

Chapter 3: Research methodology

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3.1. Introduction

Researchers should be clear about what is the essence of their enquiry, and should express this as an 'intellectual puzzle' with a clearly formulated set of research questions (Mason, 2002:13).

In this chapter, the **essence of the research inquiry** is stated and an intellectual puzzle is built through the various research questions. The research problem is stated, the purpose and objectives of the study are defined, and the application of the research process to provide evidence for answering the research questions is described. The research philosophy, approach and strategy are defined. The methods and instruments used to gather data are defined and the subjects from whom information was elicited are described.

3.2. The research problem and motivation for the study

The **practical problem** (Mouton, 2002) that this study addresses is the misalignment between the views of the Learning and Development Department and Business¹ regarding the contribution or value-add of eLearning to business performance. While the Learning and Development Department believes that they are following world-class processes, they are constantly requested to justify how eLearning adds value to the business results.

The **core problem of the study** (Mouton, 2002) is to determine how the contribution of eLearning to business performance can be improved. This debate seems to be an industry issue where eLearning specialists are on a constant quest to provide evidence that they are adding value to business performance (ASTD, 2004; Phillips, 2004; Corporate Leadership Council, 2001c; Corporate Leadership Council, 2000; PrimeLearning, Inc., 2001). The study will therefore focus on the **creation of knowledge about how the contribution of eLearning to Business Performance can be improved..**

In the process of knowledge creation, the study will focus on identifying the point of value creation between Business and an eLearning intervention. This **point of value creation** represents a shared space that is created between the learners, their management and the Learning and Development Department so that these role-players can agree in advance on where and how an eLearning intervention must make a difference. They must therefore have a common understanding of exactly where the point of value creation is.

In this study, it is proposed that this **point of value creation** can be seen as a **leverage** point. Systems Thinking is suggested as an approach to attempt to delve deeper into the structure of the problem in order to uncover alternative structures, events, trends and patterns resulting in a focus or leverage point.

¹ In this study the word '**Business**' refers to the eChannels: Contact Centre Division. It implies that the following stakeholders are part of the grouping – Operational Management responsible for business results, team leaders, and the employees (also referred to as learners). A detailed description of this sample is available in Chapter 3.

3.3. Systems Thinking

The significant problems we face cannot be solved at the same level of thinking we used when we created them

Albert Einstein (Cited by: Salisbury, 1996:17).

A problem that is difficult to solve in one worldview can be solved when looking at it from a **different worldview**. Systems Thinking brings with it its own assumptions and beliefs, and **colours the lens** of the researcher and the participants through which they view the world. Systems Thinking beliefs suggest that the world can be seen as a **holistic living organism** that cannot be broken down into parts (Wheatley, 2001; Salisbury, 1996). If, therefore, the deeper structure of the problem is understood, it will provide the opportunity to influence events and patterns in the favour of business.

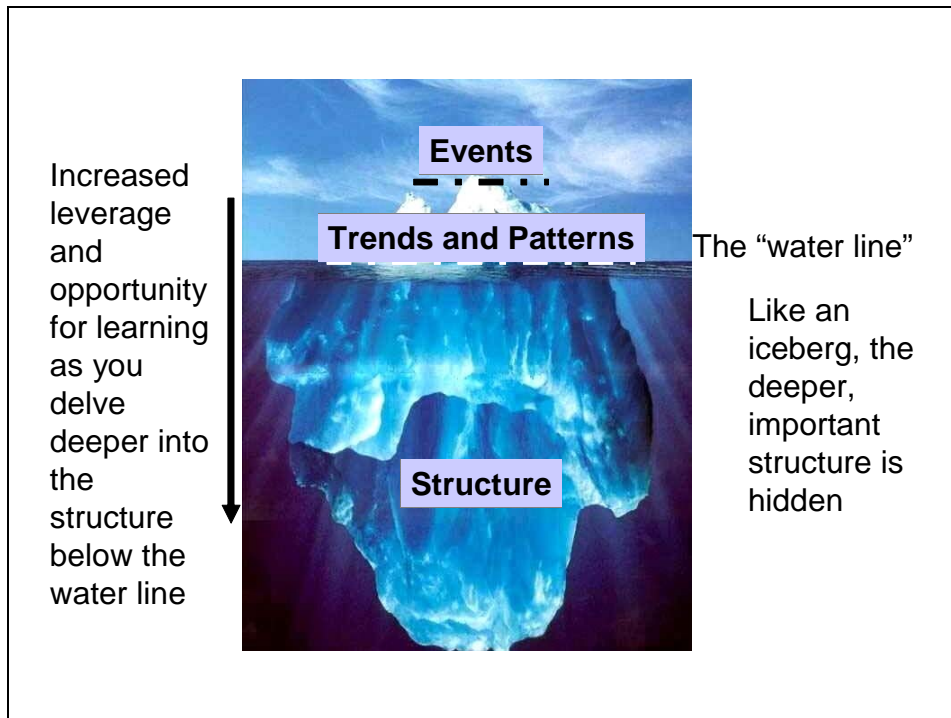
A system is a perceived whole whose elements “hang together” because they continuously affect each other over time and operate towards a common purpose

(Senge *et al.* 2001:90).

The definition above is specifically relevant in this study as the researcher wants to understand how the different elements relevant in eLearning improving business performance hang together, and how they continuously affect each other over time, operating towards a common purpose.

According to Senge *et al.* (2001), Systems Thinking provides a mechanism that will enable a deeper understanding of a problem. The understanding goes beyond the events, trends and patterns ‘seen as everyday behaviour’, delving in beliefs and assumptions, driving the behaviour displayed in the everyday events. Strumpher (2001) confirms this by stating that Systems Thinking provides methods and tools that structure and support an inquiry as a learning process by directing and maintaining the conversation between participants. Figure 3.1 shows the difference in depth that Systems Thinking enables in the attempt to understand problems.

Figure 3.1: Systems Thinking

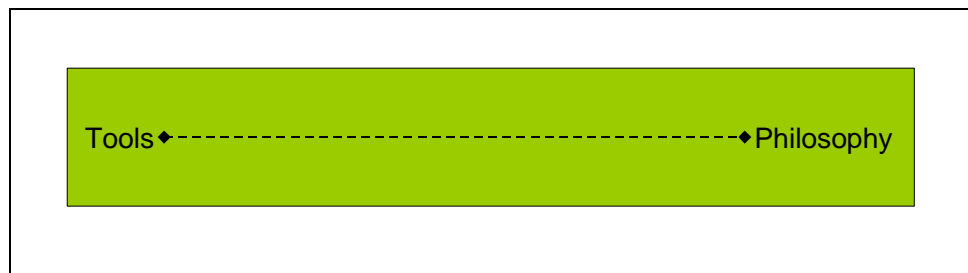


(Adapted from: Innovation Associates, Inc., 1996)

The discipline of Systems Thinking spans a continuum of skills and orientation. It is a set of tools and methods and a philosophical stance and framework (Innovation Associates, Inc., 1996:2-3).

The above definition illustrates that Systems thinking is both a philosophy and a tool. Figure 3.2 graphically represents the continuum between the tools that are used and the framework (or philosophy) within which the tools are used.

Figure 3.2: A continuum between tools and philosophy



(Innovation Associates, Inc., 1996:2-3)

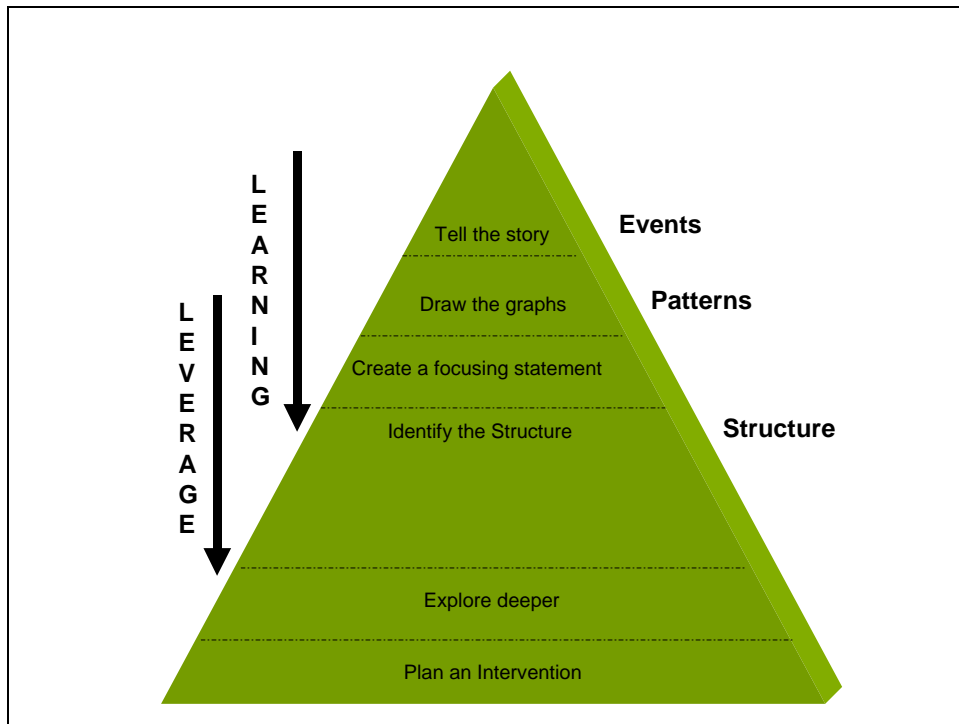
*The human capacity to invent and create is universal.
Ours is a living world of continuous creation and infinite
variation (Wheatley, 2001).*

Organisations and people are living systems, constantly changing with an innate energy that can potentially solve any problem. Furthermore, it is proving to be a challenge to define the contribution of eLearning to business performance from a linear point of view. If the Western paradigm of examining the world and humans as living organisms rather than machines is changed, it might provide new insight into the research problem (Wheatley, 2001). People often see the same things but interpret them differently based on their own way of thinking (Salisbury, 1996).

