0	70.0 *	55.6 *	77.2 *	81.4 *	83.3

Table 5.9 Facilitation of learning results (continued)

	<p>The percentage of ETD practitioners utilised in terms of <u>facilitation/instructional strategies</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
n	Self-managed learning (reading or technology-assisted), e.g. completion of task books or preparation for a course.	100.0 *	94.9 *	85.1 *	88.3 *	70.0 *	85.0 *	91.7 *	85.9 *	86.0 *	91.7 *
o	Radio and TV broadcasts.	100.0 *	71.1 *	51.1 *	66.7 *	60.0 *	68.4 *	52.8 *	65.6 *	76.5 *	66.7 *
p	Computer-based training.	100.0 *	71.8 *	53.2 *	70.0 *	70.0 *	85.0 *	61.1 *	77.2 *	80.5 *	66.7 *
q	Tutoring, e.g. where the instructor coaches an individual learner(s).	100.0 *	100.0 *	91.5 *	90.0 *	86.7 *	90.0 *	100.0 *	97.8 *	90.8 *	91.7 *
r	Sensitivity training to promote human relations development.	100.0 *	84.6 *	78.7 *	78.3 *	73.3 *	85.0 *	77.8 *	85.9 *	86.0 *	75.0 *

The results also confirmed that there are no significant variances between the responses of ETD practitioners in different education, training and development positions (such as managers, co-ordinators, facilitators, ETD specialists) in terms of their use of various learning-facilitation methods.

ETD practitioners confirmed that they are less involved in computerised and online learning-facilitation methods than in residential learning-facilitation methods. Just more than half (57,6%) of the colonels compared to 33.3% and less of the other rank groups use learning-facilitation methods for computerised and online learning. Despite the low percentages of involvement, it is evident that senior rank groups (colonels and lieutenant colonels) are utilised more for the facilitation of computerised and online learning than the other rank groups. The results also showed that directing staff (33.3%), warrant officer managers (15,9%) and senior facilitators (17,9%) are the positions that are mostly involved in the facilitation of learning for computerised and online learning. The results confirm that the command element expects all the rank groups to be involved in the various facilitation methods for computerised and online learning.

In conclusion, the results show that the ETD practitioners in the South African National Defence Force use a variety of learning-facilitation methods. It has, however, not been possible to determine whether certain rank groups are more inclined to use certain learning-facilitation methods than other rank groups. Likewise it was not possible to differentiate between the use of various learning-facilitation methods by ETD practitioners in different education, training and development positions such as managers, co-ordinators, directing staff, warrant officers or facilitators. Because it is deduced that a response pattern might have occurred in the responses on the use of learning-facilitation methods, it is suggested that focus group discussions be used in future to determine which learning-facilitation methods are used by which rank groups.

The results indicate that ETD practitioners from senior rank groups (colonels and lieutenant colonels) are more involved in the facilitation of computerised learning than other rank groups.

In Table 5.10 a summary is provided of the applied competences required by ETD practitioners for the facilitation of learning for different modes of training delivery. The primary focus is on the facilitation of learning, using a variety of learning-facilitation methods. ETD

practitioners who are involved in facilitation of computerised and online learning will require specialised training for the successful facilitation of learning in these environments.

Table 5.10 Applied competences for facilitation of learning

Level	Rank groups	Post titles	Applied competences	Facilitation level
Advanced facilitation	Computer-based and online learning		<input type="checkbox"/> Facilitate learning, using a variety of methods. <input type="checkbox"/> Facilitate learning, aiming at the achievement of the outcomes. <input type="checkbox"/> Promote collaborative learning. <input type="checkbox"/> Create an environment conducive to a variety of opportunities for successful learning.	ETD system level 4 (NQF L5) [#]
	Colonel/captain (SAN*) Lieutenant colonel/Commander Warrant officers class 1	Directing staff, senior facilitators warrant officer managers		
Intermediate facilitation	Residential learning and paper-based distance learning		<input type="checkbox"/> Facilitate learning, using a variety of methods. <input type="checkbox"/> Facilitate learning, aiming at the achievement of the outcomes. <input type="checkbox"/> Promote collaborative learning. <input type="checkbox"/> Create an environment conducive to a variety of opportunities for successful learning.	ETD system level 4 (NQF L5)
	All ranks (corporals to colonels)	ETD practitioners from all positions		
Basic facilitation	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Facilitate learning, using given learning-facilitation methods. <input type="checkbox"/> Facilitate learning, aiming at the achievement of the outcomes. <input type="checkbox"/> Promote collaborative learning.	ETD system level 4 (NQF L4) (NQF L4)
			<input type="checkbox"/> Understand the facilitation of learning within the outcomes-based context. <input type="checkbox"/> Understand the implications of the theory of learning for the facilitation of learning.	

* SAN: South African Navy

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

When the results of the use of a variety of learning-facilitation methodologies, as discussed in this section, are compared with the findings that the majority of ETD practitioners (64.7%) have not attended a course on how to use a variety of learning-facilitation methodologies, it is evident that a training need exists in this regard.

5.4.4 Findings and conclusions for the assessment and moderation role

In the outcomes-based education approach (see section 2.3.2) the focus is on desired end results, purposes, learning and accomplishment. Determining if this goal has been achieved through the facilitation of learning requires a variety of assessment methods to be used. In addition, the assessments should be moderated to ensure that they are fair, valid and reliable. In the proposed competence profile (see section 3.4.4) it was reasoned that assessment and moderation are key functions of ETD practitioners. However, it is expected that those ETD practitioners who are responsible for the moderation of assessments will be from senior rank groups and ETD practitioner positions, such as managers, co-ordinators and senior facilitators.

According to Table 5.11, ETD practitioner respondents of all the rank groups indicated a high level of involvement in all the assessment methods and for moderation. Except for the lieutenants and the corporals, all the rank groups are involved to a large extent (68,1% and more) in the moderation of assessments. The results indicate that it is imperative for colonels, in particular, to be trained in all the various assessment methods, since this rank group showed a 100% response rate on almost all the various learning-facilitation methods. Although the majority of the ETD practitioner respondents indicated that they were involved in computerised assessment activities, some rank groups seemed to be more involved in these activities than others, such as colonels, warrant officers class 1, staff sergeants and sergeants (see Table 5.11).

It can be deduced from the high percentages for the in-basket method, that the possibility of a response pattern exists. However, the responses of the command element confirmed that its members expected all ETD practitioners from all the rank groups to be able to use all the assessment methods that were listed, as well as to conduct moderations (see section 5.4.4.1).

No significant variances exist between the different ETD practitioner positions, such as managers, co-ordinators, senior facilitators and other facilitators, in terms of the use of certain assessment activities and the moderation of assessments.


Table 5.11 Assessment and moderation results

	<p>The percentage of ETD practitioners utilised in terms of <u>assessments and moderation</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
	<p>The use of the following assessment activities:</p> <ul style="list-style-type: none"> Practical demonstration of performance. Simulation of performance. Observation of performance. Case studies. Assignments and essays. Outdoor projects and field exercises. 										
a		100.0 *	94.6 *	80.9 *	88.1 *	93.3 *	94.7 *	88.9 *	95.7 *	93.2 *	95.8 *
b		100.0 *	91.9 *	76.1 *	86.4 *	86.7 *	94.7 *	88.9 *	90.0 *	93.1 *	87.8 *
c		100.0 *	97.3 *	78.7 *	88.1 *	89.7 *	94.7 *	94.4 *	94.5 *	93.1 *	87.5 *
d		100.0 *	94.6 *	68.1 *	79.7 *	70.0 *	89.5 *	85.7 *	80.2 *	85.1 *	66.7 *
e		100.0 *	97.3 *	74.5 *	81.4 *	83.3 *	94.7 *	88.9 *	83.5 *	89.7 *	79.2 *
f		100.0 *	81.1 *	74.5 *	84.7 *	80.0 *	89.5 *	88.9 *	87.0 *	88.5 *	79.2 *

Table 5.11 Assessment and moderation results (continued)

	<p>The percentage of ETD practitioners utilised in terms of <u>assessments and moderation</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
g	• Reports.	100.0 *	94.6 *	80.9 *	82.8 *	75.9 *	100.0 *	88.9 *	88.0 *	88.2 *	70.8 *
h	• Interviews.	100.0 *	91.9 *	76.6 *	79.3 *	76.7 *	94.7 *	88.9 *	85.9 *	88.5 *	70.8 *
i	• Oral presentations.	100.0 *	97.3 *	85.1 *	88.1 *	80.0 *	100.0 *	94.4 *	90.2 *	90.7 *	83.3 *
j	• Tests.	100.0 *	97.3 *	78.7 *	91.5 *	93.1 *	100.0 *	100.0 *	95.7 *	92.0 *	83.3 *
k	• Formal examinations.	100.0 *	94.6 *	83.0 *	89.9 *	93.3 *	100.0 *	97.2 *	91.2 *	92.0 *	87.5 *
l	• In-basket tests.	83.3 *	81.1 *	66.7 *	74.6 *	65.5 *	73.7 *	72.2 *	59.6 *	74.1 *	65.2 *
m	• Peer and self-assessment.	100.0 *	94.6 *	76.6 *	84.7 *	83.3 *	100.0 *	88.9 *	90.2 *	87.1 *	87.5 *
n	• Portfolios of evidence.	83.3 *	89.2 *	74.5 *	79.7 *	66.7 *	100.0 *	83.3 *	84.8 *	87.1 *	66.7 *

Table 5.11 Assessment and moderation results (continued)

	<p>The percentage of ETD practitioners utilised in terms of <u>assessments and moderation</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p> Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
o	Formative computerised assessment activities.	100.0 *	62.2 *	47.8 *	62.1 *	63.3 *	68.7 *	55.6 *	72.2 *	74.1 *	62.5 *
p	Summative computerised assessment activities.	100.0 *	62.2 *	44.7 *	61.0 *	58.6 *	68.4 *	58.3 *	71.4 *	74.4 *	58.3 *
q	Conduct of moderations.	83.3 *	89.2 *	72.3 *	71.2 *	62.1 *	78.9 *	77.8 *	68.1 *	77.4 *	58.3 *

In conclusion, the results confirmed that the ETD practitioner respondents use a wide variety of assessment methods. It was, however, not possible to determine the variance between the rank groups and between members in different positions regarding the use of different assessment methods. Contrary to expectations, the results indicated that moderations are not done by a selected few only. Almost all the ETD practitioners from all the rank groups and post descriptions are involved to a large extent in the moderation of assessments. The expectations of the command element confirm the findings for ETD practitioner respondents that ETD practitioners from all the rank groups and post descriptions have to be able to use a variety of assessment methods, as well as to conduct the moderation of assessments.

ETD practitioners from senior rank groups (colonels, warrant officers class 1, staff sergeants and sergeants) are more involved in the assessment of computerised learning than other rank groups.

Table 5.12 summarises the applied competences for ETD practitioners to conduct assessments and moderation.

Table 5.12 Applied competences for assessment and moderation

Level	Rank groups	Post titles	Applied competences	Assess- ment level
Moderation	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Moderate assessments	ETD system level 4 (NQF L5) [#]
Assessment	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> The use of a variety of assessment activities to determine if the outcomes were achieved. <input type="checkbox"/> The use of criterion-based assessments, instead of norm-referenced ways of assessment. <input type="checkbox"/> The ability to provide continuous constructive feedback.	ETD system level 4 (NQF L4)

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

A training need is identified on how to conduct assessments and moderate assessments, given the combined effect of the following findings: the extent of ETD practitioners that have to perform these tasks; the various rank groups that have to perform these tasks, the various ETD practitioner positions that have to perform these tasks, the variety of assessments

methods that have to be used, the non-attendance rates of courses on how to conduct assessments (44,7%) and the moderation of assessments (72,6%).

5.4.5 Findings and conclusions for the learner support role

The provision of learner support is an important element of the outcomes-based education approach. Learner support is considered a key activity to ensure learning success (see section 2.3.2). In the proposed competence profile it was suggested that learner support should primarily be the task of the ETD facilitators (see section 3.4.4).

According to Table 5.13, almost all the ETD practitioner respondents of all the rank groups are involved to a large extent in learner support. ETD practitioners have to provide learner support on a variety of matters such as: guidance and counselling on personal and study problems, keeping learners motivated, coaching learners to improve their applied competences and mentoring learners for their future careers in the organisation. Colonels, lieutenant colonels, warrant officers and corporals indicated that they were involved 100% in some of the learner support activities.

Differentiation in terms of rank groups is evident for collaborative online learning and the recognition of prior learning. It is mostly the colonels, lieutenant colonels, warrant officers and sergeants who are involved in the development of collaborative online learning experiences compared to other rank groups. Lieutenants and warrant officers class 2 are not as involved as other ranks in supporting learners to obtain recognition of prior learning.

The command element confirmed that it expected ETD practitioners from all rank groups to provide learner support on the variety of tasks associated with learner support.

