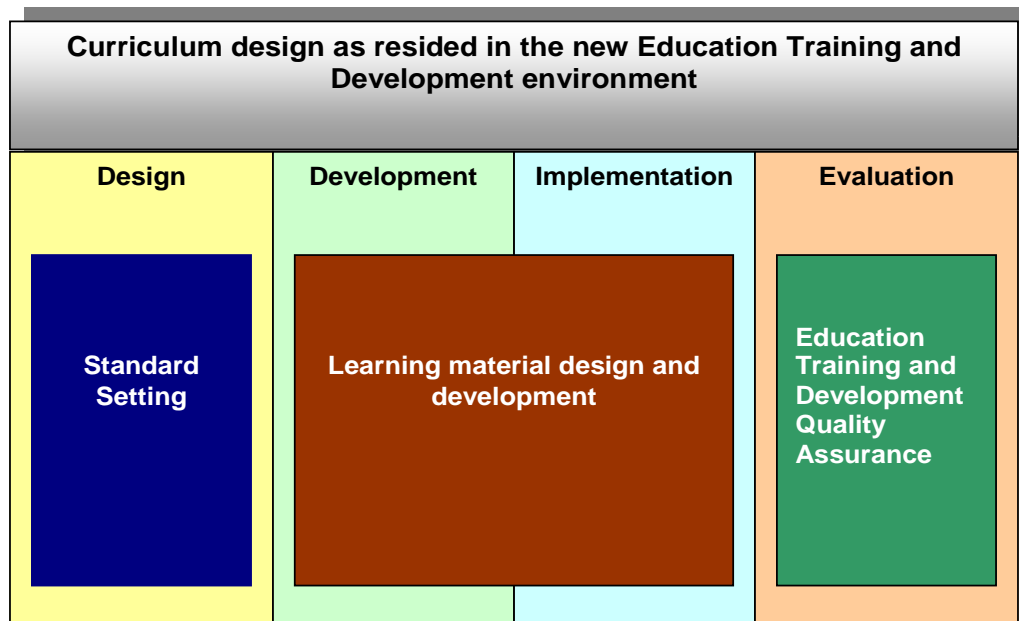## CHAPTER 1: RESEARCH ORIENTATION

1.1 INTRODUCTION

The education, training and development environment in South Africa has changed drastically over the past few years. The relatively new education, training and development system is still in progress under the authority of the South African Qualifications Authority (SAQA). This young and upcoming dynamic system has already proven its sustainability since the transformation to the democratic education system in 1994. The education system requires that all disciplines; the so-called industries, across all levels will conform to quality requirements set by SAQA. The new education, training and development system implies the need for a new curriculum. The new curriculum established for South African education, training and development is Outcomes Based Education (OBE).

The term *curriculum* needs to be clarified in terms of the new education, training and development system. There are many diverse definitions of the term *curriculum* as it means different things to different people, hence the confusion when discussions about curriculum take place. It is apparent that in the South African context particularly, curriculum is a broad concept including aspects such as standard setting, learning programme development and delivery as well as the quality assurance of the delivery process (South Africa 2002:6).

Figure 1   Curriculum design and development in the new education, training and development environment

Curriculum design as resided in the new Education Training and Development environment			
Design	**Development**	**Implementation**	**Evaluation**
Standard Setting	Learning material design and development		Education Training and Development Quality Assurance

Standard setting, learning programme development and delivery as well as the quality assurance of the delivery process are linked and create the concept of a quality cycle. The standards developed through the participatory and representative structures and processes of the Standard Generating Bodies (SGBs) are then registered on the NQF and will have their delivery and achievement quality assured through the Education and Training Quality Assurance (ETQA) system. It is in assuring the quality of both the standards and learner achievement that the quality cycle of the NQF is completed.

The South African Qualifications Authority (SAQA) hosts all qualifications and is responsible for the quality assurance of the Sector Education and Training Authorities (SETAs). Coherence, sustainability and articulation possibilities are acquired as the new education, training and development system requires conformity to the mentioned quality standards. The SETAs are allocated per industry and are responsible for compiling the unit standards and qualifications via the appointed SGBs. SAQA will then register the unit standards and qualifications on the

NQF. The SETAs are also responsible for the Education and Training Quality Assurance of the accredited Service providers as well as learner achievement.

Qualifications, as aforementioned, are constructed by means of a compilation of unit standards and are pitched on a NQF (National Qualifications Framework) level. A qualification is a planned combination of learning outcomes that has a defined purpose and provides learners with applied competence and a basis for further learning. Unit standards are the minimal requirements for a specific learning initiative and are set out by the specific outcomes and assessed against the assessment criteria of that specific unit standard. Specific outcomes are the demonstrated competencies a learner would acquire during the education, training and development initiative. Assessment criteria encompass the evidence that an assessor of the unit standard will collate in determining whether the learner is competent or not yet competent in terms of the specific outcomes of the unit standard.

The NQF is a congregation of all the qualifications and unit standards in the South African education, training and development environment. The NQF sets in place standards and qualifications that become the starting point for learning programme design, development and delivery. Registered qualification and unit standards of the NQF are described in terms of the learning outcomes that a learner will have to achieve. Hence the underlying commitment to a system of education and training that is organised around the notion of learning outcomes. The NQF currently consists of 8 levels. These levels are an indication of the difficulty of the learning encountered. An in-depth description of SAQA, NQF and the standards can be found in chapter 3.

South Africa chose to bring about systemic changes in the education, training and development system when it was decided to change the manner in which education, training and development would function in a system, how it is organised and the vision that drives participants within the system. Spady (1994:29) makes the point that OBE is not about curriculum change but about changing the nature of how the

education system works. OBE is primarily about systemic change and not curriculum change. The NQF in its commitment to a system of education and training that is organised around the notion of learning outcomes, displays the notion that OBE in that the new education, training and development system is about systemic change (SAQA 2000 (d):11).

It is in these learning outcomes that the CCFOs reside. The CCFOs are the qualities SAQA wishes all learners to demonstrate at the end of any learning programme at any level of the NQF. The CCFOs are indicated in the unit standards and qualifications as separate headings that formulate the specific outcomes and assessment criteria. See Addendum A for an example of a unit standard.

The CCFOs adopted by SAQA (SAQA 1998(a):18) are the following:

"Identify and solve problems in which responses display that responsible decisions using critical and creative thinking have been made
Work effectively with others as a member of a team, group, organisation, community
Organise and manage oneself and one's activities responsibly and effectively
Collect, analyse, organise and critically evaluate information
Communicate effectively using visual, mathematical and/or language competencies in the modes of oral and/or written presentation
Use science and technology effectively and critically showing responsibility towards the environment and health of others
Demonstrate an understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation"

In order to contribute to the full personal development of each learner and the social and economic development of the society at large, it must be the intention underlying any programme of learning to make an individual aware of the importance of:

"Reflecting on and exploring a variety of strategies to learn more effectively

Participating as responsible citizens in the life of local, national and global communities

Being culturally and aesthetically sensitive across a range of social contexts

Exploring education and career opportunities

Developing entrepreneurial opportunities"

1.2 RATIONALE

Though CCFOs have been acknowledged in education, training and development policies, not much research has been done on the topic. It is therefore difficult to source information on the topic. Policy documents and SAQA and NQF-related documentation as well as relevant references made in policies are used to investigate the CCFOs.

Existing information on the CCFOs is as follows:

Curriculum 2005 (Department of Education 1995(a):28) describes CCFOs as the expression of the intended results of education and states that these outcomes underpin all learning processes, thus enhancing learning processes in all facets. It also refers to the CCFOs as working principles, and as such they should direct training and education practices and the design and development of learning programmes and complement the learning materials. The White Paper on Education and Training (Department of Education 1995 (b):7) states in this regard that the curriculum, methods of facilitating and textbooks at all levels and in all programmes of education and training should encourage independent and critical thought. It is assumed that the CCFOs, according to aforementioned text, must be integrated into the entire curriculum development, implementation and assessment phases of education, training and development. The White Paper (Department of Education 1995(b):7) further indicates that learners must have the capacity to question, enquire reason, weigh evidence and form judgements, achieve understanding, recognise the provisional and incomplete nature of most human knowledge, and communicate clearly. The mentioned competencies only refer to cognitive competencies and

exclude the emotional/social competencies entirely. The terms *skills* and *competencies* are used interchangeably in the literature and a discussion of these terms can be found in chapter 3.