Systems Thinking follows **a specific pattern in order to unearth the deeper structure of problems**. The following steps are relevant in this pattern:

- telling the story;
- drawing the graphs of the behaviour caused by the problem over time;
- creating a focus statement;
- identifying the structure driving the trends and patterns;
- exploring deeper; and
- planning an intervention (Innovation Associates, Inc., 1996).

Figure 3.3 summarises the generic steps in Systems Thinking. These steps were used to outline the research process as well as design the systemic inquiry (captured in the moderator guide) of the study. The systemic inquiry is one of the tools that were used in this study to collect data regarding the research problem and the design of the system that 'ought to be'. The systemic inquiry is based on the work of Strumpher (2001).

Figure 3.3: Generic steps in Systems Thinking

(Adapted from: Innovation Associates, Inc., 1996:2-9)

The **planning of interventions** will not be reported in this study but will be implemented as a solution to the practical problem represented in this study.

The beliefs and assumptions around Systems Thinking guide the objectives of this study as well as the research process and the subsequent research design.

3.4. The purpose and objectives of the study

The **purpose** of this research project is to identify leverage point/s that will improve business performance through eLearning.

Given the purpose, the **objectives** are to:

- identify the **driver problem** that prevents eLearning from improving business performance.
- design the **systems dynamic model** that represents the driver problem.
- identify the **leverage point** within the systems dynamic model.
- reflect on the **effect** that the **behaviour** of the individuals, participating in the research process, has on the research inquiry.

3.5. The research question

Based on the purpose of the research and the research objectives, the main research question can be phrased as:

What is the leverage point that will improve business performance through eLearning?

The research question and Systems Thinking create the context for the following subsidiary questions to be answered:

- What are the **problems** related to improving business performance through eLearning?
- What is the **key driver/s** of the identified problems?
- What is the **system in focus**?
- Who are the **main stakeholders** influencing the system in focus?
- How can the system in focus be presented **systemically**?
- What is the **leverage point** related to the system in focus?
- How does the **behaviour** of the individuals participating in the research process influence the research inquiry?

Table 3.1 provides an overview of the research question, research objectives and detailed subsidiary questions, data collection methods, actions and outputs for this study. Colour coding is used in the table to cluster the relevant research objectives and subsidiary questions. The colour coding that was applied is shown on the next page.

Research Objective 1: To identify the **driver problem** that prevents eLearning from improving business performance.

Research Objective 2: To design the **systems dynamic model** that represents the driver problem.

Research Objective 3: To identify the **leverage point/s** within the systems dynamic model.

Research Objective 4: To reflect² on the **effect** that the **behaviour** of the individuals, participating in the research process, has on the research inquiry.

This colour coding is used throughout the study report.

The 'Data collection, Actions and Outputs' column documents the actions implemented during the research project in order to collect evidence for and to explain, each of the research questions. In this column, a next level of colour co-ordination links the data collection methods to the research design in Table 3.2.

² Reflection includes the observation of the behaviour of the focus group participants and the attempt to understand the effect of these behaviours on the outcome of the study.

Table 3.1: Research question, research objectives, subsidiary questions, data collection methods, actions and outputs

Research question	Research objectives	Subsidiary questions	Data collection methods, actions and outputs	
What is the leverage point that will improve business performance through eLearning?	To identify the driver problem that prevents eLearning from improving business performance.	What are the problems related to improving business performance through eLearning?	Immersion process (Focus group delegates interview colleagues) Focus group interview Lists of problems	
		How can the problems be grouped together as themes?	Focus group analysis Themed groups of problems	
		How does each of the themes influence one another?	Focus group analysis Digraph per focus group	
		What is the driver problem?	Focus group analysis Count arrows	
	To design the systems dynamic model that represents the driver problem.	What is the system in focus?	Focus group interview System in focus statement	
		Who are the main stakeholders of the system in focus?	Focus group interview List of stakeholders	
		What are the measures of performance?	Focus group interview Two measures of performance per stakeholder	
		What are the co-producers for each of the measures of performance?	Focus group interview List of co-producers per measure of performance	
		How can the elements of the system in focus be represented systemically?	Focus group analysis Integrated systems dynamic model	
	To identify the leverage point within the systems dynamic model.	Which of the co-producers influence the systems dynamic model the most?	Focus group analysis The leverage points that represent the point of value creation	
		To reflect on the effect that the behaviour of the individuals, participating in the research process, has on the research inquiry.		Employ two observers during the focus group to observe the group dynamics, mental models and synergy of the workshop participants. Do post focus group discussion with moderator and observers (unstructured interview). Verify focus group outputs with three eLearning experts (unstructured interview). Obtain feedback from focus group participants (survey).
		How do the behaviour of the individuals participating in the research process influence the research inquiry? What effect does the process have on the individuals participating in the research inquiry?		

3.5.1. Research objective 1:

To identify the driver problem that prevents eLearning from improving business performance.

Preparation was done for this research objective through an immersion process. **Data** was **collected** through four focus group interviews. During the focus groups, the problems were **analysed** through theming or grouping of the problems listed by the focus group participants. Further **analysis** was conducted by designing and developing a digraph with the themes identified. The **driver problem** was identified by counting the number of in and out arrows on the digraph.

3.5.2. Research objective 2:

To design the systems dynamic model that represents the driver problem.

A 'system in focus' statement was **designed**, based on the information gained in Research objective 1. Subsequently, **data** was **collected** about the stakeholders, measures of performance and co-producers relevant to the 'system in focus'. Three focus groups were used to collect the data. A systemic analysis process supported the creation of systems dynamic loops and an integrated systems dynamic model.

3.5.3. Research objective 3:

To identify the leverage points within the systems dynamic model.

Research objective 1 and 2 provided the necessary data for this objective. A systemic **analysis** process was utilised to identify the starting point of the systemic story, i.e. the leverage point.

3.5.4. Research objective 4:

To reflect on the **effect** that the **behaviour** of the individuals, participating in the research process, has on the research inquiry.

Mental models and belief systems underlie the assumptions that guide thought and action [observable behaviour] (Dills & Romiszowski, 1997: 340). Thus, the results that were produced by the research participants were influenced by their mental models. These mental models were reflected in the behaviour of the individuals during the focus group process and had an effect on the outcome of the study.

Data was **collected** through observation, post focus group discussions and verification of the data with verifiers. Further data to gain understanding into the mental models of the individuals was obtained from the focus group participants through a survey.

In order to create the intellectual puzzle, the **research process** was designed to gain insight into the issues underlying the choice of data collection methods.