Table 5.13 **Learner support results**

	The percentage of ETD practitioners utilised in terms of <u>learner support</u> . * ETD managers' (command element) requirements regarding the utilisation of ETD practitioners. <div>Two-thirds majority (66% and higher)</div>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/ Commander	Major/ Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/ Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/ Flight Sergeant/ Chief Petty Officer	Sergeant/ Petty Officer	Corporal/ Leading Seaman
a	Assist and support learners:										
	• To establish and maintain a learning community.	100.0 *	97.4 *	84.8 *	93.2 *	89.7 *	100.0 *	83.3 *	92.3 *	93.3 *	95.7 *
	• To develop collaborative online learning experiences.	83.3 *	74.4 *	56.5 *	69.0 *	56.7 *	70.0 *	50.0 *	62.9 *	80.7 *	65.2 *
	• To obtain recognition of prior learning.	83.3 *	81.6 *	67.4 *	76.3 *	63.3 *	95.0 *	63.9 *	81.3 *	86.5 *	78.3 *
b	Guide and counsel learners to help them define and work through:										
	• Personal problems.	100.0 *	100.0 *	89.4 *	94.9 *	86.7 *	100.0 *	94.4 *	93.5 *	97.8 *	91.7 *
	• Study problems.	100.0 *	100.0 *	87.2 *	96.6 *	86.7 *	100.0 *	94.4 *	93.5 *	96.6 *	91.7 *

Table 5.13 **Learner support results (continued)**

	<p>The percentage of ETD practitioners utilised in terms of <u>learner support</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub- Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
c	Keep learners motivated to complete specific learning objectives of the course.	100.0 *	100.0 *	89.1 *	96.6 *	90.0 *	100.0 *	94.4 *	98.9 *	95.5 *	95.8 *
d	Coach learners:										
	• Step-by-step to improve their competency.	100.0 *	97.4 *	91.5 *	95.0 *	86.7 *	100.0 *	91.7 *	98.9 *	97.8 *	100.0 *
	• One-on-one to improve their competency.	100.0 *	97.4 *	91.5 *	95.0 *	86.7 *	100.0 *	91.7 *	96.7 *	97.8 *	95.8 *
e	Mentor learners by building and empowering them for the development of their future careers in the organisation.	100.0 *	92.3 *	78.7 *	93.2 *	82.8 *	100.0 *	91.7 *	92.3 *	96.6 *	100.0 *

No significant variances were found between the responses for the different positions, such as managers, co-ordinators, directing staff, facilitators and ETD specialists in terms of their involvement in the different learner support tasks.

In conclusion, the results confirmed that the ETD practitioner respondents from all rank groups and ETD practitioner positions have to provide learner support over a broad spectrum of personal and career development matters. The expectations of the command element confirm the findings of the ETD practitioner respondents that ETD practitioners need to be able to perform a variety of learner support tasks.

It is deduced from the findings that learner support is rendered over a spectrum of personal and career development issues that the design for learner support training should include two levels in order to accommodate the increasing complexity of personal and development problems that learners sometimes experience. Table 5.14 summarises the applied competences for ETD practitioners to provide learning support.

Table 5.14 Applied competences to provide learner support

Level	Rank groups	Post titles	Applied competences	Learner support level
Intermediate learner support	All ranks (corporals to colonels)	ETD practitioners from all positions	<ul style="list-style-type: none"> <input type="checkbox"/> Assist learners in obtaining recognition of prior learning <input type="checkbox"/> Guide and advise learners to help them with personal problems. <input type="checkbox"/> Guide and advise learners regarding their future careers in the organisation. <input type="checkbox"/> Refer learners to specialist guidance and counselling services. 	ETD system level 4 (NQF L5) [#]
Basic learner support	All ranks (corporals to colonels)	ETD practitioners from all positions	<ul style="list-style-type: none"> <input type="checkbox"/> Coach learners step-by step to improve their competency. <input type="checkbox"/> Coach learners one-on-one to improve their competency. <input type="checkbox"/> Motivate learners to complete specific learning objectives. <input type="checkbox"/> Assist learners with study problems. <input type="checkbox"/> Assist learners in establishing and maintaining a learning community 	ETD system level 4 (NQF L4)

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

5.4.6 Findings and conclusions for the quality assurance and evaluation role

Quality assurance and evaluation are an integral part of education, training and development systems (see section 2.4.3.5). As such ETD practitioners are required to evaluate the quality of the education, training and development that are delivered continuously. Evaluation of education, training and development is closely linked with design and development. Because of this relationship it is argued that various levels for quality assurance and evaluation should also be discernable. It was suggested in the proposed competence profile model (section 3.4.5) that ETD practitioners with senior ranks and in managerial positions should be primarily responsible for quality assurance and that the evaluation of learning programmes and learning events should be done by ETD practitioners who are appointed as facilitators.

The results (Table 5.15) showed that almost all the ranks were involved in quality assurance, but that senior rank groups (colonels, lieutenant colonels, warrant officers class 1 and sergeants) are more involved in quality assurance than the other ranks. The ETD practitioner respondents indicated that almost all the ranks, with the exception of corporals, are involved to a large extent (66% and more of the respondents) in conducting evaluations of courses and modules. Differentiation is evident for the involvement of different rank groups for the evaluation of an ETD provider as an education, training and development system. Lieutenants, warrant officer class 2 and corporals are less involved in evaluations involving the ETD provider as an education, training and development system, than the other ranks. Colonels responded that they performed evaluation and quality assurance tasks in almost all the related activities 100%.

The command element indicated that all the rank groups could be expected to be involved in both the evaluation and quality assurance of education, training and development.

Table 5.15 Quality assurance and evaluation results

	<p>The percentage of ETD practitioners utilised in terms of <u>ETD quality assurance and evaluations</u>.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
a	Develop evaluation instruments (worksheets/ questionnaires).	100.0 *	91.9 *	82.6 *	91.5 *	76.7 *	100.0 *	80.0 *	86.2 *	79.1 *	72.7 *
b	Evaluate the effective implementation of the ETD process (design, development and delivery) of:										
	• The training unit	100.0 *	76.9 *	67.4 *	74.6 *	60.0 *	95.0 *	52.8 *	67.0 *	70.5 *	58.3 *
	• A course (learning programme)	100.0 *	84.6 *	76.6 *	74.1 *	66.7 *	100.0 *	69.4 *	73.3 *	76.7 *	62.5 *
	• A module (unit standard)	100.0 *	84.6 *	74.5 *	72.4 *	66.7 *	100.0 *	69.4 *	73.3 *	78.2 *	58.3 *
c	Compile evaluation reports.	100.0 *	89.7 *	80.9 *	78.3 *	80.0 *	90.0 *	80.0 *	78.0 *	75.9 *	62.5 *

Table 5.15 Quality assurance and evaluation (continued)

	<p>The percentage of ETD practitioners utilised in terms of ETD quality assurance and evaluations.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
d	Manage a quality management system.	100.0 *	84.6 *	74.5 *	71.7 *	63.3 *	90.0 *	69.4 *	65.9 *	69.4 *	60.6 *
e	Provide a quality assurance consultancy service.	85.7 *	76.9 *	61.4 *	65.0 *	46.7 *	80.0 *	61.1 *	60.4 *	67.8 *	56.5 *
f	Measure progress in terms of the Workplace Skills Plan(s).	85.7 *	71.8 *	67.4 *	64.4 *	50.0 *	85.0 *	61.1 *	69.2 *	67.4 *	65.2 *
g	Monitor ETD quality assurance processes.	100.0 *	76.9 *	65.2 *	65.0 *	46.7 *	80.0 *	58.3 *	60.4 *	65.1 *	60.9 *
h	Compile quality assurance reports.	100.0 *	76.9 *	63.0 *	61.7 *	50.0 *	85.0 *	58.3 *	62.6 *	67.8 *	65.2 *

An analysis of the effect of ETD practitioner post titles on the utilisation of ETD practitioners revealed that ETD practitioners in managerial and senior facilitation positions are more likely to be involved in quality assurance than those in other ETD practitioner positions. With regard to the evaluation of education, training and development, there are no clear distinctions between the post title descriptions of the ETD practitioner and the utilisation of ETD practitioners to conduct evaluations.

In conclusion, the results showed that the ETD practitioner respondents from all rank groups and positions are involved in education, training and development evaluation and quality assurance. However, differentiation is evident between the level of involvement in evaluation and quality assurance activities for the different rank groups and ETD practitioner positions. Senior rank groups and ETD practitioners in senior positions are more inclined to be involved in quality assurance tasks than those in other ranks and other ETD practitioner positions. Almost all the rank groups, with the exception of corporals, are involved to a large extent in the evaluation of education, training and development of courses and modules. Junior rank groups are less involved in the evaluation of the ETD provider as an education, training and development system.

The command elements indicated that they could expect ETD practitioners from all rank groups and positions to be involved in the evaluation and quality assurance of education, training and development at various levels of complexity.

In compiling a competence profile for evaluation and quality assurance competences, it is deduced from the results that a differentiation should be made between evaluation activities and quality assurance activities. In addition, it is deduced that two levels should be discerned for evaluation activities. The applied competences for evaluation and quality assurance are summarised in Table 5.16.

Table 5.16 Applied competences for quality assurance and evaluation

Level	Rank groups	Post titles	Applied competences	Learner support level
QUALITY ASSURANCE				
Quality assurance	Colonels/captains (SAN), lieutenant colonels/commanders, warrant officers class 1 and sergeants	ETD practitioners in managerial positions, senior facilitators and/or ETD specialists	<input type="checkbox"/> Design a quality assurance system. <input type="checkbox"/> Manage a quality assurance system	ETD system level 4 (NQF L6) [#]
EDUCATION, TRAINING AND DEVELOPMENT EVALUATION				
Advanced evaluation	Colonels/captains (SAN), lieutenant colonels/commanders, warrant officers class 1 and sergeants	ETD practitioners in managerial positions, senior facilitators and/or ETD specialists	<input type="checkbox"/> Design an evaluation system. <input type="checkbox"/> Design evaluation instruments. <input type="checkbox"/> Evaluate the ETD provider as an education, training and development system	ETD system level 4 (NQF L5)
Basic evaluation	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Evaluate a course or a module using given instruments	ETD system level 4 (NQF L4)

* SAN: South African Navy

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

Finally, the evidence that there is a high expectancy for ETD practitioners to perform evaluation and quality assurance activities (Table 5.15), combined with the evidence that only a small percentage of ETD practitioners have attended courses in evaluation (19,8%) and in the management of quality assurance (13,6%), signifies that there is a training need in this regard for ETD practitioners in the South African National Defence Force.

5.4.7 Findings and conclusions for the management role

Management and administration are integral to the ETD practitioner occupation, especially with the introduction of the South African Qualification Authorities guidelines and criteria on these matters. As with all the preceding roles, it is argued that it should be possible to distinguish between different levels of management for ETD practitioners at the ETD provider level. In the proposed model (see section 3.4.6) it was suggested that a distinction should be made between ETD practitioners who are appointed in managerial posts and those who are described as ETD facilitators.

According to Table 5.17 the results confirmed that all the ETD practitioner respondents are involved in management and administration. The results, furthermore, confirmed that there is a difference in the tasks of senior officers and warrant officers compared to the other ranks. ETD practitioner respondents in managerial positions are more involved in policy writing, general management tasks, and the management of the accreditation of the provider. With the exception of captains, lieutenants and corporals, almost all the rank groups are involved to a large extent (66% and more) in the planning and coordination of learning programmes, general administration and adherence to regulations and policies. It is mostly the colonels and warrant officers class 1 that are involved to a large extent (66.7% and higher) in the management of the accreditation status of the unit and recognition of prior learning. Colonels indicated that they are expected to perform management, coordination and administrative tasks in up to 100% of the cases. The responses of members of the command element confirmed that they expect almost all the rank groups to be able to perform almost all the managerial tasks.

ETD practitioners in managerial roles, coordinating roles, senior facilitators and ETD specialists reported a higher level of involvement than other positions for policy writing, general management tasks and the management of the accreditation of the provider.


Table 5.17 ETD management and administration results

	<p>The percentage of ETD practitioners utilised in terms of ETD management and administration.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
a	Compile ETD instructions to be implemented at the unit.	100.0 *	74.0 *	63.8 *	60.0 *	44.8	95.0 *	63.9 *	51.1	69.8	56.5
b	Compile standard operating procedures for the ETD practices at the unit.	100.0 *	82.1 *	67.4 *	60.0 *	51.7	95.0 *	75.0 *	55.6	68.2	56.5
c	Execute the following general management tasks:										
	• Manage ETD practitioners.	100.0 *	82.1 *	72.3 *	64.4 *	50.0	85.0 *	72.2 *	56.2 *	64.0	52.2
	• Contribute to budgetary process.	100.0 *	82.1 *	76.6 *	61.0 *	48.3	90.0 *	69.4 *	61.1 *	66.3	52.2
	• Manage resources.	100.0 *	84.6 *	80.9 *	73.3 *	53.3 *	90.0 *	80.6 *	67.4 *	67.8 *	56.5

Table 5.17 ETD management and administration results (continued)

	<p>The percentage of ETD practitioners utilised in terms of ETD management and administration.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p>■ Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/Commander	Major/Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/Flight Sergeant/Chief Petty Officer	Sergeant/Petty Officer	Corporal/Leading Seaman
<ul style="list-style-type: none"> Maintain equipment. Manage records (of programmes, learners, clients). Maintain an information management system. Manage learning programmes as projects. Ensure adherence to occupational health and safety regulations. Ensure adherence to national legislation, professional and statutory regulations, and DOD doctrine and policies. 		100.0 *	87.2 *	80.9 *	80.0 *	53.3 *	95.0 *	83.3 *	77.5 *	78.4 *	65.2
		100.0 *	82.1 *	83.0 *	78.3 *	65.5 *	95.0 *	88.9 *	74.2 *	76.1 *	65.2
		100.0 *	79.5 *	72.3 *	64.4 *	53.3 *	90.0 *	75.0 *	61.8	69.4	59.1
		100.0 *	79.5 *	73.9 *	69.5 *	53.3 *	90.0 *	77.8 *	66.7 *	70.6 *	63.6
		100.0 *	84.6 *	78.7 *	76.7 *	63.3 *	95.0 *	83.3 *	76.4 *	77.6 *	63.6
		100.0 *	87.2 *	80.9 *	78.0 *	63.3 *	90.0 *	82.9 *	66.7 *	74.4 *	63.6
d	Execute physical resource planning.	100.0 *	89.7 *	66.7 *	64.4 *	53.3 *	94.7 *	71.4 *	61.8 *	71.3 *	59.1