CCFOs are generic and cross-curricular (Department of Education 1995(b):28) and are not restricted to any specific learning context, but inform the formulation of specific outcomes in the individual areas of learning for all learners at all levels on the NQF. They are not generated in one sector of education and training only, but across sectors in a process of consultation among stakeholders.

No prescriptions have been provided for the implementation of the CCFOs. "There is no prescription in any of the SAQA regulations or requirements of how these outcomes are to be incorporated and developed" (SAQA(c) 2000:20). It is mandatory for unit standards setters, according to Olivier (2002:28), to incorporate at least some CCFOs in the standards that they recommend. Proposers of qualifications must ensure that all CCFOs have been addressed appropriately at the specific level concerned within the qualification being proposed. This is problematic, as the so-called proposers of qualifications and service providers do not have a consistent concept of what the CCFOs entail.

CCFOs are widely encountered in unit standards, as policies on generation of unit standards oblige SGBs to incorporate at least some of the CCFOs by selecting the CCFO statements relevant to the unit standard. CCFOs are part of the Unit standards as one of the sub-headings. Service providers, SGBs, Education and Training Quality Assurance (ETQA) Managers and Education, Training and Development Practitioners (ETDPs) comply with legislation in that the CCFOs are quoted and referred to in the Unit standards and an indication is provided as to how the CCFOs are implemented per Unit standard. An example of this scenario is demonstrated in Addendum A. By doing the above-mentioned, the stakeholders ensure that they comply with legislation, but do not ensure that the outcomes are understood by the stakeholders or transferred and internalised by the learners.

However, only limited research on CCFOs has been done thus far. Various studies have been done on:

Policy for education, training and development (ETD)

Learning theories

Outcomes Based Education (OBE)

Curriculum Development

SAQA and NQF related policy and documentation

The literature is therefore limited in that it fails to:

Address the conceptualisation of the CCFOs

Identify the refined competencies that underpin the CCFOs

My research will therefore provide a conceptual understanding of CCFOs as prescribed by SAQA and identify the competencies that underpin them.

1.3   THE RATIONALE FOR ACTION RESEARCH

Action research is the main method for conducting this research. Other research methods could be implemented as led by the action research cycle and findings because of the eclectic nature of this research methodology I opted to conduct action research since I am actively involved in the education, training and development environment as a service provider. Action research and the applicability of this method to this research study are discussed in detail in chapter 2. When initiating this study I was responsible for the implementation of CCFOs in the education, training, and development environment in the company I was employed by. One of my responsibilities was to oversee the implementation of the CCFOs in the learning material. I realised that ETDPs are usually technical experts with possibly National education, training and revelopment practitioner qualifications. I soon came to the conclusion that a multitude of ETDPs do not value CCFOs and do not understand their intention or meaning.

During the same time I served on a sub-committee of the *Learning Material Development* under the auspices of the Mining Qualifications Authority (MQA). This sub-committee was responsible for implementing CCFOs in the mining industry. In order to implement the CCFOs in the learning material of the MQA, we drafted a model to understand the CCFOs, as these statements are only vaguely explanatory. During these meetings I realised that even the *core implementers,* being the Learning Material Development sub-committee of the CCFOs, do not have a clear understanding of what the CCFOs entail. The assumption is, however, that facilitators and assessors in the industry have a broad understanding of the CCFOs as it is covered in the ETDPs training prescribed by SAQA.

Previously, during my studies of quality assuring unit standards and currently prescribing leading practices for the implementation of CCFOs in practice, I noticed that CCFOs are being copied and pasted into unit standards as well as within qualifications. This situation has resulted in that respective stakeholders, SGBs and service providers complying with legislation and regulations, but CCFOs do not add value to the development of learners, as they are supposed to.

The collective process that is followed in this research study on the CCFOs intends to reach conclusions about:

An understanding of the concept of CCFOs
The identified underpinning competencies of the CCFOs

Action research is not about consultation but rather participation in order to improve the understanding of practice. In doing the aforementioned, I shall contribute to the practice of ETDP in that the conceptual understanding and the identified competencies can support the implementation and understanding of the concept of CCFOs.

Findings from this research could be useful to improve practice and enrich the knowledge base of:

- Education, training and development practitioners
- Policymakers with regard to best practice in training in organisations
- Service Providers (including my own practice)
- Assessors
- Education and Training Quality Assurors (ETQAs)
- Training Managers

1.4 LIMITATIONS OF THE RESEARCH

The ensuing text describes the limitations of the research. A visual representation of the limitations of the research is provided initially which is discussed in the figure below.

Figure 2   Limitations of the Research
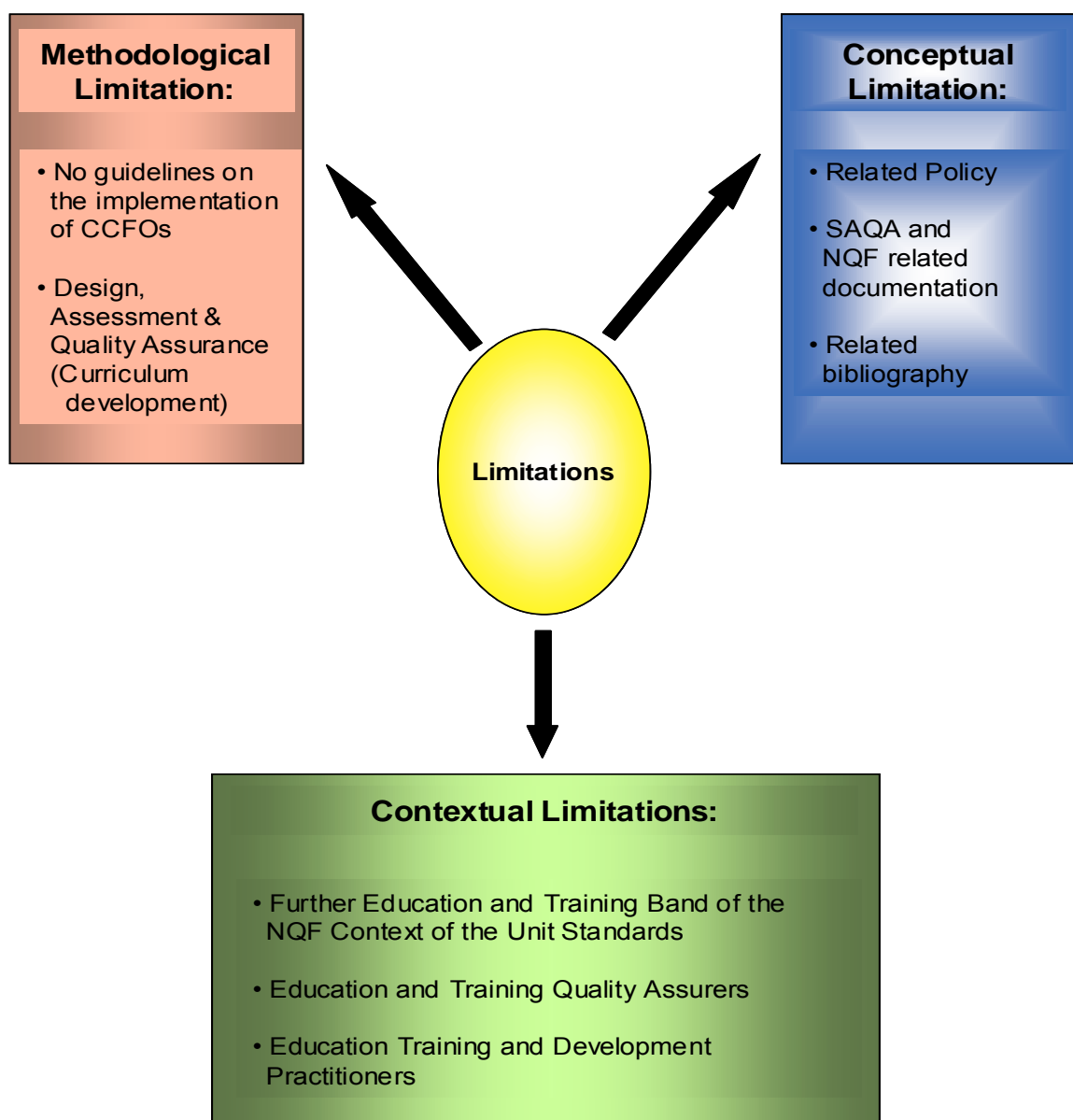
1.5 CONCLUSION