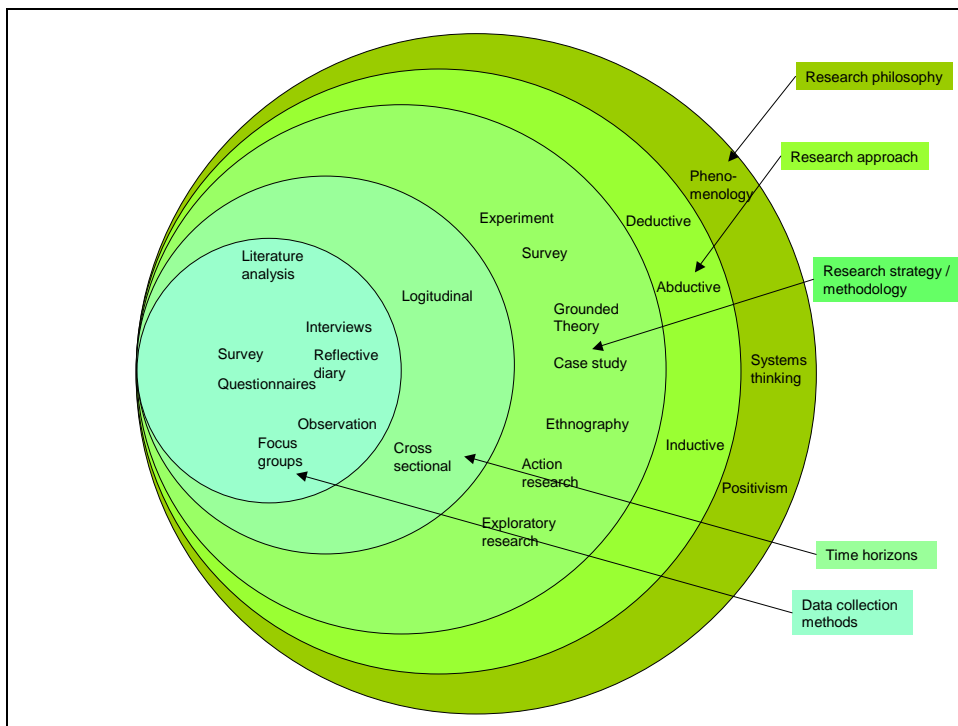
3.6. The research process

The research process is used to define the research strategy of this study in detail. Figure 3.4 describes a generic research process 'onion' that supports the researcher to "depict the issues underlying the choice of data collection methods" (Saunders *et al.* 2000:84).

The layers of the research onion represent the following aspects:

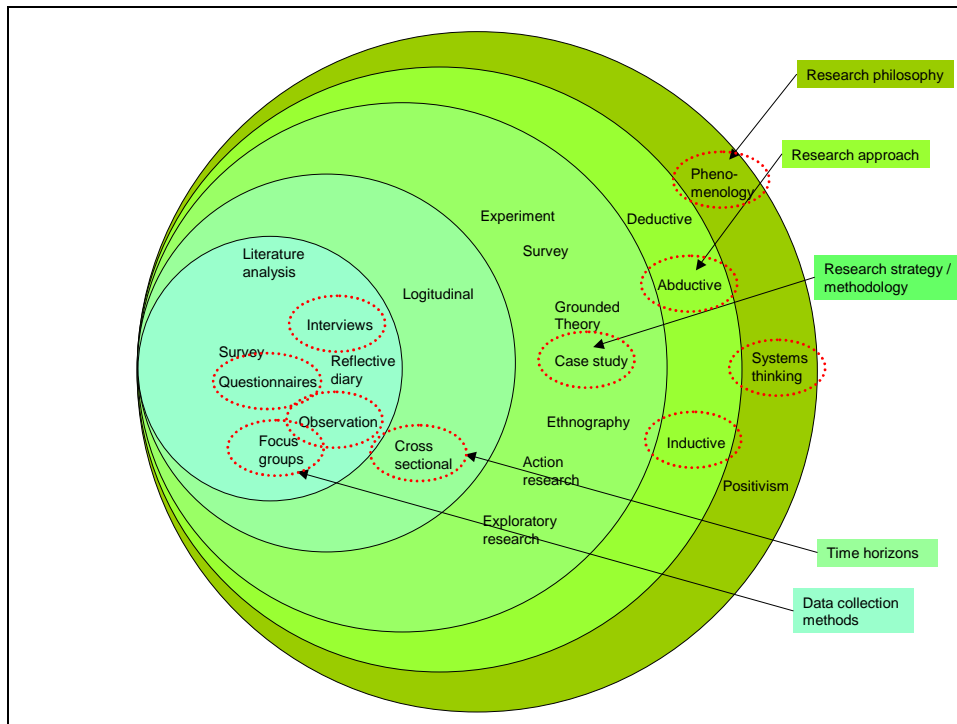
- research philosophy;
- research approach;
- research strategy/methodology;
- time horizons; and
- data collection methods.

Figure 3.4: The research process ‘onion’



The research process ‘onion’ has been adapted from Saunders *et al.* (2000:85).

Figure 3.5 shows how the research process ‘onion’ as applied in this study. The specific research philosophy, research approach, research strategies, time horizons and data collection methods are circled in red. These selections and decisions culminate in a research design.

Figure 3.5: The research process for this study

The research process 'onion' has been adapted from Saunders, et. al. (2000:85).

*The **research philosophy** depends on the way you think about the development of knowledge* (Saunders et al. 2000:84).

This study aims to uncover a deeper complexity of the relations between business performance and eLearning, by focusing on the structure beneath the 'water line'. From the literature review, it was deduced that these relations are complicated and that a deeper level of understanding is required in order to create more knowledge about this phenomena. Thus, due to the "complexity of the problem" (Saunders, et. al., 2000:86), and the "necessity to discover the details of a situation to understand reality or a reality that is working behind these details" (Remenyi, Williams, Money & Swartz, 1998:35), the research philosophy of the study can be framed within **phenomenological philosophy** although it does not follow the specific research design of a phenomenological study. "Phenomenology, a 20th-century philosophical movement, is dedicated to describing the structures of experience as they present themselves to consciousness, without recourse to

theory, deduction, or assumptions from other disciplines such as the natural sciences.” (Phenomenology homepage, 2004).

The phenomenological approach aligns closely with the assumptions and beliefs of Systems Thinking.

It is accepted that all individuals hold certain assumptions and attitudes. In the phenomenological approach, the beliefs and attitudes see the individual views as part of the conceptualisation or creation of meaning in the surrounding world and directs how an individual will act in that world (Flinders and Mills, 1993). In this study the assumptions and attitudes of individuals, about business performance and eLearning, will guide the design of a systems dynamic model, as well as the identification of a leverage point. The outcome of the study is therefore subject to how the individuals in this study create meaning of their surrounding world, and how they act upon this meaning.

The **ontological perspective** describes **what** the research is about in a fundamental way. It requires the researcher to position herself and to understand how **her worldview influences the research carried out** (Mason, 2002). Scott and Usher (1999:10) have a similar view, stating that certain “... **philosophical issues are integral to the research process ... what researchers ‘silently think’ about research.**” The different ontological properties of this study can be described as follows.

- The world and humans are seen as living organisms, part of a systemic whole.
- Within the systemic whole, people are social actors that respond humanly to different situations.
- The systemic whole consists of multiple realities and versions of the truth. Different people see different aspects of the same phenomenon.
- The subconscious and instincts of people (with regards to being required to implement eLearning as a solution) influence their view of the systemic whole.
- People’s attitudes, beliefs and views influence how the relationships within the systemic whole are seen and reflected.

- The outcome of discussions is subjective and contained to the specific context within which it took place.
- All events and trends are driven by a deeper structure of beliefs and assumptions of the individual.
- Interactions (conversations) between people, as a collective group, are stronger than the individual.
- People's knowledge, views, understanding, interpretation experiences and interactions are meaningful views of the social reality. It is important to see how these actions influence the outcome of the focus groups and whether the results are representative of the collective, or if specific individuals influenced it.
- The perceptions of people of the phenomenon are of special interest to this study (Wheatley, 2001; Scott & Usher, 1999).

According to Mason (2002:16) the **epistemological perspective** debate is about what might "... represent knowledge or evidence of the entities or social 'reality' that I ... investigate". Scott and Usher (1999:11) adds that epistemology is concerned with "... what **distinguishes different knowledge claims**". The emphasis is on the **criteria** that allows the researcher to determine what is **legitimate knowledge** and what is **assumption** (opinion or belief) (Scott and Usher, 1999).

How do we know what we think we know?

(Scott and Usher, 1999:11).

Thus, the **objective of the epistemology** is to create a set of rules for knowing – the moment any claim is made about the knowledge and the validity thereof, epistemology is implied (Scott and Usher, 1999).

From an **epistemological view**, knowledge sources that represent legitimate knowledge in this study are listed below.

- Interactively talking with people in groups, asking them about their views, assumptions and beliefs around a phenomenon.
- Observation of individuals in a group interaction.
- Participating in a recurring process of data generation and analysis to gain access to the deeper structure of the phenomenon and to

understand how the events and trends above the water line are influenced by the assumptions and beliefs of people that are hidden below the water line.