Table 5.17 ETD management and administration (continued)

	<p>The percentage of ETD practitioners utilised in terms of ETD management and administration.</p> <p>* ETD managers' (command element) requirements regarding the utilisation of ETD practitioners.</p> <p> Two-thirds majority (66% and higher)</p>	Officers					Warrant Officers		Non-commissioned Officers		
		Colonel/Captain (SA Navy)	Lieutenant Colonel/ Commander	Major/ Lieutenant Commander	Captain/Lieutenant (SA Navy)	2nd and 1 st Lieutenant/ Sub-Lieutenant	Warrant Officer Class 1	Warrant Officer Class 2	Staff Sergeant/ Flight Sergeant/ Chief Petty Officer	Sergeant/ Petty Officer	Corporal/ Leading Seaman
e	Conduct annual planning, scheduling and control over ETD as a level 4 provider.	100.0 *	83.8 *	70.2 *	69.5 *	50.0 *	95.0 *	69.4 *	61.8 *	68.2 *	59.1
f	Coordinate more than one learning programme.	100.0 *	92.1 *	80.9 *	76.7 *	53.3 *	95.0 *	91.4 *	71.9 *	76.1 *	72.7
g	Coordinate one learning programme.	100.0 *	86.8 *	80.4 *	85.0 *	63.3 *	100.0 *	85.7 *	78.7 *	77.9 *	68.2
h	Plan and conduct a learning event .	100.0 *	89.5 *	82.6 *	86.7 *	75.9 *	95.0 *	88.9 *	80.5 *	86.2 *	82.6
i	Manage the accreditation status of the unit.	85.7 *	66.7 *	48.9 *	48.3	43.3	70.0 *	52.8 *	50.0	61.6	52.2
j	Manage recognition of prior learning.	85.7 *	61.5 *	44.7 *	50.0	40.0	80.0 *	47.2 *	52.2	64.0	52.2

In conclusion, the results confirmed that although the majority of ETD practitioner respondents from almost all the rank groups and positions are involved in the management of education, training and development, it is possible to discern two levels of utilisation for this function. The results also confirmed that the command elements could expect ETD practitioners from all rank groups and positions to be involved in the management of education, training and development. The applied competences pertaining to these two levels are summarised in Table 5.18.

Table 5.18 Applied competences for management and administration

Level	Rank groups	Post titles	Applied competences	Learner support level
Management	Colonels/captains (SAN), Lieutenant colonels/Commanders Majors/lieutenant Commanders Warrant officers class 1 and 2	ETD practitioners in managerial positions, senior facilitators and ETD specialists	<input type="checkbox"/> Perform general management tasks. <input type="checkbox"/> Compile instructions and standard operating procedures. <input type="checkbox"/> Manage the accreditation status of the provider. <input type="checkbox"/> Manage recognition of prior learning.	ETD system level 4 (NQF L5) [#]
Coordination and administration	All ranks (corporals to colonels)	ETD practitioners from all positions	<input type="checkbox"/> Perform administrative functions. <input type="checkbox"/> Coordinate learning programmes. <input type="checkbox"/> Manage equipment and physical resources.	ETD system level 4 (NQF L4)

* SAN: South African Navy

(...)[#] The National Qualifications Framework levels for relevant unit standards as proposed by the researcher

Finally, based on the findings in Table 5.17 that there is a high expectancy of ETD practitioners to perform this task, and the emphasis that the South African Qualifications Authority places on management and administration of processes, it is important to ensure that the appropriate ETD practitioners are capacitated to perform these tasks. The existence of a training need in this regard is further emphasised by the finding in section 5.3 that more than 70% of the ETD practitioner respondents have never attended management courses.

5.5 CONCLUDING REMARKS

In the preceding chapters the competence profile of ETD practitioners was viewed from a theoretical approach and an applied approach by means of a proposed model for ETD practitioners in the South African National Defence Force. In this chapter the results obtained from the ETD practitioner respondents as well as the ETD managers (referred to as the command element) at the ETD providers, pertaining to the utilisation of ETD practitioners were analysed and interpreted against the background of the preceding discussions in Chapters 2 and 3, which delineated the theoretical and applied perspectives on a competence profile for ETD practitioners.

The purpose of this chapter was to provide an exposition of the results of the research investigation. An integrated approach was followed in the discussions to compose the findings of the results with the theoretical framework (refer to Chapter 2) and the proposed competence profile for ETD practitioners in the South African National Defence Force (refer to Chapter 3). Although the discussions and conclusions focused on answering the research questions, what follows is a summary of the findings and conclusions. Chapter 6 reports on the answers to the research questions.

The results of the environmental analysis showed that there are critical factors that influence the current utilisation and training of ETD practitioners. One of the critical factors is the incompatibility between the South African Qualifications Authority and the South African National Defence Force processes as a result of a number of practices: the drawn out processes to register and certify learners on the National Learner Record Data Base and the continuous updating of unit standards every three years are the main causes of incompatibility between these two macro-organisations. Some of the factors in the South African National Defence Force that cause incompatibility include the frequent rotation of ETD practitioners between the education, training and development and functional environments, as well as the transfer of ETD practitioners into education, training and development positions rather than following the process of recruitment, selection and the appointment of the most suitable candidate. Another factor is the increasing demand for standardised credit-bearing training, which has resulted in an increase in learning programmes scheduled annually and a subsequent administrative burden. The combined effect of the preceding factors has an impact on the education, training and development

roles and tasks that ETD practitioners have to perform and creates a challenge for the utilisation and training of ETD practitioners.

In addition, it is evident that the focus of the training of ETD practitioners is on the facilitation of learning and assessment of learning. Considering the number of ETD practitioners who have not yet attended courses in needs analysis, research and development, moderation, training management, quality assurance and evaluation, a training gap for these competences was identified. Taking into account the environmental factors and the significant training gap that was identified, the following question arises: "Which ETD practitioners should be trained, in which topics at what time in their careers?"

The complexity of the answer to this question has been confirmed by the absence of the statistically significant correlation between variables, such as rank, position and qualification that might influence the utilisation of ETD practitioners in the different ETD roles. It seems there is no statistically significant organising principle for the compilation of a competence profile for the utilisation of ETD practitioners within the South African National Defence Force.

The main cause of the statistical insignificance is the large-scale involvement of most of the ETD practitioners in all the ETD roles. The results, furthermore, confirmed that the utilisation of ETD practitioners over the whole spectrum of ETD roles concurs with the expectations of the members of the command element in terms of what they could expect ETD practitioners to do, i.e., how ETD practitioners could be employed. These findings correspond with the observation of the National Training Board Task Team (1993:31) that ETD practitioners will perform all the roles to a greater or lesser extent as part of their overall job.

An analysis of the descriptive statistics revealed that, despite vast involvement in all the roles, it seems as though various levels of performance could be possible. The results indicated that it is possible to discern between primarily two different levels of performance for each role, which appear to be related to seniority in rank and the education, training and development position that the ETD practitioner occupies. Variances were also found for the mode of training delivery. As expected, a smaller group of ETD practitioners are involved in computer-based training and online training, but even in these cases it was possible to discern different levels of performance in terms of seniority in rank and position.

It is deduced from the preceding discussions that the design of a competence profile for ETD practitioners should include different levels of performance for the different roles. The applied competences described at the different performance levels will be indicative of the increasing levels of complexity in terms of knowledge, skills and employee autonomy. It is furthermore deduced that the different levels of performance, as set out in the competence profile, should be reflected in the career development strategies and training strategies for the utilisation, training and development of ETD practitioners in the South African National Defence Force. Finally, it is deduced that a competence profile, if investigated and compiled from a systems approach, yields an organising principle for the development of career and learning pathways for ETD practitioners in the South African National Defence Force.

Chapter 6

Conclusions and Recommendations

6.1 INTRODUCTION

The notion exists in the South African National Defence Force that a special dispensation is required for education, training and development practitioners (ETD practitioners) that will recognise their unique competence profile. It is envisaged that an understanding of the competence profile of ETD practitioners in the South African National Defence Force will provide the necessary answers for the development of relevant, appropriate and suitable career strategies, as well as training strategies that will in turn contribute to the development of such a dispensation.

Several environmental factors and changes necessitated an investigation into a competence profile for ETD practitioners in the South African National Defence Force, because of the implications it has for their utilisation, training and development. These factors include:

- ❑ The Department of Defence Human Resource Strategy 2010, which aims to ensure the availability of the right number and quality of human resources in the right places at the right time, that are effectively, efficiently and economically managed and administered.
- ❑ The introduction of mixed mode training delivery, that ranges from face-to-face learning facilitation to online learning facilitation.
- ❑ The current practices regarding the appointment, utilisation and education, training and development of ETD practitioners in the South African National Defence Force.

The preceding factors gave rise to the need to identify the particular competences required by ETD practitioners in the South African National Defence Force to develop suitable and appropriate career and training strategies. These factors include:

- ❑ Increase the proficiency of performance of ETD practitioners, thus ensuring achievement of the organisational goals and objectives in a mixed mode training delivery context, as well as an outcomes-based education and training context.

- ❑ Decrease costs and learning time of ETD practitioners through:
 - The timely recruitment, selection, appointment, and training of suitable candidates.
 - The design, development and delivery of suitable and appropriate learning programmes for ETD practitioners.
- ❑ Address knowledge, skills and attitude deficiencies in the short and long term to ensure quality, sustainable and continuously improved services and products to the benefit of the organisation and the individual ETD practitioner.

Against this background the research problem was to describe the competence profile of ETD practitioners in the South African National Defence Force involved in a mixed mode training delivery context, from which flexible, progressive, portable and output-driven career and training strategies could be developed.

To find an answer to this question, the following subsidiary questions were asked:

- ? *What roles are required of ETD practitioners in the South African National Defence Force?*
- ? *What core competences are required for the different roles associated with ETD practitioners in the South African National Defence Force?*
- ? *Are there clearly discernable levels for the different roles and competences of ETD practitioners in the South African National Defence Force, and if so, which levels and how many levels exist?*
- ? *What clusters of competences are required by ETD practitioners in the South African National Defence Force and at what levels do these competences apply for the different roles?*
- ? *What factors in terms of, for example, appointment, rank and institutional category, provide the best discernable criteria for an organising principle?*

The research investigation to answer these questions progressed as follows:

Chapter 2 explored the literature to establish a conceptual framework that provided the concepts and parameters to collect data and analyse the result to answer the subsidiary questions. A didactic analysis was done of the different roles and performance levels from an outcomes-based education and training perspective as well as a systems perspective. The outcomes-based education and training perspective was used to explain the content of the different ETD practitioner roles as identified by the Occupation Directed ETD Task team. This perspective clarified what needs to be done within a role to ensure that the objectives of outcomes-based education and training are achieved. The systems approach was used to explain where the roles fit into the education, training and development system and to describe the relevant performance levels that are associated with the different instructional system design levels. For this purpose the instructional systems design model of Romiszowski was selected to establish the theoretical foundation for the identification of the different performance levels.

In Chapter 3 the theoretical analysis was applied to ETD practitioners in the South African National Defence Force context. The aim of this chapter was to provide a proposed competence profile that describes the ought-to-be end state for the utilisation and development of ETD practitioners in the South African National Defence Force. The proposed competence profile was deduced from the theoretical analysis of the outcomes-based education and training approach, as well as the systems approach described in Chapter 2. The proposed competence profile was the result of the consolidated views of individual expert participants in the South African National Defence Force. In the proposed competence profile the various organisational levels of the South African National Defence Force were aligned with the instructional systems design levels described by Romiszowski. The purpose of the proposed competence profile was to describe the competences required by ETD practitioners in the South African National Defence Force within the various education, training and development roles at the various organisational levels, i.e., the macro-, meso- and micro-levels. The proposed competence profile delineated the competence profile for incumbents involved in education, training and delivery at the macro-, meso- and micro-levels in order to define and clarify the competence profile for ETD practitioners at the micro level.

Chapter 4 described the research design and methodology that were used in this study. A primarily positivist social science approach was followed. An applied research approach and a primarily quantitative approach were used. Survey research was conducted by means of three questionnaires. The first was semi-structured and completed by either the commanding officers or the training managers (referred to as the command element from this point forward) at the education, training and development providers (ETD providers). The purpose of this questionnaire was to conduct a situational analysis to gain insight into the context in which the ETD practitioners are utilised, trained and developed. Twenty-one of these questionnaires were completed. The second questionnaire was structured and also completed by the command element. Its purpose was to determine the command elements' expectations of what the ETD practitioners should do. Twenty-one of these questionnaires were completed. The third questionnaire was a structured questionnaire, completed by the ETD practitioners. The purpose of this questionnaire was to determine how ETD practitioners are utilised in terms of the different roles and performance levels. A total of 466 questionnaires that were completed by ETD practitioners were processed. Descriptive statistics were used to analyse the data obtained from the three questionnaires.