This chapter provides insight into the research orientation as an attempt to become conversant with the research project. Figure 3 represents the orientation of the research project. Curriculum design and development as part of in the relatively new education, training and development environment is discussed to provide insight as to where the CCFOs reside in the system. Existing information on the CCFOs are discussed and the limitations of such information are highlighted. Action research as the method to explore the conceptual understanding of the CCFOs in an attempt to identify their underpinning competencies is subsequently outlined. This chapter is followed by a description and discussion of the research design.

Figure 3   Conclusion to chapter 1
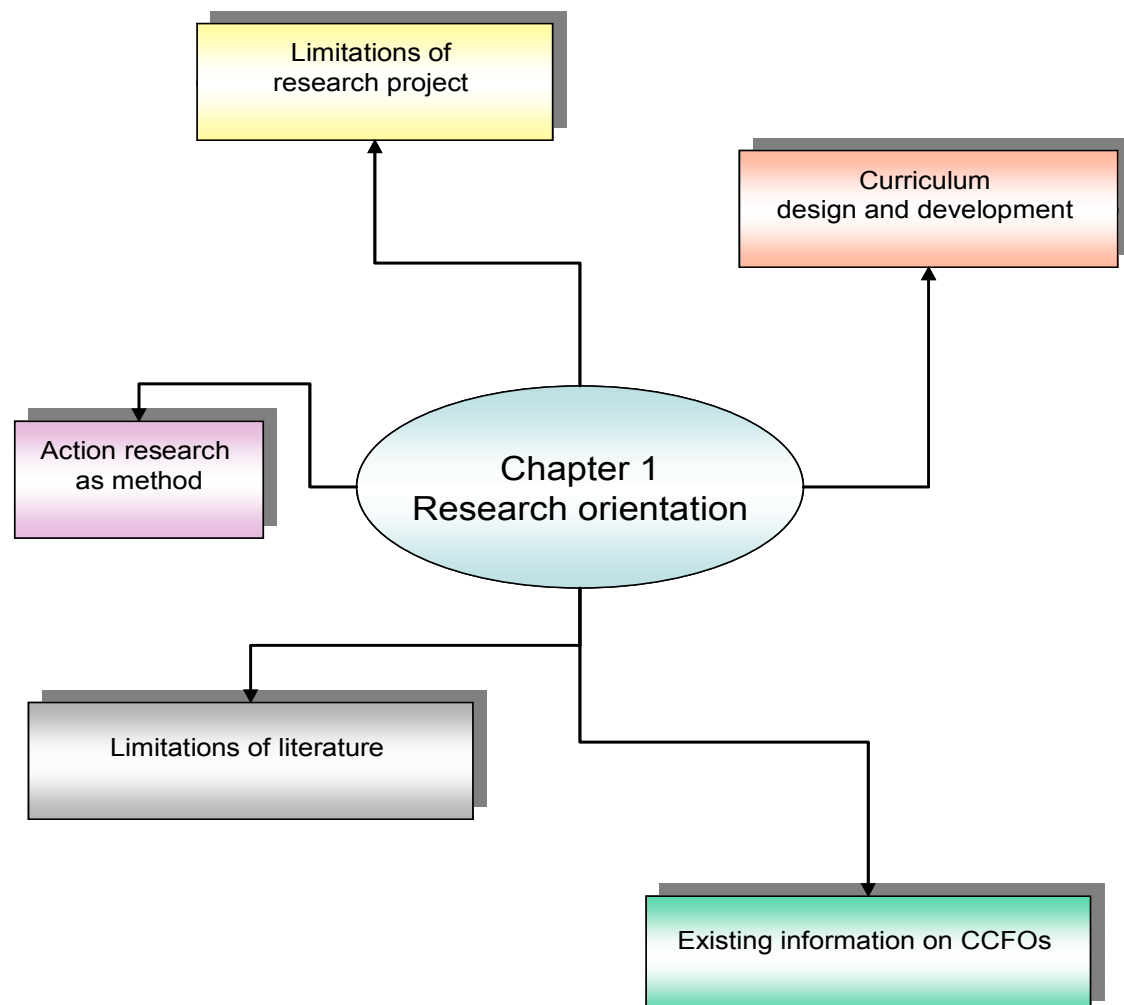
CHAPTER 2: RESEARCH DESIGN

2.1 INTRODUCTION

The cornerstone of this research is that knowledge of the CCFOs is constructed from practice (ETDPs and ETQAs) and that practice informed by knowledge is an ongoing process. Action research and practical experience may be the foundations of educational research, and research may inform practice and lead to action (Zuber-Skerritt 1992:11).

This chapter outlines the action research design. The critical research questions of the research are provided. I do not consider myself to be an expert in conducting an enquiry with research subjects, but rather a co-worker conducting research with and for the ETD practitioners. The conceptual understanding of the CCFOs is problematic to the ETDPs and is therefore considered as a real problem that needs actual improvement (Zuber-Skerritt 1992:13). The results of this research on the CCFOs are not assumed to provide right or wrong answers to the research questions, but rather solutions based on interpretations and views of the ETDPs and ETQA managers.

 The main research paradigm concerning the scientific orientation, theoretical perspective, methods and methodologies, data capturing and analysis and interpretation and validity of the research are discussed in this chapter. Action research entails the art of acting upon the conditions one faces in order to understand or improve the situation or practice. The following sub-section describes the purpose statement of the research.

2.2   STATEMENT OF THE RESEARCH FOCUS

The purpose of this research is to report a concept analysis of the CCFOs within the context of the education, training and development environment within the South African Qualifications Authority (SAQA) National Qualifications Framework (NQF).

2.3   CRITICAL RESEARCH QUESTIONS

The following clusters of critical research questions, with respective sub-questions, are addressed in this report:

The first cluster of research questions
The questions in this cluster relate to the description and legislative documentation of the CCFOs as it relates to curriculum design and development.

How do SAQA and relevant legislation describe CCFOs?
How does the relevant documentation describe the origin of CCFOs?
In what terms do policy and related documents refer to and explain the CCFOs?
How do the CCFOs contribute to curriculum design and development with reference to the legislation and relevant documentation?

The second cluster of research questions.
This cluster of questions focus on the theoretical underpinning of the CCFOs.
What theoretical groundings describe CCFOs?
How could CCFOs be described in terms of the theoretical grounding?
What underpinning refined competencies describe CCFOs?

Research question 3
What is the conceptualisation of the Education and Training Quality Assurers (ETQA) and education, training and development practitioners (ETDPs) regarding CCFOs?

The scientific orientation provides the paradigm in which the answers to the research questions are sought.

2.4   SCIENTIFIC ORIENTATION

This research intends to reach a conceptual understanding of the CCFOs, with a view to improving the understanding of the concept leading to the improvement of practice regarding the CCFOs. Because of the emancipatory nature of the study, no specific theory will be allocated as no single theory encapsulates the meaning of the CCFOs. It is necessary according to Zuber-Skerritt (1996:158) to work flexibly and eclectically in order to respond to the unique demands of the current education environment.

The following pluralist research strategies are implemented:

Pluralism suggests that there is no *correct* approach. As no single method can ever capture all the richness and complexity of reality, the use of a variety of approaches will allow a more complete understanding of the phenomenon to be built up.