The **research approach** indicates whether the use of "... theory is explicit within the research design" (Saunders, et. al., 2000:87). Mason (2002:179) describes the research approach as "deciding what theory does for your arguments". This enables the researcher to:

- *take a more informed decision on the research design;*
- *support the researcher in the decision-making process as to what will work and what not; and*
- *adapt the research design to cater for constraints, for example, insufficient understanding of the topic to form a hypothesis (Saunders et al. 2000:89).*

Saunders *et al.* (2000:91) states that the **inductive** approach emphasises:

- *gaining access to understanding of **meaning humans attach to events**;*
- *a close understanding of the research context;*
- *the collection of **qualitative data**;*
- *a more flexible structure to permit changes of research emphasis as the research progress;*
- *a realisation that the researcher is part of the research process; and*
- ***less concern with the need to generalise.***

This study follows the **inductive approach** where data is collected and a theory is developed as a result of the data analysis. Through the focus groups, access is gained to the understanding of **meaning** that humans attach to the events. Most of the data in the study is **qualitative**. The concern for **generalisability is low** as there is an understanding that the context within which the research is done greatly influences the outcome of the research results. The objective for using the inductive approach is to ensure that all angles are covered in terms of understanding the deeper structure of the research problem.

A less structured approach may reveal alternative explanations (Saunders et al. 2000:89).

The inductive approach is specifically in line within Systems Thinking as this approach also focuses on uncovering the important hidden structure below the water line, possibly revealing alternative explanations.

Blaikie (2000:25) describes another research approach – the “**abductive research strategy**” – as the process of moving between everyday concepts and meanings, lay accounts and social science explanations. Mason (2002:180) describes a scenario of abductive research as:

Theory, data generation and data analysis are developed simultaneously in a dialectical process ... will devise a method [process] for moving back and forth between data analysis and the process of explanation or theory construction.

Scott and Usher (1999:3) state that abduction is applied as a research approach when the researcher “can only know social reality through the eyes of the social actors involved in it.”

In this study, the **continuous movement** between data generation, collection and analysis as part of the systemic thinking methodology, aligns with the scenarios created by the cited authors. Furthermore, the participants in the study are seen as the **social actors** in the study describing their reality in their world of work.

Mason (2002:181) supports the use of more than one research approach:

... it is worth pointing out that most research strategies [approaches] in practice probably draw on a combination of these [inductive, deductive, abductive, retroductive] approaches.

Saunders *et al.* (2000) describes the research strategy as a generic plan guiding the researcher to answer the specific research questions. There are various different research strategies.

*The **research strategy** will be a general plan of how you will go about answering the research question(s) you have set (Saunders *et al.* 2000:92).*

During the first stages of this study, an exploratory research strategy was followed to create a deeper understanding of the phenomena at play within the systemic whole of the research project. The research strategy is a **qualitative case study**. Merriam (1998:27) defines a qualitative case study in terms of its **end product**:

A qualitative case study is an intensive holistic description and analysis of a single instance, phenomenon, or social unit.

This definition of a case study reflects the actions of this study. A **holistic description** is given of a specific business unit in a specific financial institution. The eLearning leverage point/s represents the **single phenomenon** in this context.

The **time horizon** of this study was limited to a specific period of time. . The focus group participants were involved in the study during the period June – July 2003. It represents a snapshot or cross-sectional view of the systemic reality.

Interviews, focus groups, observation and surveys were used as **data collection methods**. The question is how all of this is linked together in a design that will create a roadmap from start to finish. The **research design** is seen to be such a roadmap.

3.7. The research design

*A **research design** is the logic that links the data to be collected to the initial questions of a study (Yin, 1989:27).*

The research design for this study is the action plan for getting from here to there; 'here' being defined by an initial set of questions, and 'there' a set of conclusions or answers about the questions. Between the 'here' and 'there', a number of major steps may be found, like the collection and analysis of relevant data. The **logical sequence** of the research design should help the researcher to ensure that the evidence addresses the initial questions (Yin, 1989; Mouton, 2002).

*Choosing a study [research] design requires understanding the **philosophical foundations** underlying the type of research and your personality, attributes and skills, and becoming informed as to the design choices available to you in **your paradigm** (Merriam, 1998:1).*

The research design for this study is formulated according to the following perspectives:

- research strategy;
- data collection methods;
- data collection instruments or processes;
- data sources;
- timing in terms of when the instrument is administered;
- qualitative vs. quantitative nature of the data; and the
- trustworthiness and continuity of the data (Bell, 1989; Mason, 2002; Merriam, 1998; Mouton & Marais, 1992; Saunders *et al.*, 2000; Yin, 1989).

Table 3.2 represents a summary of the research design for this study. Each of the perspectives represented in the table is discussed in detail thereafter.

Table 3.2: The research design

Research Strategy	Qualitative Case Study						
Data collection methods	Interview			Focus group interview		Survey	
				Inquiry	Observation		
Data collection instrument/process	Interview sheet	Post focus group discussion with moderator and two observers	Verification of focus group outputs with three eLearning experts	Systemic Inquiry process resulting in a leverage point	Observation report	Biographical information questionnaire (Part 1)	Post focus group questionnaire (Part 2)
Data source	Colleagues of focus group participants	Moderator Observers	Verifiers	Focus group participants	Focus group participants	Focus group participants	Focus group participants
When administered	Before focus group sessions	After focus group session 1 and 2	After focus group session 1 and 2	During focus group session 1 and 2	During focus group session 1 and 2	After identification of target population	After focus group session 2
Qualitative vs. Quantitative	Qualitative	Qualitative	Qualitative	Qualitative	Qualitative	Quantitative	Quantitative Qualitative
Who administered	Focus group participants	Researcher	Researcher	Moderator	Observers	Researcher	Researcher
Trustworthiness and continuity	Collaborative research	Peer examination	Peer examination Audit trial Triangulation	Collaborative research Triangulation	Peer examination Triangulation	The investigator's position	Triangulation

3.8. The research strategy – A Qualitative Case Study

According to Merriam (1998), a qualitative enquiry focuses on **meaning in context**. It requires data collection instruments that are **sensitive to underlying meaning** during data collection and analysis. 'Meaning in context' is specifically relevant to this study as it is using **human opinion** to interpret the situation around eLearning – the phenomenon – in order to identify leverage point/s.

The **systemic inquiry** process is specifically relevant in the context of the creation of meaning as it allows people to formulate opinions and delve into their deeper assumptions and beliefs. It allows sensitivity to underlying meaning. The process goes through two iterations of data collection and analysis, working constantly with the assumptions and beliefs of the participants. One of the outcomes from the systemic inquiry that is specifically relevant to this study is the leverage point.

3.9. The data collection methods and instruments

Interviewing, observation and analysing activities are activities central to qualitative research (Merriam, 1998:2).

The first three data collection methods used in this study were:

- **interviews** (Mason, 2002; Merriam, 1998; Morgan, 1988).
- **focus group interviews** (Krueger & Casey, 2000; Greenbaum, 1988; Morgan, 1988; Templeton, 1987); and a
- **survey** (Saunders *et al.* 2000; Cohen & Manion, 1980).

During the focus group an additional data collection method – **observation** (Mason, 2002; Krueger & Casey, 2000; Merriam, 1998; Greenbaum, 1988; Templeton, 1987; Morgan, 1988) – was used for “trustworthiness and continuity” purposes (Merriam, 1998). Observation will therefore be motivated as a **fourth data collection method**.

The data from the interviews and the focus groups is **qualitative**. The data from the survey was mainly **quantitative**, except for specific open-ended questions that were asked in the semi-structured questionnaire.

3.9.1. *Qualitative Interviews*

From an ontological point of view, this study is based on the assumption that "... people's knowledge, views, understanding, interpretation, experiences and interactions are meaningful" (Mason, 2002:63). The epistemological view assumes that people talking interactively is a meaningful way to create data. Based on the ontological and epistemological views in the study, qualitative interviewing was selected as a data collection method.

The qualitative interview further allows for social argument to construct "depth, nuance, complexity and roundness in data" (Mason, 2002:65).

In this study, it is important to obtain and understand the perceptions of the focus group participants about eLearning and Business Performance. These perceptions are driven by certain individual assumptions and beliefs that form the structure of the iceberg (the person's opinion and beliefs about eLearning) below the water line.

The **advantages** for doing qualitative interviews in this study were to:

- allow the **individuals freedom** to create shared meaning with the researcher.
- allow the researcher to move back and forth in time to construct both the future and the past.
- allow **space for the surfacing of additional arguments** or adding different dimensions to a perspective.
- allow the data produced in the focus group interviews to be **verified** and the arguments to be **tested**.
- **create** access to data that would not generally be accessible in other ways. The sharing of ideas and a mental model creates a new dimension or paradigm for understanding the impact of eLearning on business performance.
- **create understanding** between the interviewer and the respondent that there can be more than one perspective of the same problem. It allowed for the appreciation of alternative views (Cantrell, 2003; Mason, 2002).

The **challenges** associated with doing qualitative interviews in this study were that:

- there was less control over the data that was collected.
- the interviewee may not have known enough about the phenomenon being studied.
- the interviewees might have had different ontological views to that of the researcher.
- specific people were selected and alternative or opposing views may have been left out (Cantrell, 2003; Mason, 2002).