Chapter 5 presented the findings of the research study, which was designed to answer the subsidiary questions. These answers collectively contributed to answering the research problem. In this chapter an overview is provided of the environmental analysis, which describes the context within which the ETD practitioners are utilised. It furthermore reflects the biographical composition of the ETD practitioners who participated in the study. This is followed by a discussion of the competence profile of the ETD practitioners. In the discussions, the perceptions of the ETD practitioners on how they are utilised are compared with the perceptions of the education, training and development managers (ETD managers) regarding their requirements for the utilisation of ETD practitioners. This comparison provided an overview of the actual utilisation of ETD practitioners in the South African National Defence Force. In addition, the actual competence profile of ETD practitioners at the micro organisational level, obtained through empirical research, was compared with the literature study (described in Chapter 2) and the proposed competence profile (delineated in Chapter 3) in order to determine the competence gap that has to be addressed by means of career and training strategies.

The following sections report on how the subsidiary questions were answered in terms of the conclusions that are based on the findings of the literature study and the empirical research.

6.2 ROLES REQUIRED OF EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE

This study investigated the seven ETD practitioner roles as described by the Occupation Directed Education, Training and Development Task Team (2003:Part C): needs analysis, design and development, facilitation, learner support; assessment and moderation, quality assurance and evaluation and training management. The findings confirmed the notion that ETD practitioners in the South African National Defence Force are involved in more than one role to a greater or lesser extent, irrespective of their rank or post title. This finding corresponds with similar findings of other researchers such as Davis, Naughton & Rothwell (2004:33), Caffarella (2002:5) and the National Training Board (1994:137). The responses of the command element also confirmed that it requires ETD practitioners from almost all rank groups and positions in the South African National Defence Force to be involved in all the roles.

The involvement of ETD practitioners in a variety of roles implies that they should be able to cross over from one role to the other and that they must be able to apply a broad range of skills (Davis, Naughton & Rothwell, 2004:33). The implications of these findings, for career development and training strategies, are that ETD practitioners could progress from being proficient in a variety of roles at basic levels to either a variety of roles at more complex levels, or a limited number of roles at highly specialised levels. Consequently the development of career paths and training strategies for ETD practitioners should be sufficiently flexible to accommodate different patterns of progression as required by the organisation and the individual.

6.3 CORE COMPETENCES REQUIRED FOR THE DIFFERENT ROLES OF EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE

In analysing the outcomes-based approach and the systems approach, as well as the application of these by the South African Qualifications Authority and the South African National Defence Force, it was concluded that the involvement of ETD practitioners in a variety of roles necessitates the identification of core education, training and development competences. These core competences should form the building blocks that will ensure success in all education, training and development roles. In addition, these competences are

desirable regardless of the education, training and development role. It was furthermore concluded that the suggested compulsory core competences should concur with the proposal made by the National Training Board (1994:134). What follows below are core competences concluded from the literature study and the empirical research, based on the proposal made by the National Training Board:

- ❑ **Occupational (subject matter) expertise.** To be appointed as ETD practitioners nominated or selected candidates are required to have the necessary accredited qualifications, as well as applied occupational competence or work experience.
- ❑ **Contextual understanding.** To be appointed as ETD practitioners and to increase proficiency, it is required to understand the broader society, macro political and economic issues and the context of the Department of Defence, in particular the South African National Defence Force, as an organisation.
- ❑ **Understanding of education, training and development.** For ETD practitioners to perform their roles successfully, they need to:
 - Understand the broader education, training and development issues of South Africa.
 - Understand the outcomes-based education training and development approach in the context of the National Qualifications Framework.
 - Have a basic understanding of the education, training and development systems in terms of the different system components and processes.
 - Have a basic understanding of learning and teaching theories and principles.
 - Be able to conduct elementary and design-based research in education, training and development.

According to the National Training Board Task Team (1994:134) "[T]he combination of these three elements will ensure that practitioners are developed in a broad rather than a narrow sense and will overcome the problem of lack of expertise that often undermines the credibility of education, training and development. The implication of a compulsory core is that no practitioner should be allowed to practice unless s/he can demonstrate competence in all three elements of the core..."

To accommodate a lack of sufficiently qualified ETD practitioners because of phenomena such as the frequent rotation of ETD practitioners, natural attrition, the frequent revision of unit standards, and the consequent inability to train ETD practitioners in time, it is suggested that:

- ❑ Different levels of core competences could be identified, such as basic, intermediate and advanced competences. As the ETD practitioners progress to more complex levels, the relevant core competences could then also increase in levels of expertise, scope and complexity.
- ❑ The development of the education, training and development core competences in particular should not be restricted to formal qualifications and accredited learning only. The development of these core competences could instead be provided through non-formal training such as workshops and seminars.

6.4 LEVELS OF COMPETENCES ASSOCIATED WITH THE IDENTIFIED ROLES FOR EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE

An analysis of the literature research on education, training and development systems and the organisational structure of the South African National Defence Force revealed that several different categories of levels exist. Hence, an investigation into the competence profile of ETD practitioners requires an exposition of these different categories of levels to understand the complex interactivity of these levels and the impact this has on the utilisation of ETD practitioners.

Romiszowski (1981, 1984 and 1988) describes five general stages in a systems approach to instructional systems design that could be summarised as the problem definition stage, the analysis stage, the design and development stage, the delivery stage and the evaluation stage. Romiszowski went further and described four process levels for the needs analysis stage and the design and development stage. Because evaluation of education, training and development is performed at all four levels of the analysis and design and development stages, it is deduced that different process levels should also be applicable to the evaluation stage. Although Romiszowski does not address the management role per se, it was

furthermore concluded that, as with the evaluation of education, training and development, the management thereof also occurs at the four different levels that were identified.

Van Rooy (1993b:104) identifies different levels in the design of education, training and development curricula. This author distinguishes between the macro-level, meso-level and micro-level of curriculum development. Although Van Rooy describes only three levels, these levels coincide with levels of instructional system design described by Romiszowski.

Meyer (1999:140) identifies three environments within any organisation: the development, delivery and application environments. These three environments are also visible in the South African National Defence Force.

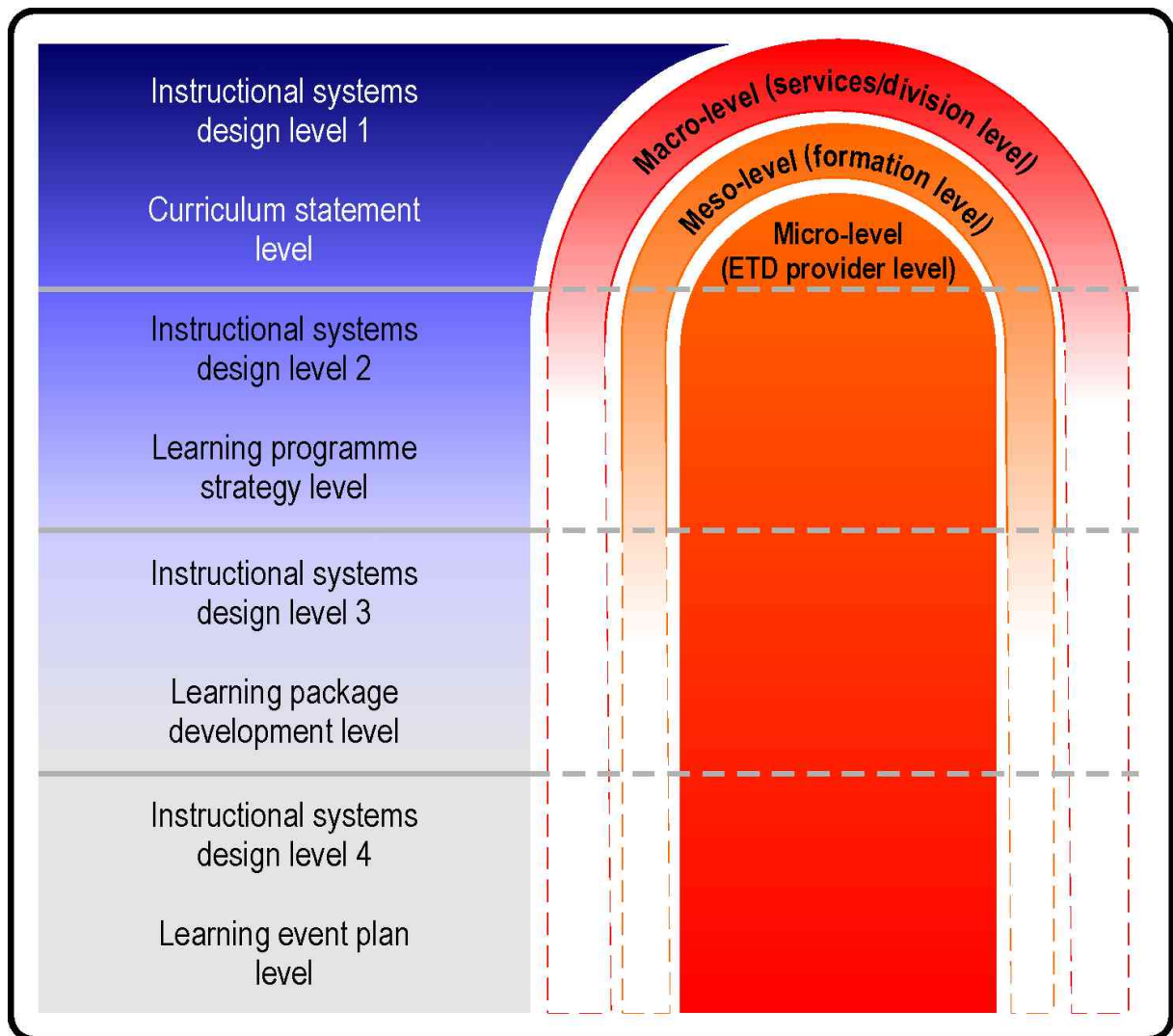
Furthermore, in the education, training and development subsystem of the South African National Defence Force, a distinction is made between the macro-level (strategic level), the meso-level (operational level) and the micro-level (ETD provider level).

Since the seven roles, as described by the Occupation Directed Education, Training and Development Task Team (2003:Part C), coincide to a large extent with the stages described by Romiszowski, it was deduced that different levels of performance should be applicable to the different roles that were identified. A comparison between the levels of performance of the ETD practitioners at the ETD provider level in the South African National Defence Force and the various categories of levels confirmed their complex utilisation. It was found that these ETD practitioners are utilised at all the levels of the various categories of levels that were discussed in the preceding paragraphs.

Since ETD practitioners at the ETD provider level are involved on all four levels of instructional systems design and since they are involved in education, training and development processes at the macro-, meso- and micro-levels of the South African National Defence Force, it was concluded that the competence profile for ETD practitioners should reflect the different categories of levels. The research results indicated, furthermore, that the levels of utilisation for the different roles could be described as basic, intermediate and advanced, depending on the instructional systems design level, the South African National Defence Force organisational structure level and the National Qualifications Framework level descriptors.

Figure 6.1 illustrates the various levels at which ETD practitioners in the South African National Defence Force are required to perform. The figure furthermore illustrates the relationship between the levels associated with instructional systems design and the organisational structure of the South African National Defence Force.

Figure 6.1 The levels of utilisation of education, training and development practitioners in the South African National Defence Force



An analysis of the literature research on the characteristics of systems confirmed that the South African National Defence Force and education, training and development systems could be classified as open systems. It is therefore concluded that the features of an open system should be reflected in the description of the competence profile of ETD practitioners in the South African National Defence Force. Consequently, it is concluded that when the involvement of ETD practitioners is described at different levels from a systems approach, it should be done in terms of guidelines only, and not in terms of rigid rules. Hence, although the distinctions between roles and activities at different levels are clearly discernable, the boundaries of the various roles and levels will remain arbitrary.

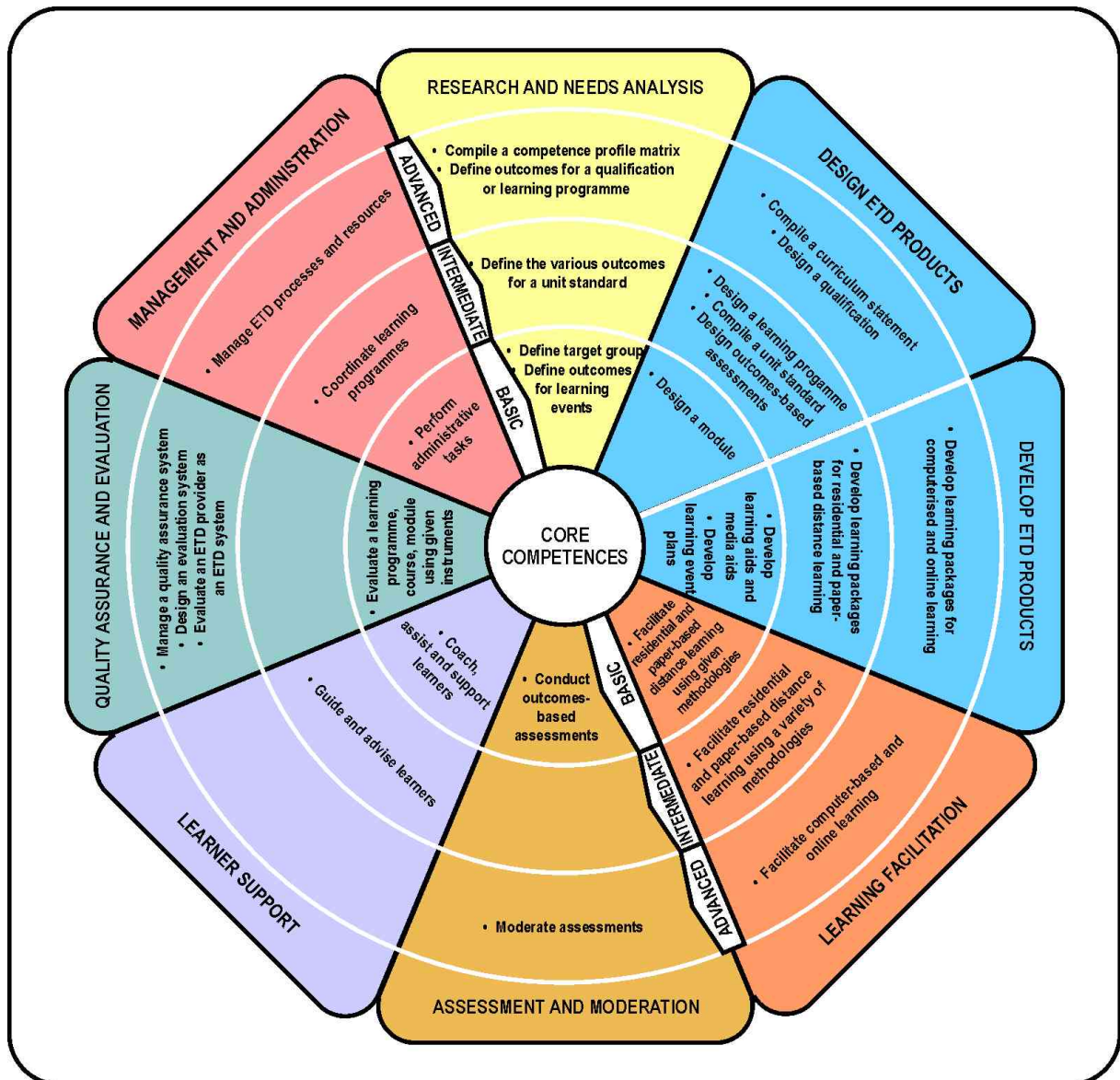
6.5 THE CLUSTERS OF COMPETENCES REQUIRED BY EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE

An examination of education, training and development competences, based on the literature study and research results, revealed that various clusters of competences exist and that each of these consists of a set of related activities. It is concluded from a further analysis of the literature and the research results that a linear approach to the description of the clusters of competences required of ETD practitioners in the South African National Defence Force will be insufficient, since it will not capture their complex day-to-day working reality. An alternative suggestion to the linear approach is to conceptualise the competence profile of ETD practitioners in the South African National Defence Force as clusters of interrelated and dynamic competences at the various levels for the identified roles. Hence, sufficient opportunity should be created to utilise and develop ETD practitioners in the South African National Defence Force in a non-sequential manner. This requires that non-sequential development alternatives should also be considered for career and training strategies.

On the other hand, although it was concluded that non-sequential development should be considered, it is furthermore concluded from an analysis of the literature that some of the competence clusters have to precede others owing to the increasing level of complexity of the content. It is therefore concluded that some of the clusters of competences should be hierarchically distributed, especially within each role. This implies that some of the clusters of competences will precede others as pre-entry requirements for further development.

Figure 6.2 summarises the various clusters of competences that were identified for ETD practitioners in the South African National Defence Force who are appointed at the ETD provider level (i.e., the micro-level of this organisation).

Figure 6.2 The clusters of competences required by education, training and development practitioners in the South African National Defence Force



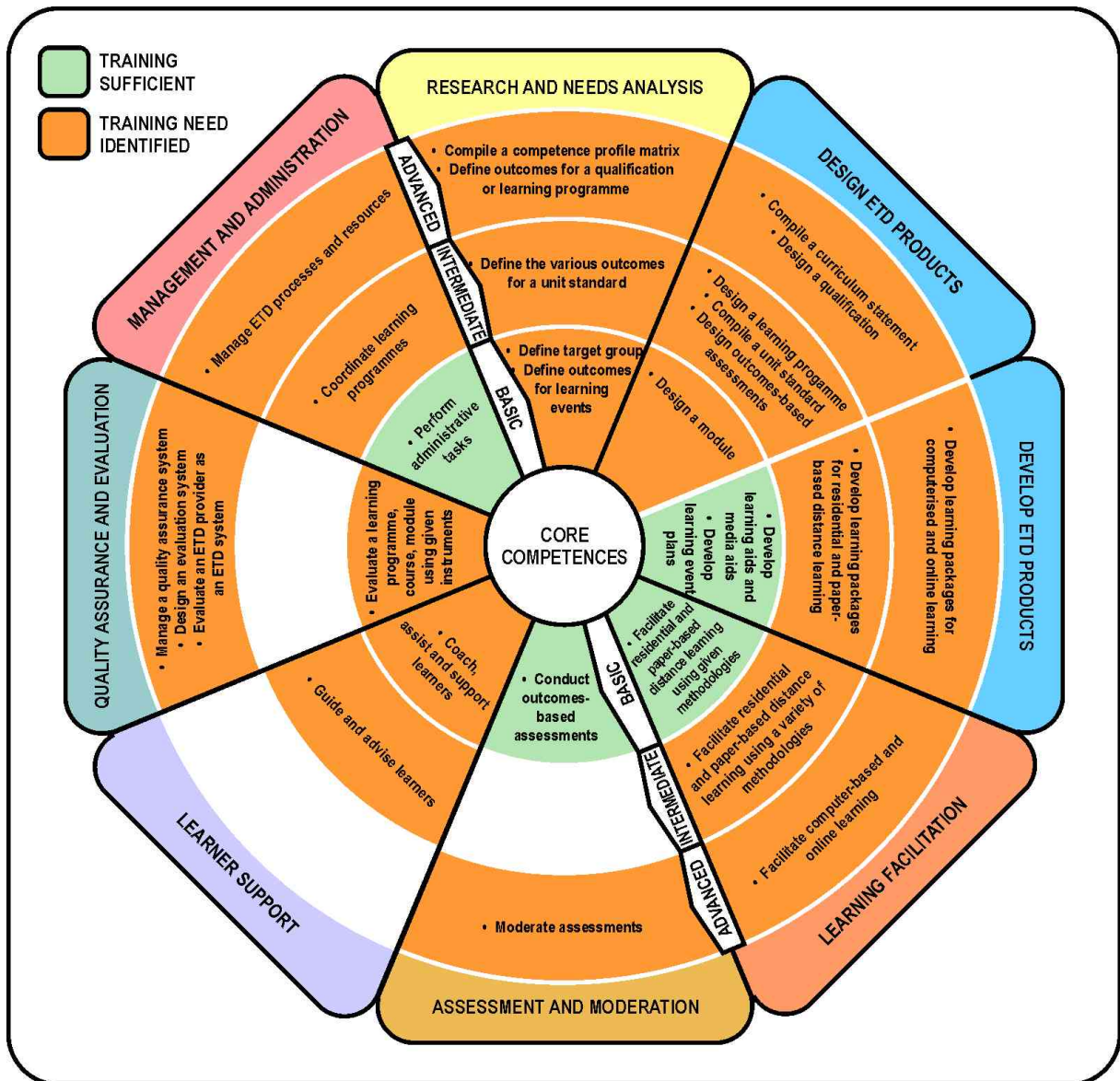
Based on the summary of the research findings in Figure 6.2 it is concluded that:

- ❑ Once ETD practitioners in the South African National Defence Force meet the requirements of the core competences, they should preferably complete the clusters of competences at the basic level.
- ❑ On completion of the basic level they could complete any combination of the clusters of competences, provided that they meet the pre-entry requirements.
- ❑ ETD practitioners could, on completion of the basic level, either complete each subsequent level from the basic to the advanced level, or they could specialise within a role, or they could build personal competence profiles consisting of various combinations of competence clusters.

It is concluded that the description of the competence profile according to clusters of competences at various levels could render a sufficiently flexible, but feasible option for the development of career and training strategies for ETD practitioners in the South African National Defence Force that will satisfy organisational as well as individual requirements.

In addition, to define the competence profile of ETD practitioners in terms of the competences that they are required to perform, the research results revealed the competence gap that exists in terms of the identified clusters of competence. Figure 6.3 is a summary of those clusters of competences for which a training need exists for ETD practitioners in the South African National Defence Force.

Figure 6.3 The existing training need for education, training and development practitioners in the South African National Defence Force



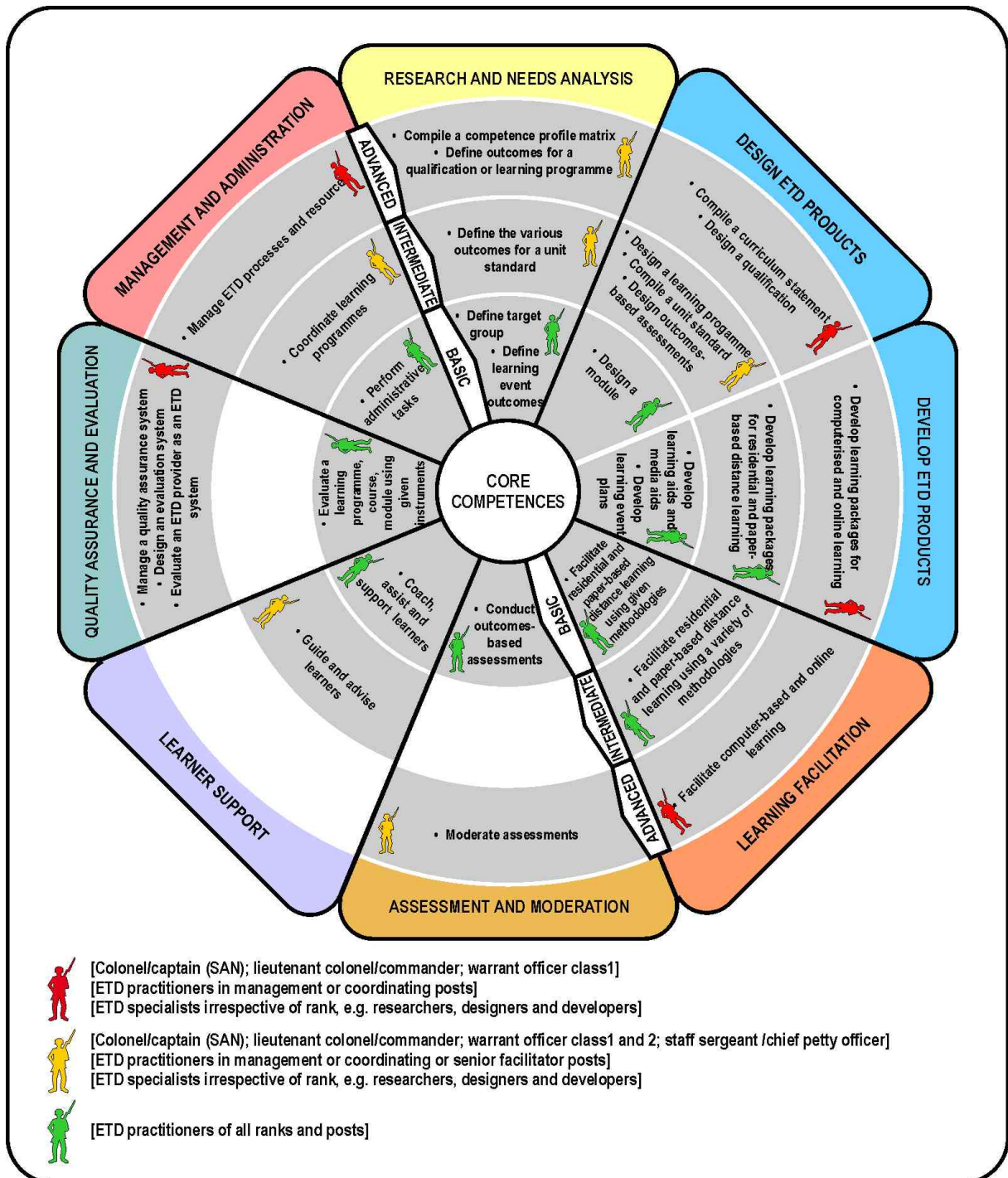
6.6 DEFINING AN ORGANISING PRINCIPLE FOR EDUCATION, TRAINING AND DEVELOPMENT PRACTITIONERS IN THE SOUTH AFRICAN NATIONAL DEFENCE FORCE

The statistical analysis of the correlation between variables such as rank, position and qualification, and the identified roles for ETD practitioners revealed that there is no statistically significant organising principle for the development of a competence profile. Despite the statistical insignificance, a further analysis of the descriptive statistics showed that the majority of ETD practitioners of all ranks and all positions are used in all the roles and associated levels. The research results therefore confirmed the remark of one of the ETD managers that: "ETD practitioners are utilised as needed, where needed, when needed."

Nevertheless, although it was found that ETD practitioners are utilised to a greater or lesser extent in all the roles at most of the levels, a further examination of the descriptive statistics indicated that some variations do exist in terms of rank groups and post descriptions. It is therefore concluded that rank groups and post descriptions could be used as indicators for the development of career and training strategies that will satisfy the requirements of the organisation as well as the individual. It is furthermore concluded that an analysis of the implications of rank groups and post descriptions could be of particular use in the development of a special dispensation for ETD practitioners in the South African National Defence Force.

Figure 6.4 is an illustration of what a competence profile could look like for ETD practitioners in the South African National Defence Force, based on the different rank groups and post descriptions.

Figure 6.4 An example of a competence profile for education, training and development practitioners in the South African National Defence Force in terms of rank groups and post descriptions



However, the use of rank groups and post titles to develop a competence profile should be done with care, considering the insignificant statistical result. It is concluded that, given the complex organisational structure of the South African National Defence Force and the difference in the nature of the content that has to be transferred, a generalised competence profile might be insufficient. It is subsequently concluded that individual alternatives might have to be developed for the different services, divisions, formations and even ETD providers.