Eclectics A mixture of the best from a variety of approaches will be most fruitful for this specific problem (Burell et al. 1979:34).

Burell and Morgan (1979:18) explain basic ontological assumptions and provide examples of how ontological assumptions lead to epistemological views. Epistemological views lead to different research methodologies (Burell & Morgan 1979:18).

The structure and framework provided by the mentioned authors serve as basis for constructing a theoretical framework for this study. Figure 4 provides a visual representation of the ontological assumptions and epistemological viewpoint.

Figure 4   Ontological assumption and Epistemological view
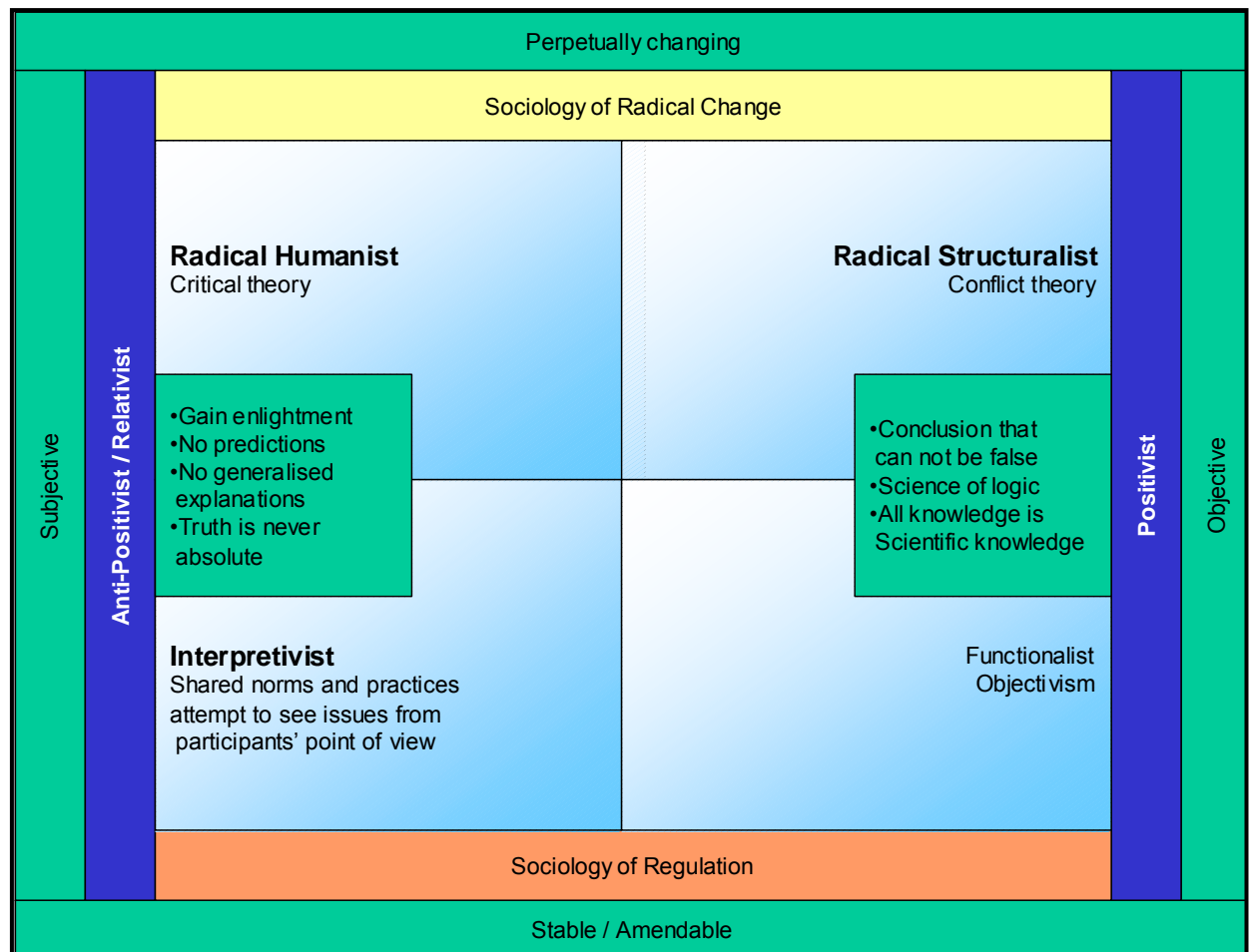
With reference to the green outer frame of the figure above, "Different points of view concerning reality" (Burell & Morgan 1979:20) can be summarised as *objective* or *subjective*. These views serve as two ends on a continuum on views of reality: "…the world is or is not organized as our preconceptions lead us to expect us and suggest grounded ways of understanding it" (Greenwood & Levin 1998:68).

An objective view assumes that measuring instruments are independent of the observer, and they can be used to describe all aspects of reality fully (Burell & Morgan 1979:20). Greenwood and Levin (1998:68) support this statement in that logical positivism is based on the ontological argument that the world is objectively given; the epistemological effort is to apply objective methods to acquire the truth.

Henning, van Rensburg and Smit (2004:17) describe the positivist view of the world as science that is seen as the way to get at truth, to understand the world in such a way that it can be controlled by a process of prediction.

A subjective view assumes that each individual is unique and that the world can only be partially communicated and understood "…the ontological position that the world is subjective and the epistemological project is to make interpretations of the subjective world" (Greenwood & Levin 1998:68). Scientific methods, according to Henning et al. (2004:20) can only provide an approximation of the truth and uncertainty is a key principle of this paradigm. Cohen, Manion and Morrison (2000:19) state in this regard that anti-positivist approaches agree that the social world can only be understood from the standpoint of the individuals who are part of the ongoing action being investigated.

This research study supports the subjective side of the continuum, as the ETQAs and ETDPs describe the CCFOs in their own perspectives. A CCFO cannot be objectively captured; there are multiple interpretations of the CCFOs.

Burell and Morgan (1979:22) consider the assumptions about the nature of society as "stable and amenable to consensus (orderly) or naturally turbulent, perpetually changing". The context of the Education and Training Quality Assurors differ, as well as the content and nature of the knowledge that determine the level of understanding of the CCFOs. Therefore this study endorses the perpetually changing nature of society. The CCFOs are outcomes that industry needs to conform to as set out by SAQA, therefore the sociology of regulation, combining these two dimensions produce a two-dimensional table of different groups of social theories. The epistemological view of this study is more anti-positivist than positivist, as the research seeks to understand knowledge and gain insight into the concept of the CCFOs. The epistemological view of this study does not try to find "generalized explanations or make predictions" (Burell & Morgan 1979:25), but instead aims at understanding a particular situation and interpreting it.

The research approach is a combination of interpretivist and critical theory. The research focus in critical theory is on specific groups (Cohen et al. 2001:35) within society; that include the SETAs, ETQAs and ETDPs. Furthermore, specific individuals of the groups are participating, namely Education and Training Quality Assurance (ETQAs), also referred to as ETQA managers due to the job descriptions of the SETAs. Small-scale (Cohen et al. 2001:35) research is conducted because of the structure of SAQA and the SETAs. The CCFOs are collective in nature in that all SETAs ETQAs, ETDPs and service providers ought to interpret and implement the CCFOs in training and development. The research seeks to understand the significance of CCFOs: their origin, intention and underpinning competencies. Henning et al. (2004:22) state in this regard that critical theory is essentially a process of deconstruction of the world. Also, people can design their own worlds (Henning et al. 2004:23). The framing of meaning in a context has consequences (Henning et al. 2004:23), thus the way in which an ETQA interprets the CCFO will consequently influence the way in which the related SETAs and service providers will interpret the CCFOs. This research is of emancipatory interest.

The research presents the concept of CCFOs from the ETQAs and ETDPs' own views. Interpretive research according to Henning et al. (2004:20) is informed by participating practitioners. According to Cohen et al. (2001:23) it is essential to "…begin with individuals and set out to understand their interpretations of the world around them". As the CCFOs are to be interpreted by the stakeholders, an approximation of the concept can be provided as each industry and field and levels differ from one another. There are different frames that shape and construct meaning.