Three data collection instruments were used to do the relevant qualitative interviews:

1. an **Interview sheet** (a semi-structured interview);
2. **Post focus group discussions** with the moderator and the two observers (unstructured interview) (Greenbaum, 1988); and
3. **Verification of focus group outputs** with three eLearning experts (unstructured interview) (Strumpher, 2001).

3.9.1.1. Interview sheet

The interview sheet was used by the focus group participants to interview their colleagues. The **objectives** for interviewing colleagues of the focus group participants were to:

- **involve the participants** of the research project in all phases of the research from conceptualisation to analysis (collaborative research) (Merriam, 1998).
- get the focus group participants to realise that **we all see differently** at the same time.
- **broaden the focus** group participants' understanding of the topic at hand.
- **enrich the data** brought into the focus group.

An example of the interview sheet is attached as **Appendix A**.

3.9.1.2. *Post focus group discussion*

The **objectives** for doing the post focus group discussions were to:

- ensure the internal validity of the process by allowing “**colleagues to comment** on the findings as they emerge” (peer examination) (Merriam, 1998:204).
- “discuss the **findings** of the group [focus groups] that was conducted” (Greenbaum, 1988:99).
- determine if the “resultant group process was successful in generating the **information needed**” to answer the research objectives (Greenbaum, 1988:99).
- “develop a consensus among the assembled group as to the main points of the session” (Greenbaum, 1988:99).

After each focus group session an unstructured interview took place between the researcher, moderator and the two observers. During the interview the following topics were addressed:

- What worked well?
- What could be improved?
- A general open discussion.

The researcher documented the main points and decisions made during the conversation.

3.9.1.3. *Verification of focus group outputs*

The **objectives** for doing the verification of the focus group outputs were to:

- allow “**colleagues to comment** on the findings as they emerge” (peer examination) (Merriam, 1998:204).
- “**authenticate** the findings” (Merriam, 1998: 206) of the focus groups (audit trial). Strumpher (2001) also supports this view.
- strengthen the reliability and internal validity of the research project (Merriam, 1998) through using

multiple methods of data collection and analysis (triangulation). Yin (1989) also supports this view.

The Moderator Guide, detailing the systemic inquiry process (Strumpher, 2001), guided the unstructured interview. The Moderator Guide is attached as **Appendix B**.

The **ethical considerations** that were taken into account during the design, development and implementation of the qualitative interview (Henning, 2004; Mason, 2002) are listed below.

- The respondents were required to give informed consent indicating that they would like to participate in the research. In order to do this, they needed to understand that their privacy and sensitivity was protected and what the outcome of the research would be used for.
- Consent was given by responding to an open invitation to participate in the research. Consent to participate was also obtained from other role players in the research, such as the verifiers, Absa stakeholders, the moderator and observers.
- The researcher aimed to treat all content with utmost discretion and ensured that no specific individual could be implicated through the results of the study.
- The creation of a protected environment that allowed for freedom of speech and the sharing of open and honest views, allowed the researcher to generate richer data.
- It was important to the researcher that the respondents enjoyed the process and felt that they also benefited from it.

Focus group interviews as a data collection methodology is a separate discipline from qualitative interviews, but also has certain overlaps. Therefore focus group interviews will be discussed in detail.

3.9.2. Focus group interviews

A **focus group** is a specific type of group with a specific purpose to listen and gather information. It is used as a way to understand how people feel and think about a phenomenon. The participants are

selected based on specific characteristics that they have in common and that they relate to the research topic (Greenbaum, 1988; Krueger and Casey, 2000).

Krueger and Casey (2000:5) define a focus group as:

A carefully planned series of discussions designed to obtain perceptions on a defined area of interest in a permissive non-threatening environment.

The definition above led to the formulation of objectives for focus groups in the context of the study. It also described some criteria for the research, i.e. having the permission of the participants and creating an environment conducive to forming a trust relationship with the participants.

The **objectives** for doing focus group interviews were to:

- **involve the participants** of the research project in all phases of the research from conceptualisation to analysis (Merriam, 1998).
- **collect information** relevant to each of the research objectives.
- analyse the information collected to **explore and obtain findings** for each of the research objectives.
- ensure that the researcher's **biases** do not unduly influence the outcome of the focus groups by utilising a focus group moderator (Merriam, 1998).

The **advantages** for doing focus groups in this study are listed below.

- Focus group research allowed the participants to share and respond to ideas, helping the researcher to explain and explore concepts.
- The focus groups allowed for a variety of points of views to emerge due to the presence of several participants.
- The environment encouraged the participants to relax and participate in the conversation.

- The structured approach used in the focus group process (documented in the Moderator Guide **Appendix B**) provided the necessary rigor for enabling trustworthy research results.
- The way in which the moderator facilitated the focus groups promoted self-disclosure amongst the participants.

The **challenges** represented by focus groups in this study were:

- The ability to create an environment that encouraged the participants to relax and share openly and freely.
- Developing a sufficient level of rapport that enabled sharing.
- Complex skills were necessary to facilitate the successful outcome of the study.
- The purpose of the group had to be kept clear at all times in order to prevent it from turning into a fuzzy, non-productive session that could lead the group in the wrong direction.

The data collection instrument used to do the focus group interviews was the **Moderator Guide**. The moderator guide contains the systemic inquiry process (Strumpher, 2001). The Moderator Guide is attached as **Appendix B**.

The **ethical considerations** that were taken into account during the focus groups (Krueger and Casey, 2000; Greenbaum, 1988), are listed below:

- **Ethics between the researcher and the moderator:** The **researcher** had to trust the moderator in key areas such as maintaining confidentiality, refraining from working on projects that might cause a conflict of interest, not using the information gained in an incorrect context and exerting a total effort in terms of the quantity and quality of thinking. The **moderator** had to trust the researcher to keep within the scope of the agreement and to be honest about the intent of using the outcome of the focus group. Furthermore, the researcher had to take the welfare of the participants into account in terms of what they would be exposed to during the focus group sessions.

- **Ethics between the moderator and the research facility:**
The **moderator** had to trust the research facility to maintain high level confidentiality as to the proceedings and content discussed during the focus groups and to destroy any materials left in the facility after the groups were completed.
- **Ethics between the moderator and the participants:** The **moderator** had to inform the participants that they were being observed as well as what the observation objectives were. The moderator also confirmed that the observation report would not single out individuals. Furthermore the moderator had to inform the participants that the ideas and conversation that they offered during the sessions would be treated with the utmost confidentiality, but that they did not have any claims on the final product produced by the study. The **participants** had the ethical responsibility toward the moderator to be honest and straight-forward during the discussions and that they should reflect what they felt, rather than what they thought the moderator wanted to hear. It was expected of the participants not to discuss the content of the focus groups with people outside the company after the completion of the sessions.

The ethics of the focus groups were consciously approached and care was taken to respect all people that played a role during the focus group research.

3.9.3. Observation

Learning is a process by which each individual creates his or her own understanding of the world and how to interact with it. People form models in their minds that help them make sense of their experiences. These models define which behaviours are considered appropriate for each level (Dill & Romiszowski, 1997: 340).

The quote highlights two important aspects.

1. Systems Thinking is about learning; and
2. Mental models of people influence their behaviour.

These mental models and belief systems underlie the assumptions that guide thought and action. Learning is the process of identifying and questioning the existing models and then testing new assumptions for use as guides to more effective action (Dill & Romiszowski, 1997: 340).

Observation of the participants during the focus group sessions becomes critical as the above statement is analysed. It is important to capture the **beliefs and assumptions** of the participants and to reflect this in the study, as this will determine the specific paradigm from which the study will be approached.

Changing models, beliefs, and assumptions is a very difficult task. Given this difficulty, learning takes time (Dill & Romiszowski, 1997: 340).

Systems Thinking cannot be rushed. It is about thinking about thinking (Strumpher, 2001). Enough time must be allowed for **learning** to take place between the participants in order to **increase the depth** of understanding and discovery of the **relationships** of the problem structure (Moloi, 2002; Dill & Romizowski, 1997; Senge *et al.* 1994).

*Learning in organisations means the continuous testing of experience, and the transformation of that experience into knowledge – accessible to the whole organisation, and relevant to its core purpose (Senge *et al.* 1994:49).*

These discoveries and learning throughout the process will lead to **new knowledge** about eLearning improving business results. Thus, in order to maximise the value of the focus group research, observation of the focus group participants was selected as an

additional data collection method. The observers were to observe both verbal and non-verbal behaviour. Verbal observation was done in terms of the voiced mental models and non-verbal observation was performed through noting the group dynamics and synergy. While observation of focus groups is traditionally done by clients (Green, 1988), in this study the **objectives** of observation was to:

- report on the group dynamics, mental models and synergy of each of the focus groups.
- allow “**colleagues to comment** on the findings as they emerge” (peer examination) (Merriam, 1998:204).
- strengthen the reliability and internal validity of the research project (Merriam, 1998) through using **multiple methods of data collection** and analysis (triangulation).
- ensure that the researcher’s **biases** did not unduly influence the outcome of the focus groups (Merriam, 1998).