6.7 RECOMMENDATIONS

In section 6.2 it was concluded that the involvement of ETD practitioners in a variety of roles is an accepted reality. A concern is, however, the extent of the utilisation of ETD practitioners at the various levels, in particular the more complex levels, of the education, training and development stages and roles. This concern is emphasised by the finding that the majority of ETD practitioners have not attended the necessary courses to develop the required education, training and development skills and that a competence gap exists for most of the identified roles and associated levels.

In addition, several environmental factors were identified that exacerbate the current lack of qualified ETD practitioners, such as the frequent rotation of ETD practitioners between posts, a rapidly changing political and technological environment, the high demand for accredited training and the regular expiry of unit standards.

Resolving the current lack of qualified ETD practitioners is imperative, should the South African National Defence Force wish to ensure education, training and development standards that will promote international approval, national excellence, recognition, accreditation and efficient and effective education, training and development opportunities. Recommendations are therefore made for the development of career and training strategies.

In view of the preceding concerns, it is necessary to develop career and training strategies for ETD practitioners that will address the identified competence gap.

The following recommendations are made to this effect:

- ***A special dispensation is required for ETD practitioners.*** The aim of the ETD practitioner dispensation is to counter the over-extended utilisation of ETD practitioners in roles and at levels for which they are not qualified. A special dispensation implies that:
 - The roles and levels of performance for ETD practitioners should be clearly defined. This could include the development of a competence inventory, which defines the activities associated with each role and each level of performance within a role.
 - Education, training and development managers at the macro-, meso- and micro - levels of the South African National Defence Force need to understand what each role and level of performance entails, in order to revise their expectations of what ETD practitioners should do and what training ETD practitioners require.
 - The career structure of ETD practitioners at ETD providers should be revised. It has become imperative to establish a core of ETD practitioners at each ETD provider who specialise in education, training and development and who remain in these positions for longer periods of time. This is required to counter the loss of expertise that evolves with the frequent, but necessary rotation of ETD practitioners who specialise in the military operational function.
- ***Revising the training strategy for ETD practitioners.*** Because of environmental factors such as a high demand for accredited training and lack of time experienced by ETD practitioners to complete their education, training and development portfolios, it is proposed that:
 - ETD practitioners who will be appointed as education, training and development specialists should be given priority to attend the intermediate and advanced courses.
 - Given the demand for the training of ETD practitioners themselves, education, training and development be outsourced to approved education, training and development providers outside the South African National Defence Force.

- In addition to formal distance learning opportunities, ETD practitioners are also given the opportunity to make use of formal residential learning opportunities to accommodate those who prefer this mode of training delivery.
- Although ETD practitioners have to be given the opportunity to receive accredited training in education, training and development, they are trained, for at least the interim period, by means of non-formal training delivery methods, such as workshops and seminars. This is especially important for South African National Defence Force members who are appointed as managers at ETD providers with limited education, training and development backgrounds.
- It is necessary to revise the credits and content of unit standards for education, training and development to accommodate the demands of and obstacles experienced by ETD practitioners in the South African National Defence Force who are not performing education, training and development as a permanent job.

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Various other military documents were consulted. Because of the restriction on the publishing of information in the Department of Defence, these documents could as a result not be listed.

Appendices



Appendix A



EXAMPLE OF A LEARNING FACILITATION PLAN

LEARNING PROGRAMME NAME	
Module/Subject/Unit Standard	
Purpose of Learning Programme, Module/Subject/Unit Standard	<i>Purpose of learning programme, unit standard, module/subject.</i>
Delivery Mode	<i>Brief description of mode of learning: residential, distance learning (online, paper-based, computer-based, etc.) or blended mode of delivery.</i>
Instructional Strategy	<i>Describe the instructional strategy in terms of "what the facilitator must do". Provide details in terms of the approach: trainer-centred, learner-centred or combination.</i>
Learning Strategy	<i>Describe "what the learner must do". The learning strategy refers to how and where learning takes place. It also describes learner groupings: individual or collaborative.</i>
Applied Competence Cluster	<i>If applicable name the cluster and state the outcome of the cluster</i>

Unit Standard/Specific Outcomes	Facilitator Activity/ Instruction Methods	Learner Activity	Materials	Assessment Plan	Time to complete
<i>The name of the relevant unit standard and the specific outcomes that the learning programme addresses.</i>	<i>Give a brief description of the facilitation methods suitable to achieve the outcome.</i> <i>Sequence the activities.</i> <i>Hints to facilitators in terms of activities.</i>	<i>Give guidelines in terms of group size.</i> <i>Give a brief description of the learner activities.</i> <i>Sequence the activities.</i>	<i>List learning material available and necessary.</i> <i>List resources, equipment and facilities necessary for the activities.</i>	<i>The assessment method and activities suitable to achieve the outcome.</i> <i>Include developmental learner feedback.</i>	<i>Give an estimate of the time (days or hours) needed.</i>
UNIT STANDARD TITLE: Specific Outcome ** and name Specific Outcome ** and name Specific Outcome ** and name			LEARNING MATERIAL LEARNING AIDS RESOURCES EQUIPMENT FACILITIES VENUES		
			Total development cost and time	Total implementation costs	Total learning time

Appendix B



EXAMPLE OF A LEARNING EVENT PLAN

Learning Event Title: *Learning Event Title*

Outcomes of this lesson: *At the end of the lesson, learners should be able to ...*

Preparation:

1. **Physical environment:** Venue, facilities and platforms
2. **Equipment and materials:** Media, learning material, tools, etc.
3. **Facilitator:**
4. **Target group:**
5. **Date:**

Time	Activities	Facilitator activity (<i>Stimulus</i>)	Learner activity (<i>Response</i>)	Learning material and aids	Assessment methods and activities	Continuous assessment and feedback (<i>Reinforcement</i>)
	<i>Introduction</i>					
	<i>Review of past work</i>					
	<i>Explain specific outcomes and learning outcomes</i>					
	<i>Present learning outcomes:</i> <i>Learning Outcome ** and name</i> <i>Learning Outcome ** and name</i> <i>Learning Outcome ** and name</i>			<i>List source reference for learning outcomes.</i> <i>List learning aids for activities.</i>		<i>Describe how new learning will be reinforced by e.g. questioning, repetition, practice, etc</i>
	<i>Summarise and close</i>					

Appendix C



SANDF COLET SURVEY



ETD Practitioner Competence Profile: Training Unit Questionnaire (1)

TO THE COMMANDING OFFICER

- SANDF COLET is conducting research with the aim to compile a competence profile of the education, training and development practitioners (ETD practitioners) in the Department of Defence. (ETD practitioner refers to the full spectrum of ETD roles: ETD researchers, designers, developers, facilitators/instructors, assessors, moderators, quality assurers and managers.)
- The results of the ETD Practitioner Competence Profile survey will help us to determine the current utilisation of the ETD practitioners and to design a development map for the ETD practitioners in the Department of Defence. It is important, therefore, that you respond truthfully to the items in this questionnaire.
- The results of this particular questionnaire (Training Unit Questionnaire-1) will enable us to contextualise the findings obtained by means of two other supplementary questionnaires, namely:
 - o The Training Unit Questionnaire -2. This questionnaire should be completed by the Commanding Officer(s) or the SO1 Training/Training Commander. The questionnaire is completed for each branch/school **where the subject matter differs considerably between them**. The questionnaire is attached in order to give you sufficient time to collect the relevant data.
 - o The ETD Practitioner Questionnaire. This questionnaire should be completed by the ETD practitioners themselves. This questionnaire will be administered as far as possible by members from SANDF COLET, in accordance with prior arrangements.
- It is easy to complete the questionnaire since most questions are answered simply by circling the appropriate number of the applicable response. ***There are no right or wrong answers.***
- We appreciate your co-operation in providing the information requested.

(C. MOORHOUSE)

SANDF COLET EDUCATION, TRAINING AND DEVELOPMENT RESEARCHER: MAJ



6. What factors influence the training and development of ETD practitioners at your unit?

7. To what extent are the ETD practitioners utilised in other roles?

THANK YOU!



Please Turn Over

Appendix D



SANDF COLET SURVEY



ETD Practitioner Competence Profile: Training Unit Questionnaire (2)

TO THE COMMANDING OFFICER

- SANDF COLET is conducting research with the aim to compile a competence profile of the education, training and development practitioners (ETD practitioners) in the Department of Defence. (ETD practitioner refers to the full spectrum of ETD roles: ETD researchers, designers, developers, facilitators/instructors, assessors, moderators, quality assurers and managers.)
- The results of the ETD Practitioner Competence Profile survey will help us to determine the current utilisation of the ETD practitioners and to design a development map for the ETD practitioners in the Department of Defence. It is important, therefore, that you respond truthfully to the items in this questionnaire.
- This questionnaire could be completed by the Commanding Officer(s) or the SO1 Training. This questionnaire is completed for each branch/school *where the subject matter differs considerably between them.*
- It is easy to complete the questionnaire since most questions are answered simply by circling the appropriate number of the applicable response. *There are no right or wrong answers.*
- We appreciate your co-operation in providing the information requested.

(C. MOORHOUSE)

SANDF COLET EDUCATION, TRAINING AND DEVELOPMENT RESEARCHER: MAJ

SECTION A: SMALLEST TRAINING UNIT BIOGRAPHICAL DETAILS

(THIS QUESTIONNAIRE HAS TO BE COMPLETED PER SMALLEST ETD SECTION, IT IS IN TERMS OF BRANCHES/SCHOOLS OR WINGS/CENTRES, WHICHEVER IS THE SMALLEST)

1. Within which Service or Division do you serve?	
Secretariat for Defence	1
SA Army	2
SA Air Force	3
SA Navy	4
SA Military Health Service	5
Defence Intelligence Division	6
Joint Operations	7
Joint Support	8
Corporate Staff	9

2.	What is the name of your unit?		(Unit Code)					
3.	What is the name of your centre/wing?							
4.	What is the name of your school/branch?							
5.	Briefly describe the primary field of training/expertise.							

6. Please provide the staffing statistics for ETD practitioners (facilitators/instructors, R&D personnel and ETD managers included) in terms of rank groups?		Number of posts	Number of posts staffed	Number of posts vacant
a	Brigadier general or rear admiral (JG) and higher			
b	Colonel or captain (SAN)			
c	Lieutenant colonel or commander			
d	Major or lieutenant commander			
e	Captain or lieutenant (SAN)			
f	2 nd , 1 st Lieutenant or sub-lieutenant			
g	Warrant officer class 1			
h	Warrant officer class 2			
i	Staff sergeant, flight sergeant or chief petty officer			
j	Sergeant or petty officer			
k	Lance corporal or able seaman to corporal or leading seaman			
l	Private, airman or seaman			
m	Civilian - assistant director and higher			
n	Civilian - lower than assistant director			

7. Please indicate the training status (in terms of total numbers) of your ETD practitioners(facilitators/instructors) with regard to the listed unit standards. (Note: The complete names were not provided due to changes in titles.)		Never Attended	Attended, Not Yet Competent	Attended, Competent
a	Plan learning events			
b	Prepare learning aids			
c	Facilitate learning (NQF L4)			
d	Facilitate learning (NQF L5)			
e	Conduct assessments			
f	Design assessments			
g	Moderate an assessment			
h	Assist and support learners			
i	Guide and advise learners			
j	Design a curriculum			
k	ETD level 1 presented by SANDF COLET			
l	ETD level 2 presented by SANDF COLET			

PLEASE ENCIRCLE THOSE RANKS OF WHOM IT IS EXPECTED TO PERFORM THE LISTED ETD TASKS.

SECTION B: ETD RESEARCH AND NEEDS ANALYSIS

8	In terms of conducting <u>ETD research and training needs analyses</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj/ Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
a	Conduct a situational analysis to determine the Department of Defence operational requirements.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Identify and determine training needs.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	Analyse physical and human resource constraints imposed on the design and presentation of learning programmes.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	Formulate ETD outcomes (learning objectives) for:															
e	• The unit.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• A learning programme (course).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	• A module.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	Determine the impact of external factors (e.g. national and/or international) on the ETD provided at the unit.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	Produce research reports on ETD related aspects.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	Identify Unit Standards that are aligned with the ETD outcomes (learning objectives).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	Write Unit Standard(s).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
k	Determine the most feasible mode of training delivery, i.e., residential and/or distance learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

SECTION C: DESIGN AND DEVELOP

9	In terms of the <u>design and development of learning programmes</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCp/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
	Design a:															
a	• Design a Qualification.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	• Design a Learning programme/skills programme (course) consisting of several modules.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	• Module.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Determine the content for the development of a:															
d	• Qualification.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	• Learning programme (course).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• Unit standard (module).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	Design broad assessment strategies . (This includes e.g. the assessment purpose, approach, conditions, special assessment needs, resources, instructions to role players, appeals procedures and assessment process.)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	Design a learning programme strategy (curriculum) .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	Design ETD evaluation strategies to determine adherence to training principles.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

10	In terms of the <u>development of learning material and guides</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
	Coordinate the development of learning packages for:															
a	• Residential learning (Facilitator or Instructor-led learning).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	• Paper-based distance learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	• Computer-based learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	• Online/E-learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	Develop learning material for: • Residential learning (Facilitator or Instructor-led learning).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• Paper-based distance learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	• Computer-based learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	• Online/E-learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	Develop learning aids for residential learning (e.g. transparencies, posters).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	Develop power point presentations .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
k	Develop assessment instruments for: • Residential learning (Facilitator or Instructor-led learning).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
l	• Paper based distance learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
m	• Computer based learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
n	• Online/E-learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

10	In terms of the <u>development of learning material and guides</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
o	Compile installation guides for computer based learning material.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
p	Develop evidence guides for Recognition of Prior Learning .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