Figure 5 provides a summary in the format of a framework for the scientific orientation of this research as discussed in the preceding text.

Figure 5   Research-specific scientific orientation
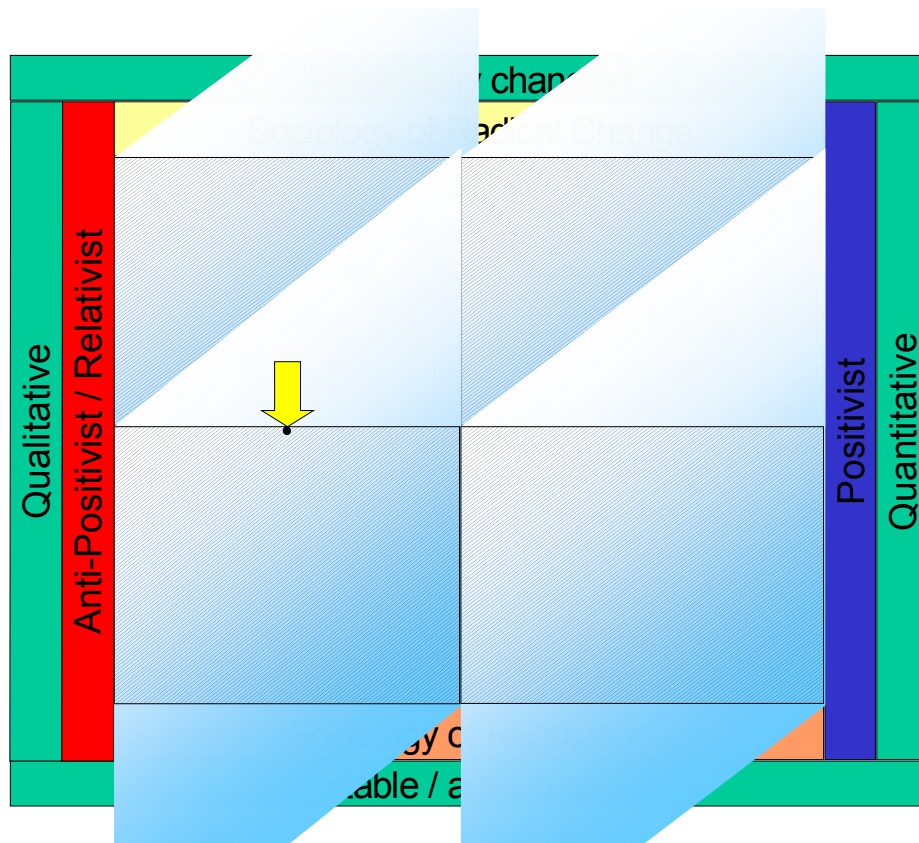
Research methods pertaining to this research project are discussed in the following section.
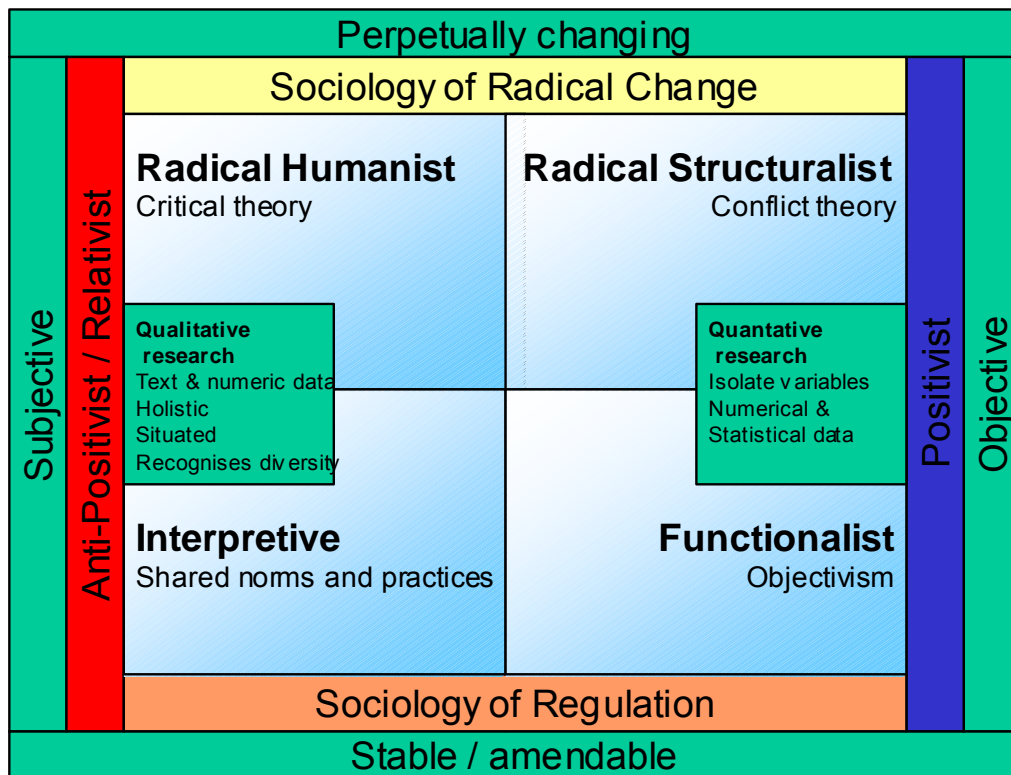
2.5   RESEARCH METHODS

Qualitative research methods are implemented in this study. Qualitative research is carried out when anti-positivist research paradigms are adopted (Burell & Morgan 1979:30). Newman discusses the different methodologies and provides the following table on the difference between the qualitative and quantitative style of research (1997:14).

Table 1   Research styles

Quantitative style	Qualitative style
Measures objective facts	Constructs social reality, cultural meaning
Focuses on variables	Focuses on interactive processes, events
Reliability is key	Authenticity is key
Value-free	Values are present and explicit
Independent of context	Situationally constrained
Many cases, subjects	Few cases, subjects
Statistical analysis	Thematic analysis
Researcher is detached	Researcher is involved

Figure 6 below provides a framework of research methods in correlation to scientific orientation as derived from the preceding text. This is followed by a discussion on the specific research method of this study.

Figure 6   Research Methods

Figure 6 — Research Methods diagram showing:
- Top band: Perpetually changing
- Sociology of Radical Change
- Radical Humanist — Critical theory
- Radical Structuralist — Conflict theory
- Qualitative research: Text & numeric data, Holistic, Situated, Recognises diversity
- Quantative research: Isolate variables, Numerical & Statistical data
- Interpretive — Shared norms and practices
- Functionalist — Objectivism
- Sociology of Regulation
- Bottom band: Stable / amendable
- Left: Subjective, Anti-Positivist / Relativist
- Right: Positivist, Objective

"To be scientific, social research must be socially engaged" (Greenwood & Levin 1998:195). Action research according to Henning et al. (2004:23) is one of the major concomitant methodologies of critical theory. I opted to work in the action research paradigm since I am involved in the ETDP environment as a private service provider. As a point of departure and to the purpose of collecting baseline data, I facilitated a workshop on the CCFOs with ETQA managers of the respective SETAs. "Action research is implemented with the participation of the people for whom the intervention is designed, usually with their help and with the aim of emancipation for the participants" (Henning et al. 2004:47). Action research according to Burell and Morgan (1979:35) can be considered to be a special example of Case Study Research. Action research, according to Zuber-Skerritt (1996:14) refers to ways of investigating professional experience which links practice and the analysis of practice into a single productive and continuously developing sequence, with the attempt to have new thoughts about familiar experiences. Action research according

to Cohen and Manion (1994:194) is appropriate whenever specific knowledge is required for a specific problem. In this research the CCFOs are regarded as the specific problem and the ETDP environment as the specific situation. The development of understanding and the process of change in practice are two important claims of action research (Zuber-Skerritt 1996:14). The emancipatory benefit of action research is implied by the following quote from Zuber-Skerritt (1996:147):

Action research is a form of collective self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own social or educational practices as well as their understanding of these practices and situations in which these practices are carried out.