The observation in this study was done without real participation, as the observers did not become part of the group. Henning (2004) names this type of observation as **standardised observation**.

The **advantages** for using observation in this study are listed below.

- Observation of behaviours of the research participants created context for the study.
- Standardised observation provided a complimentary data collection tool to expand on the richness of data of the holistic study.
- Observation gave further meaning to the influence of each of the role players in the process and provided a wider picture description of the verbal and non-verbal reactions of the focus groups.
- The observers, through their presence, served as a **check against bias**, prejudice and selective perceptions and through reporting, ensured the authenticity and transparency of the implementation of the research process (Henning, 2004; Cantrell, 2003; Merriam, 1998).

The **challenges** faced in this study when using observation are listed below.

- Standardised observation did not in itself provide very rich or complex data.
- The presence of the observers might have had an influence on the behaviour of the participants.
- The mental models of the observers might have influenced how they viewed the actions and reactions of the participants (Henning, 2004; Cantrell, 2003; Merriam, 1998).

The data collection instrument used to collect the observation data was an observation sheet. The observation sheet is attached as **Appendix C**.

The **ethical considerations** that were taken into account during the design and execution of the observation are listed below.

- Informed consent had to be gained from the focus group participants in order to do the observation.
- Accurate notes had to be made about the behaviour observed in the groups.
- The observation had to be clearly tied in to the research objectives and subsidiary questions.
- The observers only had to record what was necessary for answering the specific research objective. Thus, they had to be consequent in what data was omitted or included.
- During the reporting process the observers had to respect the individuals participating in the focus groups by not identifying them accidentally through recognisable behaviour or descriptors.

3.9.4. Survey

The most common form of surveys is based on positivist epistemology and naïve realist ontology (Scott and Usher, 1999). In this study, the survey was used as a follow-up to the focus group participants, using an electronic questionnaire as the data collection instrument. The questionnaire was the conduit to obtain feedback

from the participants. Due to the convenience of the electronic survey, all the participants who were part of the focus groups could be questioned regarding their thoughts and feelings about the systemic inquiry.

Cohen and Manion (1980:71) describe **surveys** in the following way:

Surveys gather data at a particular point in time with the intention of:

- a) *describing the **nature of existing conditions**; or*
- b) *identifying standards against which existing conditions can be compared; or*
- c) *determining the relationship that exists between specific events.*

Denzin (1970), Bailey (1987) and Saunders *et al.*, (2000) describe surveys in a similar way.

Based on the definition, the survey was used to gain insight into the nature of the thoughts and feelings of the participants. Furthermore, the survey was used to determine the effect that the research inquiry had on the focus group participants. Thus **objectives** of the survey were to:

- collect **biographical information** of the focus group participants for declaring the investigator's position (Merriam, 1998);
- strengthen the reliability and internal validity of the research project (Merriam, 1998) through using **multiple methods of data collection** and analysis (triangulation).
- determine the **reaction of the focus group** participants towards the systemic inquiry process with regards to:
 - the participants opinion regarding the logistical arrangements of the focus groups; and
 - the influence of the research inquiry on the participants.

The **advantages** for using observation in this study are listed below.

The questionnaire:

- allowed all the focus group participants to provide feedback to the researcher.
- provided additional information about the focus group participants that was not available on the human resources system.
- provided access in an alternative manner to some of the thoughts and feelings of the focus group participants.

The main **challenge** faced in this study was the collection of the questionnaires from the participants. Several reminders had to be sent out to motivate a response.

The data collection instrument was a survey with two sections. The first section focused on the **biographical information** of the focus group participants, while the second part of the survey focused on the **feedback from the participants** regarding the process they had experienced.

The following biographical information was requested from the focus group participants:

- employee number;
- employee name;
- job description;
- gender;
- age;
- home language;
- length of service in current job position;
- qualifications; and
- prior experience/occupation.

The data collection instrument is attached as **Appendix D**.

The **ethical considerations** that were taken into account during the design, development and implementation of the electronic questionnaire are listed below.

- The respondents were allowed to be open and honest with feedback by respecting their privacy and maintaining confidentiality.
- Care was taken to correctly report the data as shared by the respondents.

The design and development of the data collection instruments formed part of the **preparation phase** of the study. The instruments were implemented during the execution phase of the study where data was collected, generated and documented.

3.10. Systemic data collection / inquiry process

In this study, the process of **inquiry** reflects an inquisition into, or a focused examination of, a specific phenomenon. The different data collection instruments were weaved together in a holistic systemic process of recurring data collection and data analysis.

The data collection and analysis process happened in **three** phases:

- **Phase 1:** Preparation for focus groups;
- **Phase 2:** Execution: Focus groups data collection, analysis, verification and observation; and
- **Phase 3:** Closure of the process.

Figure 3.6 represents the three phases and the relevant steps that were executed during each of these phases.

Figure 3.6: Data collection and analysis process – Preparation, Execution and Closure

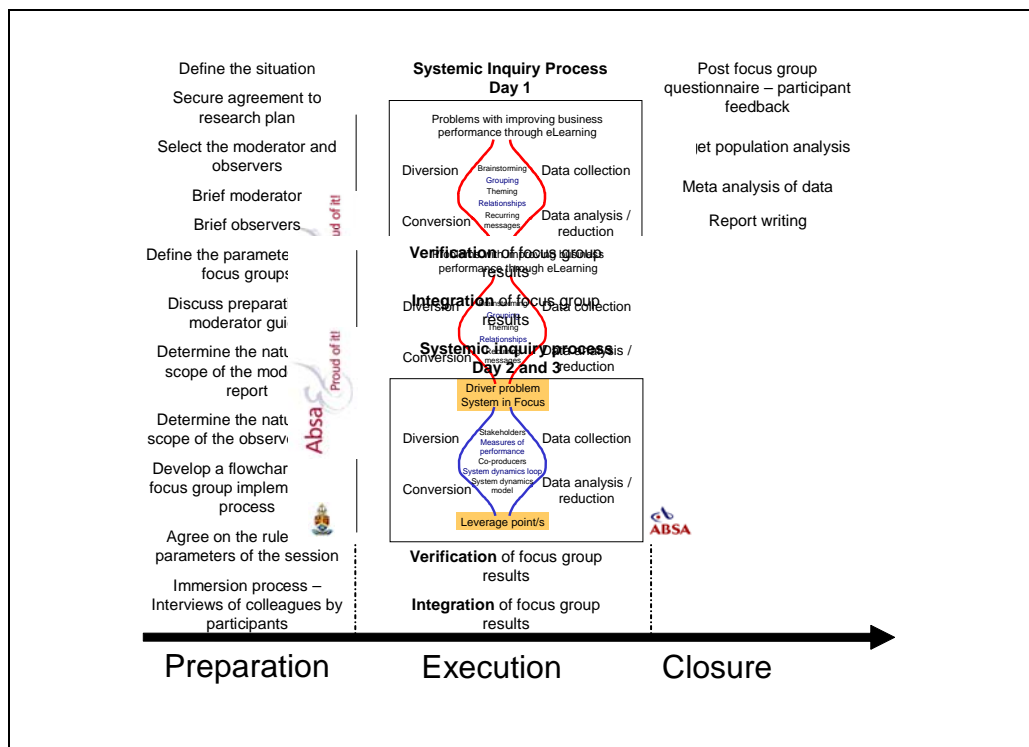


Figure 3.6 was designed from collective input from different sources (Strumpher, 2003; Goebert & Rosental, 2002; Krueger & Casey, 2000; Greenbaum, 1988; Morgan, 1988; Templeton, 1987; conversations with the verifiers Lawrence Mlotshwa, Dr. Beatrice Horne and Barry Vorster on 10 and 18 July; conversations with the observers Lee-Anne Deal and Sophia Nawrattel on 1 July; conversation with the moderator Christa Swart on 3 July; conversation with Johan Heroldt on 1 July).

In the next section the details of the steps that were followed during each phase are discussed.

3.10.1. Phase 1: Preparation for the focus groups

The steps that were completed during the preparation phase are listed below.

- The situation was defined.
- Agreement to the research plan was secured.
- The moderator and the two observers were secured and briefed.
- The preparation of the Moderator Guide was discussed with the moderator.

- The nature and scope of the moderator and observer reports were discussed and contracted.
- A flowchart for the implementation of the focus group process was designed.
- The rules and parameters of the session were contracted with the moderator and the observers.
- The data collection process was initiated by setting the focus group participants in motion to interview their colleagues.