11	In terms of the <u>development of computerised learning materials</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
a	Develop computerised learning material to transfer knowledge contents through step-by-step procedures in a format similar to that of power point presentations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Develop computer assisted instruction materials where the computer packages supplement instructor-led/facilitator-led training by providing additional drills and tutorials.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	Develop computer managed instruction material where the computer assesses the trainee's initial level of competence and then provides a customised set of learning modules and exercises.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	Develop computer based learning material where an entire learning programme is mediated by the computer in terms of presentation of content, active learner participation, guidance for the learner, assessment of the learner progress and the tracking of learner progress.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	Develop hypermedia environments interlinking on-line information. (e.g. Intranet, Internet).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	Develop knowledge construction environments through collaboration (e.g. e-mails, chat rooms, bulletin boards).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

12	In terms of the development of computerised learning materials, how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
a	Courseware developer – To author (create) lesson designs, flowcharts, storyboards; design static and animated graphics, performance exercises, simulations and interactive sequences; programme lessons with authoring systems.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Instructional designer – Develops standards and instructional strategies for computerised training lessons; assists with lesson authoring; reviews completed lesson designs, flowcharts and storyboards for conformance with ETD best practices and didactical principles.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	Subject matter expert – Provides information on subject matter; reviews lesson designs, flowcharts, storyboards and programmed lessons for content accuracy and currency.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	Courseware programmer – Programs lessons with authoring languages and authoring software; develops static and animated graphics with authoring languages.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	Graphic artist – Develops graphics on paper for inclusion as an interactive still-frame; may develop initial illustrations for complex computer-generated graphics.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	Computer artist – Develops computer-generated graphics for inclusion as a still-frame.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	Multi-media specialist – Films motion and still-frame sequences; coordinates audio narration; assists in planning pre-master tape layout.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

SECTION D: FACILITATION AND INSTRUCTION

13	In terms of <u>facilitation/instructional strategies</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
a	A lecture e.g. to inform with limited learner activity.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Case studies e.g. for simulated real-life or fictitious situations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	The incident method e.g. to describe a managerial situation and an "incident" that has occurred and that needs to be resolved.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	The in-basket method e.g. for simulation of a manager's (commanding officer's) tasks and responsibilities.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	Group discussions.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	Syndicate work.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	Brain storming e.g. for problem-solving purposes.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	Role-playing.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	Demonstration e.g. whereby the instructor demonstrates to the learners what to do and how a job or task should be performed and how equipment should be used.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	Theory lesson.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
k	Outdoor training/Field exercises.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
l	Simulations e.g. war gaming and technical equipment or computer simulators.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
m	Management games.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

13	In terms of <u>facilitation/instructional strategies</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
n	Self-managed learning (reading or technology-assisted) e.g. completion of task books or preparation for a course.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
o	Radio and TV broadcasts.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
p	Computer based training.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
q	Tutoring e.g. where the instructor coaches an individual learner(s).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
r	Sensitivity training to promote human relations development.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

14	In terms of <u>computerised learning</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
	Communicate with your learners by means of the following activities:															
a	• E-mails.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	• Mail tools.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	• Calendar tools.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	• Synchronous chats and discussion forums.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	• Asynchronous chats and discussion forums.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• Online bulletin/notice boards.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	• White boards.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Use the following options, provided by a learning management system:															
h	• Competence profiler to determine learner entry level.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	• Manage and administer learner records.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	• Manage and administer tutor or teaching assistants' records.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
k	• Track the movements of the students within a course.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
l	• Learning programme maps.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
m	• Provide technical assistance to learners.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

SECTION E: ASSESSMENT AND MODERATION

15	In terms of conducting <u>assessments and moderation</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
	The use of the following assessment activities:															
a	• Practical demonstration of performance.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	• Simulation of performance.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	• Observation of performance.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	• Case studies.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	• Assignments and essays.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• Outdoors projects and field exercises.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	• Reports.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	• Interviews.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	• Oral presentations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	• Tests.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
k	• Formal examinations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
l	• In-basket tests.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
m	• Peer and self assessment.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
n	• Portfolios of evidence.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
o	Formative computerised assessment activities.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
p	Summative computerised assessment activities.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
q	Conduct moderations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

SECTION F: LEARNER SUPPORT

16	In terms of conducting <u>learner support</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
	Assist and support learners:															
a	• In the completion of assignments.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	• To establish and maintain a learning community.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	• To develop collaborative online learning experiences.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	• To obtain Recognition of Prior Learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Guide and counsel learners to help them define and work through:															
e	• Personal problems.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• Study problems.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	Keep learners motivated to complete specific learning objectives of the course.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Coach learners:															
h	• Step-by-step to improve their competency.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	• One-on-one to improve their competency.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Mentor learners by:															
j	• Building and empowering learners for the development of their future careers in the organisation.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

SECTION G: QUALITY ASSURANCE AND EVALUATION

17	In terms of conducting <u>ETD quality assurance and evaluations</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cp/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
a	Develop evaluation instruments (worksheets/questionnaires).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Evaluate the effective implementation of the ETD process (design, development and delivery) of:															
	• The training unit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	• A course (learning programme)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	• A module (unit standard)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	Compile evaluation reports.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	Manage a quality management system.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	Provide a quality assurance consultancy service.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	Measure progress in terms of the Workplace Skills Plan(s).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	Monitor ETD quality assurance processes.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	Compile quality assurance reports.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

SECTION H: ETD MANAGEMENT AND ADMINISTRATION

18	In terms of conducting <u>ETD management and administration</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
a	Compile ETD instructions to be implemented at the unit.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
b	Compile Standard Operating Procedures for the ETD practices at the unit.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
c	Execute the following general management tasks: • Manage ETD practitioners.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
d	• Contribute to budgetary process.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
e	• Manage resources.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
f	• Maintain equipment.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
g	• Manage records (of programmes, learners, clients).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
h	• Maintain an information management system.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
i	• Manage learning programmes as projects.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
j	• Ensure adherence to occupational health and safety regulations.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
k	• Ensure adherence to national legislation, professional and statutory regulations, and DOD doctrine and policies.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
l	Execute physical resource planning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
m	Conduct annual planning, scheduling and control over ETD as a Level 4 provider.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
n	Coordinate more than one learning programme.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

18	In terms of conducting <u>ETD management and administration</u> , how would you describe your ability to perform the following tasks:	Not Applicable	Pte /Amn/ Sea	LCpl/AB	Cpl/LS	Sgt/PO	SSgt/FSgt/ CPO	WO2	WO 1	2ne and 1 st Lt/ SLt	Capt/Lt	Maj Lt Cdr	Lt Col Cdr	Col/ Capt (SAN)	Civilian – Asst Dir and Higher	Civilian - Lower than Asst Dir
o	Coordinate one learning programme.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
p	Plan and conduct a learning event .	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
q	Plan and control in terms of force preparation:															
r	• Sub-sub-unit training (e.g. platoon, flight, squad).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
s	• Sub-unit training (e.g. company, squadron, division).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
t	• Unit training (e.g. battalion).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
u	• Integrated training (e.g. within combat groupings).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
v	• Joint training (e.g. cross pollination between services).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
w	• Multinational training.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
w	Apply force training concepts (e.g. head quarter exercises [HQX], tactical exercises, etc).	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
x	Manage the accreditation status of the unit.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
y	Manage recognition of prior learning.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Appendix E



SANDF COLET SURVEY



ETD Practitioner Competence Profile: ETD Practitioner Questionnaire

BEFORE YOU START...

- SANDF COLET is conducting research with the aim to compile a competence profile of the education, training and development practitioners (ETD practitioners) in the Department of Defence. (ETD practitioner refers to the full spectrum of ETD roles: ETD researchers, designers, developers, facilitators/instructors, assessors, moderators, quality assurers and managers.)
- The results of this survey will help us to determine the current utilisation of the ETD practitioners and to design a development map for the ETD practitioners in the Department of Defence. It is important, therefore, that you respond honestly to the items in this questionnaire.
- This is not a test and there are no right or wrong answers. ***Your opinion is the only right answer.***
- SANDF COLET, will regard the information you supply as confidential. You will remain anonymous.
- It is easy to complete the questionnaire since most questions are answered simply by circling the appropriate number of the answer that applies to you or that best reflects your view.
- In questions 16 to 28 you are requested to indicate your opinion of your competence level. Competence is defined as your ***ability to perform a task***, based on your years of facilitation/instruction/training experience or the completion of formal ETD qualifications/unit standards or both ETD experience and qualifications.
- **Note:** ***Do not encircle the competence level columns***, if it is ***not expected of you to perform a task***, even though you are able to perform the task. ***Clearly mark in such cases the N/A column.***
- We appreciate your co-operation in providing the information requested.

(C. MOORHOUSE)

SANDF COLET EDUCATION, TRAINING AND DEVELOPMENT RESEARCHER: MAJ



SECTION A: BIOGRAPHICAL DETAILS

1. Within which Service or Division do you serve?	
Secretariat for Defence	1
SA Army	2
SA Air Force	3
SA Navy	4
SA Military Health Service	5
Defence Intelligence Division	6
Joint Operations	7
Joint Support	8
Corporate Staff	9

2.	What is the name of your unit?		(Unit Code)					
3.	What is the name of your school/branch?							
4.	What is your post title?							
5.	Please provide a short description of your post?							

6. Rank Group. (If you are a civilian employee please encircle answer option 10 or 11)	
Brigadier general or rear admiral (JG) and higher	1
Colonel or captain (SAN)	2
Lieutenant colonel or commander	3
Major or lieutenant commander	4
Captain or lieutenant (SAN)	5
2 nd , 1 st Lieutenant or sub-lieutenant	6
Warrant officer class 1	7
Warrant officer class 2	8
Staff sergeant, flight sergeant or chief petty officer	9
Sergeant or petty officer	10
Lance corporal or able seaman to corporal or leading seaman	11
Private, airman or seaman	12
Civilian - assistant director and higher	13
Civilian - lower than assistant director	14



Please Turn Over

7. Gender	
Male	1
Female	2

8. Age group	
24 years or younger	1
25 to 35 years	2
35 to 44 years	3
45 years or older	4

9. Racial group	
African	1
Asian	2
Coloured	3
White	4

10. What is your highest academic qualification?	
Gr 10 and lower	1
Gr 11- Gr 12	2
Certificate	3
Diploma	4
Post Graduate Diploma	5
B Degree	6
Honours Degree	7
Masters Degree	8
Doctorate	9

11. Which of the listed reasons describe your ability to perform ETD tasks <i>best</i>? (Mark only one.)	
ETD experience gained over years.	1
The attendance and/or completion of ETD courses.	2
Both, years of ETD experience and the attendance/completion of ETD courses.	3

12. How would you rate your subject matter expertise level in terms of the modules that you present?	Low High				
	1	2	3	4	5



13. How many years ETD experience do you have? (The total of all training and teaching [if applicable], experience.)	
Less than one year.	1
One to two years.	2
Three to four years.	3
More than five years.	4

14. In which of the following modes of training delivery are you involved? (Indicate for each of the listed items.)		Yes	No
a	Residential training.	1	2
b	Paper based distance training.	1	2
c	Computer based training. (CD packages, not yet online/e-learning)	1	2
d	Online/e-learning.	1	2

15. Please indicate your training status with regard to the listed unit standards. (Note: The complete names were not provided due to changes in titles.)		Never Attended	Attended, Not Yet Competent	Attended, Competent
a	Plan learning events	1	2	3
b	Prepare learning aids	1	2	3
c	Facilitate learning (NQF L4)	1	2	3
d	Facilitate learning (NQF L5)	1	2	3
e	Conduct assessments	1	2	3
f	Design assessments	1	2	3
g	Moderate an assessment	1	2	3
h	Advise and refer learners (NQF L4)	1	2	3
i	Guide and support learners (NQF L5)	1	2	3
j	Design a curriculum	1	2	3
k	Conduct research	1	2	3
l	Develop training materials	1	2	3
m	Manage a skills development course (NQF L4)	1	2	3
n	Manage a learnership/skills programme (NQF L5)	1	2	3
o	Evaluate a course	1	2	3
p	Evaluate learning programmes	1	2	3
q	Manage a quality assurance system	1	2	3
r	ETD level 1 presented by SANDF COLET	1	2	3
s	ETD level 2 presented by SANDF COLET	1	2	3



SECTION B: ETD RESEARCH AND NEEDS ANALYSIS

16	In terms of conducting <u>ETD research and training needs analyses</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	Conduct a situational analysis to determine the Department of Defence's operational requirements.	1	2	3	4	5	6	7
b	Identify and determine training needs.	1	2	3	4	5	6	7
c	Analyse physical and human resource constraints imposed on the design and presentation of learning programmes.	1	2	3	4	5	6	7
	Formulate ETD outcomes (learning objectives) for:							
d	• The unit.	1	2	3	4	5	6	7
e	• A learning programme (course).	1	2	3	4	5	6	7
f	• A module.	1	2	3	4	5	6	7
g	Determine the impact of external factors (e.g. national and/or international) on the ETD provided at the unit.	1	2	3	4	5	6	7
h	Produce research reports on ETD related aspects.	1	2	3	4	5	6	7
i	Identify Unit Standards that are aligned with the ETD outcomes (learning objectives).	1	2	3	4	5	6	7
j	Write Unit Standard(s).	1	2	3	4	5	6	7
k	Determine the most feasible mode of training delivery i.e., residential and/or distance learning.	1	2	3	4	5	6	7