The following is a representation of the action research process as implemented in the proceeding chapters.

Figure 7   Action Research Process
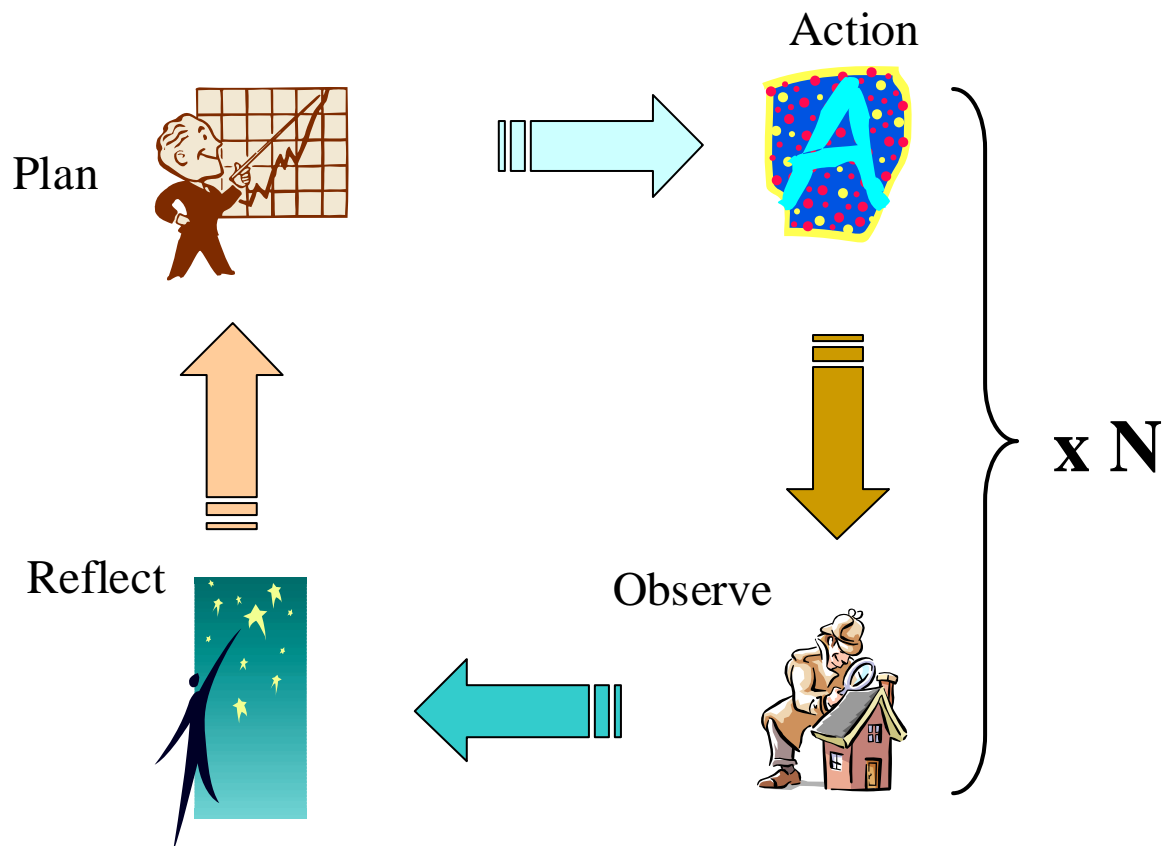
This action research cycle repeats itself throughout the research conducted. Each step in the process is represented by a visual image. The following steps are pursued in the specific sequence:

- Plan
- Action
- Observe
- Reflect/analyse

Plan

The first planning step is conducted in this chapter and includes problem analysis and a strategic plan (Zuber-Skerritt 1992:11). The planning of the research design, drafting of research questions and planning for data collection and data analysis form part of the first planning step.

A number of research methods are employed to secure data (McKernan 1997:75). Data in a case study are collected during unstructured or semi-structured interviews and from unpublished documents and newspapers and magazine reports, and are analysed using an interpretive or phenomenological research paradigm (Burell & Morgan 1979:35). The data collection plan of this study is in accordance with this statement, as unstructured interviews and workshops are included.

The workshop is perceived as an open-ended group interview for the purpose of the study. Burell and Morgan (1979:35) maintain that case study methods have explanatory power and they reach conclusions by means of logical arguments. The workshop intends to have explanatory power and concludes the refined competencies of the CCFOs.

Action

The next step is that of action. Action includes the implementation of the plan. The action step entails the collection of the first set of data to understand the legislative perspective on the CCFOs. A theoretical grounding of the CCFOs follows in an attempt to better understand the CCFOs.

The phenomenon of CCFOs cannot be studied outside its natural settings as it serves the education, training and development environment. Variables cannot be easily isolated or accurately measured quantitatively.

Mouton (2002:150) states that studies that involve the subjects of research as an integral part of the design use mainly qualitative methods in order to gain understanding and insight into the life-worlds of the research participants. The research design of this study is classified as empirical research rich in data; it has plenty of primary data and has low control. Inductive reasoning, according to Garbers (1996:287), has no explicit conceptual framework and a hypothesis is generated as the research is implemented.

Action research, according to Burell and Morgan (1979:37), consists of two important components, namely "the process of generating change and generating knowledge". Knowledge generated in the workshop is reminiscent of the underpinning competencies of the CCFOs. The data collected during the workshop and information collected in the policy documents and other text analysis are the source of the questionnaire.

Observation
Observation includes an evaluation of the action by appropriate methods and techniques. The evaluation of the action in this research is partly effected by questionnaires, as the intention of the questionnaire is to verify the findings of the action that took place in the first step of this cycle of the action research. Once a list of the competencies has been created from the theoretical grounding, the workshop is conducted to verify the mentioned process.

Reflection
Reflection implies reflecting on the results of the evaluation and on the whole action and research process and may lead to the identification of a new problem. Hence a new cycle of action research can be initiated. Reflection in the first cycle of the action research process entails the CCFO workshop and includes the verification of the identified competencies by the ETQA managers. The data are then analysed and categorised in order to use the condensed list of competencies for the purpose of constructing the questionnaires.

2.6 QUESTIONNAIRE

Questionnaires are utilised to validate the underpinning competencies as identified during the CCFO workshop. "A good questionnaire forms an integrated whole" (Neuman 1997:233). The questionnaires are created according to the spider cobweb categories this is done to so they flow smoothly. Introductory remarks and instructions are provided for clarification.

The following aspects were attended to while constructing the questionnaire in order to prevent common errors from happening. The construction and findings of the questionnaires are discussed in chapter 5. This section on the questionnaire attempts to provide insight into the action research processes that follows.

No negatively stated questions are asked. The ranking format used prevents a poor and confusing questionnaire. The instrument is not too long; only six components of the spider web model are covered in the questionnaire. Mono-operational bias (Mouton 2001:104) is avoided; single construct measurement is avoided by selecting a ranking order where the respondent is expected to rank the competencies per category, which enables a relative degree of preference, priority and intensity to be charted (2001:252). No double-barrelled questions are used. The competencies are well defined and explained in the questionnaire. A pilot run is done on the questionnaire before distributing it to the identified target population. The questionnaire is piloted to increase the reliability, validity and practicability (Cohen et al. 2001:252). The clarity of the questionnaire is checked, ambiguities or difficulties in wording is eliminated, feedback on the type of questionnaire, attractiveness and appearance, layout, time taken to complete are established and the effectiveness of the drop down lists provided to rank the competencies are confirmed.
Addendum C provides examples of the questionnaires.

The cyclic processes of the research are indicated in the report as the process matures and are indicated by the mentioned visual images as stated before.

The following text discusses and argues the advantages for selecting and implementing action research and why action research is applicable to this study.

McKernan (1997:76) provides the following table on advantages and disadvantages of action research methodology. These issues, concurrent with characteristics of action research in correlation to this specific research study, are addressed in the text that follows.