The first step during the preparation phase of the research project was to **define the situation** within which the focus groups were to take place. The topics that were discussed during the definition of the situation are listed below.

- A summary of the situation.
- The purpose of the focus group sessions.
- How the data produced would be utilised.
- What the composition of the focus groups would be.
- What the budget of the total project would be. The budget of the total project is attached in **Appendix E**.

Following the definition of the situation, the stakeholders were identified and the research plan was contracted with the relevant stakeholders.

The **moderator was selected** based on her extensive understanding and experience in people behaviour and effectiveness in conducting interviews. The moderator also displayed previous competent behaviour in handling group dynamics without becoming involved in the content being facilitated.

Due to the number of participants in the focus groups and the subsequent complexity in observing their behaviour, **two observers** were selected. The résumé's of the observers are attached in **Appendix F**.

Three verifiers were selected. The first verifier was selected based on Absa experience. The second verifier was selected based on industry eLearning expertise. The third verifier was selected based on pragmatic eLearning implementation expertise. The résumé's of the verifiers are attached in **Appendix G**.

The **moderator** was briefed on 13 June 2003. The objectives of the meeting were to:

- provide background to the research project;
- set expectations; and
- contract that a formal research report would not be expected from the moderator.

The **observers** were briefed on 1 July 2003. The objectives of the meeting were to:

- discuss the rules of the focus groups sessions relating to the observers; and
- ensure shared meaning between the researcher and the observers regarding the data to be collected.

The **parameters of the focus groups** included both a time limit and the criteria for selection of the focus group participants. The research project had to take place over a short period of time (in this case two weeks) as there was a limit to the amount of time that all the relevant role players could dedicate to the study. It was also important to maintain momentum in the process as to not lose important role players along the way.

The most **accessible venue** for all the role-players was at Absa Towers East, Johannesburg. The focus group participants consisted of a mix of role players from the Learning and Development Department, the eChannels Contact Centre (business) and the relevant support staff. The sampling criteria and process is further described in Section 3.13. Letters of invitation were then sent to individuals adhering to the specific sampling criteria. This letter is attached as **Appendix H**.

The **Moderator Guide** (based on the systemic inquiry process of Strumpher, 2001) depicts the process to be followed during the focus group sessions. The Moderator Guide for this study depicts the systemic inquiry process and is attached as **Appendix B**. It was agreed with the moderator that no moderator report would be required as the data that was generated during the focus group sessions would be captured by the focus group participants and the observers. Videotapes were made of the proceeding for back-up evidence.

The observers were **contracted** to provide a summary report after the execution phase. The report was to include content on the group dynamics, mental models and synergy of the focus group participants.

In order to get common understanding of the total process to be implemented, a **high-level flow chart** was developed that also acted as a communication tool for creating shared understanding. The flowchart is attached as **Appendix I**.

The most important **rules of the session** were that the moderator would not become involved in the content being facilitated and that the observers would not converse with the participants regarding the process or the content of the research. It was also agreed that the researcher would not participate actively in the focus group discussions, but would confer with the moderator in order to guide the process, should it be necessary. The researcher was not allowed to confer about the content produced by the participants at all.

The last step of the preparation phase was to let the selected focus group participants **interview their colleagues**. The data collected through the interviews provided input for the next phase of the process, i.e. Phase 2: Execution. More content on each step in the preparation phase is attached in **Appendix J**.

3.10.2.Phase 2: Execution

The execution phase represents the implementation of all the work that was prepared during Phase 1. This is where the story came together. The focus groups were held over a period of three days.

Day 1 focused on the identification of a driver problem. The objective was to create focus in a variety of problems identified by the role-players.

Four focus groups participated in Day 1. The focus groups were set to do different tasks as designed and specified in the Moderator Guide. The focus group participants were requested to complete the following tasks during Day 1. To:

- understand the context of the research and the process applied.
- form focus groups.
- discuss the problem statement.
- list the problems related to the problem statement.
- organise the different problems into themes.
- debate how the themes influence each other and capture the essence of each of the arguments as 'Reasoning statements'
- determine which of the themes represented the driver problem.
- debate the system in focus that represents the driver problem.

The **behaviour** – group dynamics, mental models and group synergy – of the different groups were documented throughout each of the tasks set to them. The details of the steps implemented on Day 1 are attached as **Appendix K**.

The conclusion of the focus group session was followed with a post focus group discussion between the researcher, the moderator and the observers. The researcher facilitated the session using the following questions to guide the conversation:

1. What worked well?
2. What did not work?
3. General comments.

The next step in the execution phase was the **verification of the focus group** results. This was carried out for the purposes of creating an audit trail, to allow for peer examination and triangulation of the data produced during the focus groups sessions. The verification session took place two days later on 10 July 2003 at 8:30 am at Absa Head Office.

The verifiers were taken through the Moderator Guide in order to expose them to the same content that the focus group participants were exposed to. It also created a similar context to the one that was created for the participants. The data collected and analysed by the focus groups was then presented to the verifiers for comment. The comments of the verifiers were attached to the originally-captured documents of the focus groups. A scribe documented the themes of the conversations between the verifiers. More information about the verification process is attached as **Appendix L**.

In order to complete the next step in the execution phase, it was necessary to integrate the digraphs designed by the four focus groups. The researcher integrated the results of the focus groups and the information collected during the literature research to **design one digraph**. Once again, the **reasoning statements** were documented for each of the relationships between the problem statements on the digraph. The integrated digraph identified **one driver** problem.

The driver problem was used to design the systems dynamic model and then ultimately identify the leverage point/s that will allow a company to improve business performance through eLearning more effectively and efficiently.

Day 2 started with the researcher giving the focus group participants an overview of the feedback that the verifiers provided as well as explaining the integrated digraph. The researcher took care to create shared meaning regarding the relationships and the reasoning statements on the diagram.

Three focus groups were formed. The criteria used for forming the focus groups adhered to the parameters designed during the

preparation phase. All the focus group participants were exposed to the Day 1 process. According to the planning, two days were necessary to complete the end goal of the focus groups, i.e. identifying the leverage point/s that will allow eLearning to improve business performance.

During the two days the three focus groups completed the tasks as set out below. The:

- system in focus was identified.
- primary stakeholders of the system in focus were identified.
- measures of performance for each of the stakeholders were determined.
- co-producers that led to each of the specific measures of performance were determined.
- systems dynamic model was designed.
- stories that were represented on each of the systems dynamic models were told and captured.
- leverage point was identified.

As before, the behaviour of the three focus groups was documented throughout the process, noting the group dynamics, mental models and synergy of each one of the groups. At the end of Day 3, the focus group participants were asked for feedback regarding the systemic inquiry process and comments on their own learning.

The details of the implementation of Days 2 and 3 are attached as **Appendix M**.

A debriefing session was held at the closure of Day 3. The researcher facilitated the session and a similar process, as to the one for Day 1, was followed.

The results of the focus groups were verified again. The verification session was held on 18 July 2003 and followed the same format as the previous verification session. In addition to the verification requirements, the verifiers were also requested to comment on:

- the process that was followed; and
- their personal experience and learning during the process.

The systems dynamic models produced by the focus groups were **integrated**, forming a single systems dynamic model with a single leverage point. The steps listed below were implemented to do the integration.

- Re-write statements on yellow 'stick-its'.
- Re-organise finding similar statements and themes and re-write the overall statement reflecting the same intent.
- Utilise the stories and reasoning statements to design an integrated systems dynamic model.
- Conduct a meta-analysis reflecting on the recurring messages and differences between the three focus groups.
- Tell the story.
- Identify the leverage point.

All the results produced by the focus groups were then ready to be put through the closure phase that focused specifically on documenting the outputs and integrating the final results.

3.10.3.Phase 3: Closure

The third phase of the process represents the closure. Following the completion of the focus group interview, a post focus group questionnaire was sent out. This questionnaire firstly obtained more information about the focus group participants and, secondly, requested individual feedback about their experience of and feeling about the process that they were exposed to.

Once the data was documented, the researcher had to make sense of the data to find patterns or recurring messages. The unique value that each focus group added was also considered.

On completion of the data generation, collection and analysis, the process was documented. More details regarding the closure phase are attached as **Appendix N**.

In the design and execution of this research, it was important to follow a rigorous process to ensure contribution of usable knowledge to the educational community. It is therefore important to consider the criteria for judging the quality of the study.

3.11. Criteria for judging the quality of the research

Different paradigms require different tests or criteria for judging the quality of the research design. For example, for the positivists, there exists a “scientific holy trinity” (Kvale, 2002:300). However, Henning (2004:147) argues that “... **good craftsmanship, honest communication and actions** are reasons for rating research as good scholarship.” She further states that it is in **conversations** and in **discourse communities** where the value of research is determined.