SECTION C: DESIGN AND DEVELOP

17	In terms of the <u>design and development of learning programmes</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
	Design a:							
a	• Design a Qualification.	1	2	3	4	5	6	7
b	• Design a Learning programme/skills programme (course) consisting of several modules.	1	2	3	4	5	6	7
c	• Module.	1	2	3	4	5	6	7
	Determine the content for the development of a:							
d	• Qualification.	1	2	3	4	5	6	7
e	• Learning programme (course).	1	2	3	4	5	6	7
f	• Unit standard (module).	1	2	3	4	5	6	7
g	Design broad assessment strategies . (This includes e.g. the assessment purpose, approach, conditions, special assessment needs, resources, instructions to role players, appeals procedures and assessment process.)	1	2	3	4	5	6	7
h	Design a learning programme strategy (curriculum) .	1	2	3	4	5	6	7
i	Design ETD evaluation strategies to determine adherence to training principles.	1	2	3	4	5	6	7

18	In terms of the <u>development of learning material and guides</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
	Coordinate the development of learning packages for:							
a	• Residential learning (Facilitator or Instructor-led learning).	1	2	3	4	5	6	7
b	• Paper based distance learning.	1	2	3	4	5	6	7
c	• Computer based learning.	1	2	3	4	5	6	7
d	• Online/E-learning.	1	2	3	4	5	6	7



18	In terms of the <u>development of learning material and guides</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
e	Develop learning material for:							
	• Residential learning (Facilitator or Instructor-led learning).	1	2	3	4	5	6	7
f	• Paper based distance learning.	1	2	3	4	5	6	7
g	• Computer based learning.	1	2	3	4	5	6	7
h	• Online/E-learning.	1	2	3	4	5	6	7
i	Develop learning aids for residential learning (e.g. transparencies, posters).	1	2	3	4	5	6	7
j	Develop power point presentations .	1	2	3	4	5	6	7
k	Develop assessment instruments for:							
	• Residential learning (Facilitator or Instructor-led learning).	1	2	3	4	5	6	7
l	• Paper based distance learning.	1	2	3	4	5	6	7
m	• Computer based learning.	1	2	3	4	5	6	7
n	• Online/E-learning.	1	2	3	4	5	6	7
o	Compile installation guides for computer based learning material.	1	2	3	4	5	6	7
p	Develop evidence guides for Recognition of Prior Learning .	1	2	3	4	5	6	7

19	Are you involved in the development of computerised learning materials?	Yes	No
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QUESTIONS 20 AND 21 ARE FOR DEVELOPERS OF COMPUTERISED LEARNING MATERIAL ONLY. NON DEVELOPERS SKIP TO SECTION D.

20	In terms of the <u>development of computerised learning materials</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	Develop computerised learning material to transfer knowledge contents through step-by-step proceeds with a format similar to that of PowerPoint presentations.	1	2	3	4	5	6	7
b	Develop computer assisted instruction materials where the computer packages supplement instructor-led/facilitator-led training by providing additional drills and tutorials.	1	2	3	4	5	6	7



20	In terms of the <u>development of computerised learning materials</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
c	Develop computer managed instruction material where the computer assesses the trainee's initial level of competence and then provides a customised set of learning modules and exercises.	1	2	3	4	5	6	7
d	Develop computer based learning material where an entire learning programme is mediated by the computer in terms of presentation of content, active learner participation, guidance for the learner, assessment of the learner progress and the tracking of learner progress.	1	2	3	4	5	6	7
e	Develop hypermedia environments interlinking on-line information. (e.g. Intranet, Internet).	1	2	3	4	5	6	7
f	Develop knowledge construction environments through collaboration (e.g. e-mails, chat rooms, bulletin boards).	1	2	3	4	5	6	7

21	In terms of the <u>development of computerised learning materials</u> , how would you describe your ability to fulfil the following roles:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	Courseware developer – To author (create) lesson designs, flowcharts, storyboards; design static and animated graphics, performance exercises, simulations and interactive sequences; program lessons with authoring systems.	1	2	3	4	5	6	7
b	Instructional designer – Develops standards and instructional strategies for computerised training lessons; assists with lesson authoring; reviews completed lesson designs, flowcharts and storyboards for conformance with ETD best practices and didactical principles.	1	2	3	4	5	6	7
c	Subject matter expert – Provides information on subject matter; reviews lesson designs, flowcharts, storyboards and programmed lessons for content accuracy and currency.	1	2	3	4	5	6	7
d	Courseware programmer – Program lessons with authoring languages and authoring software; develops static and animated graphics with authoring languages.	1	2	3	4	5	6	7
e	Graphic artist – Develops graphics on paper for inclusion as an interactive still-frame; may develop initial illustrations for complex computer-generated graphics.	1	2	3	4	5	6	7



21	In terms of the <u>development of computerised learning materials</u> , how would you describe your ability to fulfil the following roles:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
f	Computer artist – Develops computer-generated graphics for inclusion as a still-frame.	1	2	3	4	5	6	7
g	Multi-media specialist – Films motion and still-frame sequences; coordinates audio narration; assists in planning pre-master tape layout.	1	2	3	4	5	6	7

SECTION D: FACILITATION AND INSTRUCTION

22	In terms of <u>facilitation/instructional strategies</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	A lecture e.g. to inform with limited learner activity.	1	2	3	4	5	6	7
b	Case studies e.g. for simulated real-life or fictitious situations.	1	2	3	4	5	6	7
c	The incident method, e.g. to describe a managerial situation and an "incident" that has occurred and that needs to be resolved.	1	2	3	4	5	6	7
d	The in-basket method e.g. for simulation of a manager's (commanding officers) tasks and responsibilities.	1	2	3	4	5	6	7
e	Group discussions.	1	2	3	4	5	6	7
f	Syndicate work.	1	2	3	4	5	6	7
g	Brainstorming e.g. for problem-solving purposes.	1	2	3	4	5	6	7
h	Role-playing.	1	2	3	4	5	6	7
i	Demonstration e.g. whereby the instructor demonstrates to the learners what to do and how a job or task should be performed and how equipment should be used.	1	2	3	4	5	6	7
j	Theory lesson .	1	2	3	4	5	6	7
k	Outdoor training/Field exercises.	1	2	3	4	5	6	7
l	Simulations e.g. war gaming and technical equipment or computer simulators.	1	2	3	4	5	6	7
m	Management games.	1	2	3	4	5	6	7
n	Self-managed learning (Reading or technology-assisted) e.g. completion of task books or preparation for a course.	1	2	3	4	5	6	7
o	Radio and TV broadcasts.	1	2	3	4	5	6	7



22	In terms of facilitation/instructional strategies , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
p	Computer based training.	1	2	3	4	5	6	7
q	Tutoring e.g. where the instructor coaches an individual learner(s).	1	2	3	4	5	6	7
r	Sensitivity training to promote human relations development.	1	2	3	4	5	6	7

23	Are you involved in computerised training?	Yes	No
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QUESTION 24 IS FOR USERS OF COMPUTERISED TRAINING ONLY. NON USERS SKIP TO SECTION E.

24	In terms of computerised training , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	Communicate with your learners by means of the following activities:							
	• E-mails.	1	2	3	4	5	6	7
b	• Mail tools.	1	2	3	4	5	6	7
c	• Calendar tools.	1	2	3	4	5	6	7
d	• Synchronous chats and discussion forums.	1	2	3	4	5	6	7
e	• Asynchronous chats and discussion forums.	1	2	3	4	5	6	7
f	• Online bulletin/notice boards.	1	2	3	4	5	6	7
g	• White boards.	1	2	3	4	5	6	7
h	Use the following options, provided by a learning management system:							
	• Competence profiler to determine learner entry level.	1	2	3	4	5	6	7
i	• Manage and administer learner records.	1	2	3	4	5	6	7
j	• Manage and administer tutor or teaching assistants' records.	1	2	3	4	5	6	7
k	• Track the movements of the students within a course.	1	2	3	4	5	6	7
l	• Learning programme maps.	1	2	3	4	5	6	7
m	• Provide technical assistance to learners.	1	2	3	4	5	6	7



SECTION E: ASSESSMENT AND MODERATION

25	In terms of conducting assessments and moderation , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
	The use of the following assessment activities:							
a	• Practical demonstration of performance.	1	2	3	4	5	6	7
b	• Simulation of performance.	1	2	3	4	5	6	7
c	• Observation of performance.	1	2	3	4	5	6	7
d	• Case studies.	1	2	3	4	5	6	7
e	• Assignments and essays.	1	2	3	4	5	6	7
f	• Outdoors projects and field exercises.	1	2	3	4	5	6	7
g	• Reports.	1	2	3	4	5	6	7
h	• Interviews.	1	2	3	4	5	6	7
i	• Oral presentations.	1	2	3	4	5	6	7
j	• Tests.	1	2	3	4	5	6	7
k	• Formal examinations.	1	2	3	4	5	6	7
l	• In-basket tests.	1	2	3	4	5	6	7
m	• Peer and self-assessment.	1	2	3	4	5	6	7
n	• Formative computerised assessment activities.	1	2	3	4	5	6	7
o	• Summative computerised assessment activities.	1	2	3	4	5	6	7
p	• Conduct moderations.	1	2	3	4	5	6	7
q	• Portfolios of evidence.	1	2	3	4	5	6	7

SECTION F: LEARNER SUPPORT

26	In terms of conducting learner support , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
	Assist and support learners:							
a	• In the completion of assignments.	1	2	3	4	5	6	7
b	• To establish, and maintain a learning community.	1	2	3	4	5	6	7
c	• To develop collaborative online learning experiences.	1	2	3	4	5	6	7
d	• To obtain Recognition of Prior Learning.	1	2	3	4	5	6	7



26	In terms of conducting learner support , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
e	Guide and counsel learners to help them define and work through:							
f	<ul style="list-style-type: none"> Personal problems. Study problems. 	1	2	3	4	5	6	7
g	Keep learners motivated to complete specific learning objectives of the course.	1	2	3	4	5	6	7
h	Coach learners:							
i	<ul style="list-style-type: none"> Step-by-step to improve their competency. One-on-one to improve their competency. 	1	2	3	4	5	6	7
j	Mentor learners by:							
	<ul style="list-style-type: none"> Building and empowering learners for the development of their future careers in the organisation. 	1	2	3	4	5	6	7

SECTION G: QUALITY ASSURANCE AND EVALUATION

27	In terms of conducting ETD quality assurance and evaluations , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	Develop evaluation instruments (worksheets/questionnaires).	1	2	3	4	5	6	7
b	Evaluate the effective implementation of the ETD process (design, development and delivery) of:							
c	<ul style="list-style-type: none"> The training unit A course (learning programme) A module (unit standard) 	1	2	3	4	5	6	7
d		1	2	3	4	5	6	7
e	Compile evaluation reports.	1	2	3	4	5	6	7
f	Manage a quality management system.	1	2	3	4	5	6	7
g	Provide a quality assurance consultancy service.	1	2	3	4	5	6	7
h	Measure progress in terms of the Workplace Skills Plan(s).	1	2	3	4	5	6	7
i	Monitor ETD quality assurance processes.	1	2	3	4	5	6	7
j	Compile quality assurance reports.	1	2	3	4	5	6	7



SECTION H: ETD MANAGEMENT AND ADMINISTRATION

28	In terms of conducting ETD management and administration , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
a	Compile ETD instructions to be implemented at the unit.	1	2	3	4	5	6	7
b	Compile standard operating procedures for the ETD practices at the unit.	1	2	3	4	5	6	7
c	Execute the following general management tasks: • Manage ETD practitioners.	1	2	3	4	5	6	7
d	• Contribute to budgetary process.	1	2	3	4	5	6	7
e	• Manage resources.	1	2	3	4	5	6	7
f	• Maintain equipment.	1	2	3	4	5	6	7
g	• Manage records (of programmes, learners, clients).	1	2	3	4	5	6	7
h	• Maintain an information management system.	1	2	3	4	5	6	7
i	• Manage learning programmes as projects.	1	2	3	4	5	6	7
j	• Ensure adherence to occupational health and safety regulations.	1	2	3	4	5	6	7
k	• Ensure adherence to national legislation, professional and statutory regulations, and DOD doctrine and policies.	1	2	3	4	5	6	7
l	Execute physical resource planning.	1	2	3	4	5	6	7
m	Conduct annual planning, scheduling and control over ETD as a Level 4 provider.	1	2	3	4	5	6	7
n	Coordinate more than one learning programme.	1	2	3	4	5	6	7
o	Coordinate one learning programme.	1	2	3	4	5	6	7
p	Plan and conduct a learning event .	1	2	3	4	5	6	7
q	Plan and control in terms of force preparation: • Sub-sub-unit training (e.g. platoon, flight, squad).	1	2	3	4	5	6	7
r	• Sub-unit training (e.g. company, squadron, division).	1	2	3	4	5	6	7
s	• Unit training (e.g. battalion).	1	2	3	4	5	6	7
t	• Integrated training (e.g. within combat groupings).	1	2	3	4	5	6	7
u	• Joint training (e.g. cross pollination between services).	1	2	3	4	5	6	7
v	• Multinational training.	1	2	3	4	5	6	7



28	In terms of conducting <u>ETD management and administration</u> , how would you describe your ability to perform the following tasks:	Not Competent	Not Yet Competent	Average	Competent	Expert	N/A	Terminology unclear
w	Apply force training concepts (e.g. head quarter exercises [HQX], tactical exercises, etc).	1	2	3	4	5	6	7
x	Manage the accreditation status of the unit.	1	2	3	4	5	6	7
y	Manage recognition of prior learning.	1	2	3	4	5	6	7

THANK YOU!!