Table 2   Advantages and disadvantages of action research

Advantages	Disadvantages
Reproduces phenomenological world of participants through detailed description of events	Extremely time-consuming
	Results are suspended until action is concluded
Presents a credible and accurate account of the setting and action	The researcher may have a priori assumptions which influence interpretations
Uses multi-methods to corroborate and validate results	The researcher can be 'taken in' by respondents and informants in the field
Tells a story in language that a layman and practitioner can understand	No generalization
	Idiosyncratic and interpretive nature
Data are 'representative'	Data base usually supplied by researcher
	Costs
	Training

The following characteristics (Burell & Morgan 1979:7) of action research are adhered to in this study:

It is a science of practice that is, applied within the real or natural context and not in a laboratory. This research is implemented in the education, training and development environment – an environment that is in practice. The workshop was conducted on site with the ETQAs.

It is a collaborative process in which I as the researcher and the other participants are jointly involved in seeking insights. The ultimate purpose of the workshop is to refine the underpinning competencies of the CCFOs. As no in-depth descriptions or refined competencies for the CCFOs exist, new insights are sought. This research is therefore a learning process and encourages and stimulates the quest for conceptual understanding of CCFOs.

As it is a process, it is part of an ongoing search for better ways of doing things. It does not usually produce final solutions although it may produce partial solutions, improvements or even errors that indicate the need to change direction. This research intends to clarify the meaning of the CCFOs.

A hypothesis is not proposed before the data collection is started, as is the case with positivist research, but the researcher attempts to keep an open mind, allowing theories to emerge. Whereas the CCFOs have not been analysed in terms of theoretical perspectives, this research intends to do so to complement their conceptual analysis. It is therefore accepted that there is a great deal of uncertainty in the identification of the theories underpinning the CCFOs. Complexity and uncertainty are inevitable and acceptable.

Contradictions and areas of conflict or differences of opinion are actively sought; hence the implementation of the workshop. More than one opinion of point or view is sought, partly to uncover problems and partly to validate conclusions. The questionnaires together with the workshop and text analysis validate the

conclusions. This type of research is therefore low on control. Limitations of action research (Mouton 2002:151) imply that a small number of cases and low degree of control affect overall generalisation and the possibility of strong causal and structural explanations.

The data collected are largely in the form of text and largely unstructured. Historicity is recognised. The decision and actions taken here and now are unlikely to be the same as those chosen yesterday or tomorrow, by other actors, or in some other places, because of the difference in opinion and lack of guidelines regarding the refined competencies of the CCFOs. It is therefore not a system of accumulated certainties (Zuber-Skerritt 1996:18). Because it is action and learning oriented, the research is by definition relevant.

Interpretive enquiry, unstructured observation and open interviewing are ways to capture knowledge (Henning et al. 2004:20) with key words in the methodology of critical theory being participation, involvement and collaboration. Data collection in action research includes but is not limited to the following: collection of documents, observation, interviews, written descriptions of meetings and triangulation.

The table that follows provides a framework of the data collection plan as well as the layout of the data to be collected according to the research questions. The table also determines the effectiveness and sufficiency of the data collected per research question.

Table 3   **Data collection plan**

CRITICAL QUESTION	SUB-QUESTION	LITERATURE REVIEW	TEXT ANALYSIS	WORKSHOP	POLICY DOCUMENTS	INTERVIEWS	QUESTIONNAIRE
How do SAQA and relevant legislation describe CCFOs?	How does the relevant documentation describe the origin of CCFOs?	✔	✔		✔	✔	
	In what terms do policy and related documents refer to the CCFOs?	✔	✔		✔	✔	
	How does SAQA prescribe the implementation of CCFOs?	✔	✔		✔	✔	
	How do the CCFOs contribute to curriculum development with reference to legislation and relevant documentation?	✔	✔	✔	✔	✔	
How do theoretical perspectives and ETQAs describe CCFOs?	What theoretical perspectives describe the CCFOs?	✔	✔			✔	
	How could CCFOs be described in terms of the mentioned theories?	✔	✔	✔			
	What underpinning refined competencies describe CCFOs?	✔	✔	✔		✔	✔

What is the conceptualisation of the ETQAs regarding CCFOs?					✔		✔	✔

The table provides the data collection plan and various methods of information collection. It also indicates that the data collection method for each research question is sufficient and that the methods are effective for the purpose of data collection.

2.7 ETHICS CONDUCTED

In qualitative research and specifically action research where stakeholders form an integral part of the research, ethical consideration is essential. The research should ensure that stakeholders are consulted and all accept the principles guiding the work in advance (Zuber-Skerritt 1996:16). "Full information"*,* (Cohen et al. 2001:50) implies that the participants are fully informed of the research and research objectives. Cohen et al. (2001:68) also use the term "observe protocol" by which they indicate that the participants are fully informed, consulted and that the necessary permission and approval have been obtained. The workshop was planned and designed in consultation with SAQA. Informative letters were sent to the SETAs and ETQA managers well in advance. Addendum B reflects the CCFO Workshop layout. My intention was to inform the participants so that they could comprehend and understand the nature of the research.

All participants must be allowed to influence the work; those who do not wish to participate must be respected (Zuber-Skerritt 1996:16). This supports the "informed consent", especially the "voluntarism", mentioned by Cohen et al. (2001:50). Voluntarism ensures that the participants freely choose to take part or not. The participants of this research were invited to attend the workshop and were under no

obligation to attend. Negotiation among the participants and me as the researcher ensured that the wishes of the participants were taken into consideration.

The development of the work must be visible and open to suggestions from others (Zuber-Skerritt 1996:16). The researcher acts as moderator of the workshop and has no opinion. Progress of the workshop is reported and written on the flip charts, and remains open for suggestions. Authorisation from the participants is explicitly obtained by verbatim transcripts of the identified and nominated competencies.

Permission must be obtained before making observations or examining documents (Zuber-Skerritt 1996:16). This is ensured by means of the informative letters sent out prior to conducting the workshop.

The researcher must accept responsibility for maintaining confidentiality (Zuber-Skerritt 1996:16) but retains the right to report on the work, provided that the participants are satisfied with the fairness, accuracy and relevance. Responses will remain anonymous during the workshop.

Access and acceptance were gained via SAQA in that the outline of the workshop and objective of the research were discussed during the very early stage of the research. Mr Samuel Isaacs, Chief Executive Officer of SAQA, is the main contact person to gain access and acceptance in this regard. He channels the process to the appropriate stakeholders, as the respective SETAs report to SAQA.

2.8   PLANNING FOR DATA ANALYSIS

Qualitative research methodologies were utilised. When using qualitative analysis the researcher "…elicits meaning from the data in a systematic, comprehensive and rigorous manner" (Henning et al. 2004:127). Qualitative analysis according to the mentioned authors, takes place throughout the data collection process." Qualitative inquiry's annalistic pendulum is constantly in motion" (Denzin & Lincoln 2000:487).

Before analysis can begin, data are transcribed which means that text from a workshop and interviews are processed (Henning et al. 2004:127).

Data analysis techniques include but are not limited to: scanning and cleaning data, organising data and re-presenting data. Data are organised, reduced and described (Henning et al. 2004:127). Scanning the data requires preparation of the raw data for the analysis by reading the data, checking for incomplete, inaccurate or irrelevant data and identifying trends in the scanned data to facilitate the organisation of the data into meaningful sub-components. "Data segments are organised into a system that is predominantly derived from the data, which implies that the analysis is inductive" (Henning et al. 2004:127).

Descriptions and categorisation are to be implemented, as information needs to be arranged in a manageable format. Conceptual understanding of the CCFOs is created in the data clarification and connections are made between the concepts that in turn provide the basis for a fresh description of these. Comparison is utilised to define conceptual similarities and to discover patterns. "Categories are flexible and may be modified during the analysis" (Henning et al. 2004:127). Descriptions of meaning (Henning et al. 2004:129) form the basis for the analysis and are carried out by the researcher. When a category is assigned, the process of "coding" (Henning et al. 2004:127) is implemented.

It is important to note that the analysis should truly reflect the participants' perception. It is important to note though that the participants are only human beings and perceive and define situations and the concept of CCFO according to their own understanding and motivations. "Inconsistencies and contradictions in humans do exist" (Henning et al. 2004:128). Social forces, pressure to conform and fear of embarrassment and conflict may also distort participants' perception and intensions. "Pure rational accounts of respondents' intentions cannot be expected" (Henning et al. 2004:127).

Word counts (Denzin & Lincoln 2000:776) are useful for discovering patterns of ideas in any text, from field notes to open-ended questions. This kind of analysis considers neither the context nor mode of the words used (negative or positive) but is useful to identify constructs. Word counts were implemented on the findings of the workshop as well as the theoretical text.

Triangulation, "coming from various points or angles towards a 'measured position' to find the true position" (Henning et al. 2004:103) is adhered to. Different theoretical perspectives are incorporated to identify the underpinning competencies of the CCFOs as well as the perspectives of the ETQA managers and ETDPs.

2.9   VALIDITY AND RELIABILITY

"Validity is an important key to effective research" (Cohen et al. 2001:105). To validate is to check, question, to theorise and to discuss and share research action (Henning et al. 2004:148). The theoretical component of the research explains the phenomenon that is the CCFO (theoretical validity). One way of validating is to ask people, especially the research participants. The workshop format ensures that the information provided by the participants is validated in that the researcher acts as moderator while conducting the workshop. This means that the information is questioned and discussed with the participants during the course of the workshop; checking whether the participants agree on the data presented. The researcher tries to catch the meaning, interpretations and intentions of the participants (interpretive validity). Participants are also asked continuously whether the information makes sense or not, and to identify the main themes; the research can therefore be considered to be a rationalised version of reality. "The findings of the researcher must accurately describe the phenomena being researched" (Cohen et al. 2001:107). This accuracy refers to the internal validity. Internal validity according to McMillan and Schumacher (1993:391) refers to the degree to which the explanations of the phenomena match the realities of the world. External validity refers to the generalisability and in qualitative research it addresses comparability and transferability (Cohen et al. 2001:109). This research provides sufficiently rich data

for readers and users of the research to determine whether transferability is possible. All the CCFOs were addressed in the workshop in order to define the underpinning competencies, thus the content validity was attended to.

Action research is conducted and "catalytic validity simply strives to ensure that research leads to action" (Cohen et al. 2001:111). Action research like catalytic validity is emancipatory in nature and empowers those who are being researched. Validity of qualitative data might be addressed through the honesty, depth, richness and scope of the data achieved, the participants approached and extent of triangulation (Cohen et al. 2001:105). "Triangulation demonstrates concurrent validity" (Cohen et al. 2001:112). Different methods were used to collect data, namely theoretical and text analysis (theoretical perspective), the CCFO workshop (participants' perspective) and the questionnaire.

Validity must be faithful to its premises. Cohen et al. (2001:106) provide anti-positivist principles and the ensuing text provides an indication of how this research complies with it.

The researcher is part of the researched world; the researcher acts as the moderator of the workshop and takes part in all proceedings. The researcher is the key instrument of the research rather than a research tool.

Data collected are descriptive in that the underpinning competencies of the CCFOs are identified. The data are presented in terms of the respondents rather than the researcher. The description of the CCFO is the truth as perceived by the participants. Reporting is done via the eyes of the participants. Respondent validation, as discussed earlier, is therefore important.

Cohen et al. (2001:106) suggest that understanding is a more suitable term than validity in qualitative data. The meaning that subjects present on data and inferences drawn from the data is important. The intensive personal involvement and in-depth responses of individuals secure a sufficient level of validity and reliability (Cohen et al. 2001:107).

Reliability in qualitative research is regarded as the fit between the recorded data and what actually occurs in the natural setting that is being researched. Qualitative research cannot be replicated, "that is their strength rather than their weakness" (Cohen et al. 2001:119). Reliability in qualitative research, according to Denzin and Lincoln (1994:101), can be addressed in several ways:

Stability of observation: The researcher can make the same observations and interpretation of the research if it has done at a different time or in a different place.

Parallel form: The researcher can make the same observations and interpretations of what was seen if attention is paid to other phenomena during the research conducted.

Inter-rater reliability: Another observer with the same theoretical framework, observing the same phenomena, will interpret the research in the same way.

2.10 ANTICIPATING THE REPORT OUTLINE

Chapter 1:   Research orientation

Chapter 2:   Research design

Chapter 3:   Policy, legislation and relevant documentation are discussed and analysed to reach a conceptual understanding

Chapter 4:   Theoretical perspectives on the CCFOs are analysed and refined competencies as per theoretical perspectives are identified.
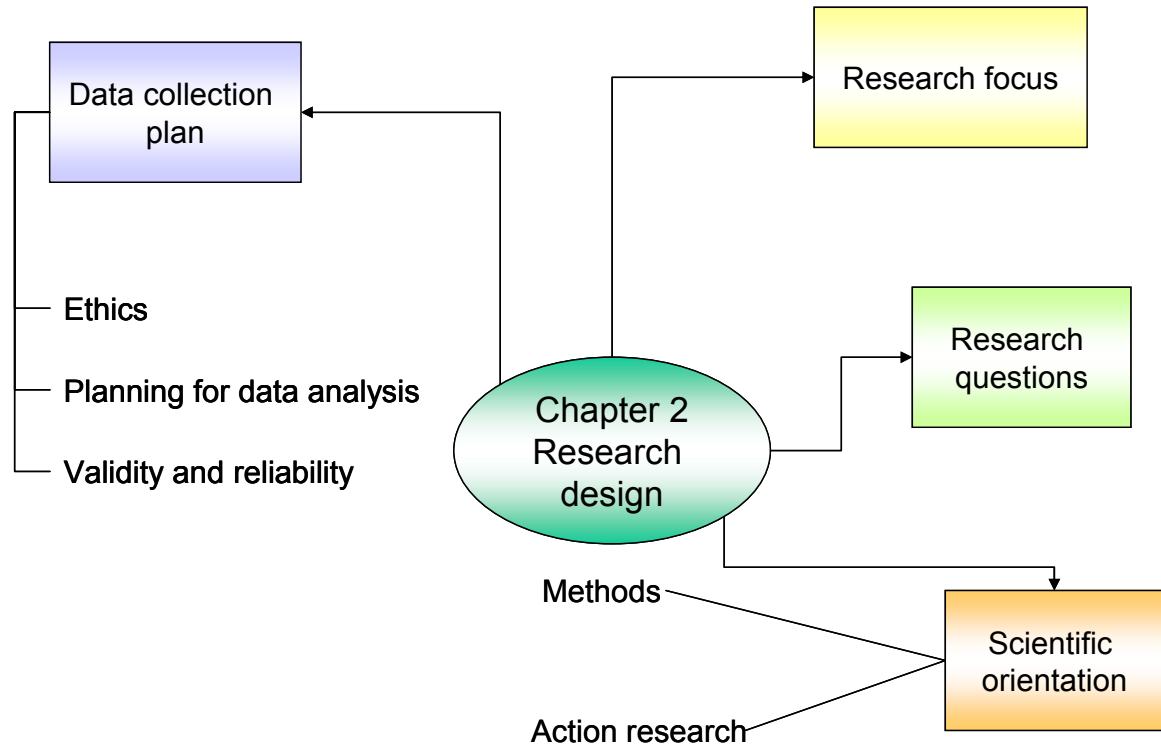
Chapter 5:   Empirical study

Chapter 6:   Conclusion

Appenda

Bibliography

2.11 CONCLUSION

Figure 8   Summary on chapter 2

Chapter 2 reflects the research design. The research focuses together with the research questions are stated to determine the parameters of the research project. The scientific orientation from which the research methods are derived is maintained. Action research is considered to be the main research method and the rationale of the method is outlined. The plan for collection is explained and is governed by the ethical conformity of the research project. The proposed data analysis is stated and supports the validity and reliability of the research.

Chapter 3 initiates the investigation of the legislative perspective on the CCFOs.