Good craftsmanship is based on **precision** throughout the research process. In this study, the researcher, the moderator, the verifiers and the study supervisor assured the quality throughout the process. These role-players checked the study for bias, neglect or lack of precision and adding and taking away topics or content where necessary.

The study supervisor and the verifiers **questioned** all procedures and decisions critically. The verifiers also added value by **theorising**, i.e. “... looking for and addressing theoretical questions that arise throughout the process – not just towards the end” (Henning, 2004:7). The research actions and the content were also **discussed** and **shared** with peers, for example, the focus group participants, the verifiers, observers and the moderator. This was done throughout the process to ensure immediate action to allow for a positive knowledge building cycle (Henning, 2004; Merriam, 1998). The scenario described above is reflected both in the research objectives and design of this study.

Presenting the integrated digraph to the focus group participants is an example of how member checking was done in order to either agree or improve on the researcher’s interpretation of their input. Once again, the conversations with the verifiers proved valuable as “validity comes from being able to get your ideas accepted in the discourse community” (Henning, 2004:149). Honesty in the conversations is of the utmost importance (Henning, 2004).

The third concept, described by Henning (2004), is taking **action**: pragmatic consequences of knowledge claimed as valid. Henning (2004) describes the

requirement that the design has to be built for action that can be reasonably instigated. The research design must therefore be explicit and must allow for its ability to be converted back into social action. The actions that needed to be completed during this study were defined in such a way that it could be managed through project management principles. The outcomes of the study were implemented to change approaches and specifically aimed at changing the social interaction between the Business and the Learning and Development Department. The contribution of the focus group participants throughout the process allowed the researcher to become a more objective participant, focusing on driving action and implementation, rather than producing the content.

The actions to ensure quality in this research design are summarised below.

- Collaborative research was done through utilising the focus group participants to execute data collection, analysis and interpretation. The participants also did a post focus group evaluation via the electronic questionnaire.
- Peer examination was done by the verifiers, moderator, observers and focus group participants, who critically reviewed the content that was produced throughout the process.
- An audit trial was provided by the verifiers, who thoroughly checked the process of the content, the beliefs and the assumptions in the study. This process also authenticated the findings.
- The researcher's position was stated in order to ensure that the researcher biases did not unduly influence the outcome of the study. This was ensured through the triangulation and collaborative research.
- Triangulation was done through utilising more than one data collection method in order to provide evidence for a research objective.

Cohen and Manion (1980:208) define triangulation as “the use of two or more methods of data collection in the study of some aspect of human behaviour.” Denzin (1990:592) defines triangulation as “the application and combination of several research methodologies in the study of the same phenomenon.”

In this study an attempt was made to ensure triangulation by using four data collection methods – interviews, focus groups, observation

and a survey. Further to this, multiple sources for collecting data were used. The sources for collecting data were:

- colleagues of the focus group participants;
- moderator;
- observers;
- verifiers; and
- focus group participants.

Six data collection instruments were used to collect the data from these sources:

- an interview sheet;
- post focus group discussions;
- verification discussions;
- a systemic inquiry process (Moderator Guide);
- observation sheets; and
- an electronic questionnaire.

The outcomes of the focus group interviews were triangulated with the audits completed by the verifiers as well as the peer examination completed by the observers. The feelings of the focus group participants were triangulated with the survey results and the observation report. Thus the triangulation was implemented on **various levels** to focus a **central image** from various perspectives. Denzin and Lincoln (1995) describe this multi-perspective triangulation as **crystallization**.

The research design must be actionable and therefore detailed time-lines were contracted with all role-players to execute the study.

3.12. Time frames for implementation of the assessment process

Table 3.3 shows the milestones and actions in this project and the relevant end dates.

Table 3.3: Milestones, actions and end dates

Milestone	Actions	End date
1. Preparation for data collection	Design of the study	February 2003
	Contracting of the relevant people	April 2003
	Design of the focus groups	May 2003
	Design of the interview	June 2003
	Design of the observation	June 2003
	Design of the surveys	June 2003
2. Execution of data collection	Execution of the interviews	June 2003
	Execution of the focus groups	July 2003
	Execution of the verifying sessions	July 2003
	Consolidation of the data from the Focus Group Day 1 for an integrated Digraph .	Mid July 2003
	Consolidation of the data from the Focus Group Day 2 for an integrated Systems Dynamic Model .	October 2003
3. Closure actions	Electronic survey sent out	August 2003
	Target population analysis	October 2003
4. Data-analysis	Report on the data per research question	January 2004
5. Closure	Comparison of research findings to literature research, focusing on recurring messages and differences. Writing of the research report.	August 2004

Two sample groups were selected in the study: the focus group participants and the colleagues of the focus group participants.

3.13. Sampling

The 42 business units in Absa represent the wider universe or 'holistic system' for Absa. These business units provide a service to Absa clients in the context of the Absa vision and service values. One of the business units is the **eChannels: Contact Centre**. This unit telephonically supports current

clients in managing their accounts and sells new products to prospective. This implies that the employees in the Contact Centre have to be extremely competent in order to deliver the required business results.

Within Absa, eLearning is provided by a central expert division – the **Learning and Development Department**. This department contains highly skilled instructional designers that deliver learning solutions across all organisational boundaries on a day to day basis. The instructional designers also display an in-depth understanding of technology. This combination of technology and instructional design makes them a **powerful and effective team to design eLearning**.

The eChannels Contact Centre and the Learning and Development Department represents that wider universe that this study focused on. The samples were selected from this population.

Sampling and selection are principles and procedures used to identify, choose, and gain access to relevant data sources (Mason, 2002:120).

Sampling was implemented in this study for the following reasons:

- **Practicality:** It allowed access to the assumptions, beliefs and practices of the role players with regard to eLearning improving business performance.
- **Focus:** From a **strategic point of view**, a specific sample with eLearning experience in a business context was necessary to provide focus on “depth, nuance and complexity, and understanding how these work” (Mason, 2002:121). The driver of the selection process was to create richness and depth of the data rather than quantity. Focus was also created from a **practical point of view**. The sample was selected from the Gauteng area to limit travel and absence from the work environment.

The sample was asked provide the data necessary to address the research questions. In this study, the sample was also requested to participate in the **analysis** process. The sample could therefore support the researcher in developing an ...

empirically and theoretically grounded argument about ... your [the researcher] intellectual puzzle, and the focus of your [the researcher] research questions (Mason, 2002:121).

The significance of the wider universe from which the sample was drawn is grounded in the broad ontological perspective of the study (Mason, 2002). The ontological perspective of this study frames people as being part of a wider holistic system constantly changing and renewing itself. It places the person and his/her personal values, assumptions and beliefs at the core of the study. Due to this, all results of the study are only relevant in the specific context created by the boundaries of the qualitative case study in the wider universe.

A specific sample was selected as focus group participants from the Contact Centre and the Learning and Development environments. The focus group participants in turn selected a sub-sample of colleagues to broaden their perspective on eLearning improving business performance.

Each of the samples is discussed in terms of the sample strategy, when and where the sample was taken, how many people were part of the sample, access to the sample and challenges faced by the sample.

3.13.1. Focus group participants

The specific divisions that could be involved as focus group participants were the eChannels: Contact Centre and the Learning and Development Department. Further to the sample being part of this system, the individuals had to be exposed to specific events and happenings, in this case two eLearning interventions:

- eChannels Socialisation; and
- Fraud Awareness.

The selection of the departments was based on involvement of the departments in eLearning interventions and the willingness of the departments to participate in the study. The Learning and Development Department designs and develops eLearning and is thus

is an important role-player. The eChannels: Contact Centre is one of the business units in Absa that participates actively in eLearning. The eLearners and managers also seem very painted about eLearning and the value that it adds. eChannels' willingness to participate and to voice their opinions made them an ideal partner for the study.

In conversations with Bev Judd (15 April 2003) and with Elna Steyn (4 June 2004), the following roles were identified as significant in linking the eLearning interventions to business performance:

- **Needs Analyst:** analysing the training need registered by the business unit.
- **Instructional Designer:** designing the applicable eLearning solution for the requested training need.
- **Implementer:** the person responsible for facilitating the implementation of the eLearning solution.
- **Online Facilitator:** nurturing the online learners from a social point of view.
- **Operations Manager:** the line manager that has control over the learners participating in the eLearning interventions. This manager is also **held accountable for business performance** through sales and services targets.
- **Team leader:** leader of a group of employees. These employees are the eLearners.
- **Technologist:** technical supporter of the eLearning system.
- **Learner support:** application support regarding how to use eLearning.
- **eLearning administrator:** responsible for the eLearning registration process of learners and courses.
- **eLearners:** employees participating in the eLearning interventions.

Having identified the events – eLearning interventions – and the roles responsible for realising the events, specific people were selected.

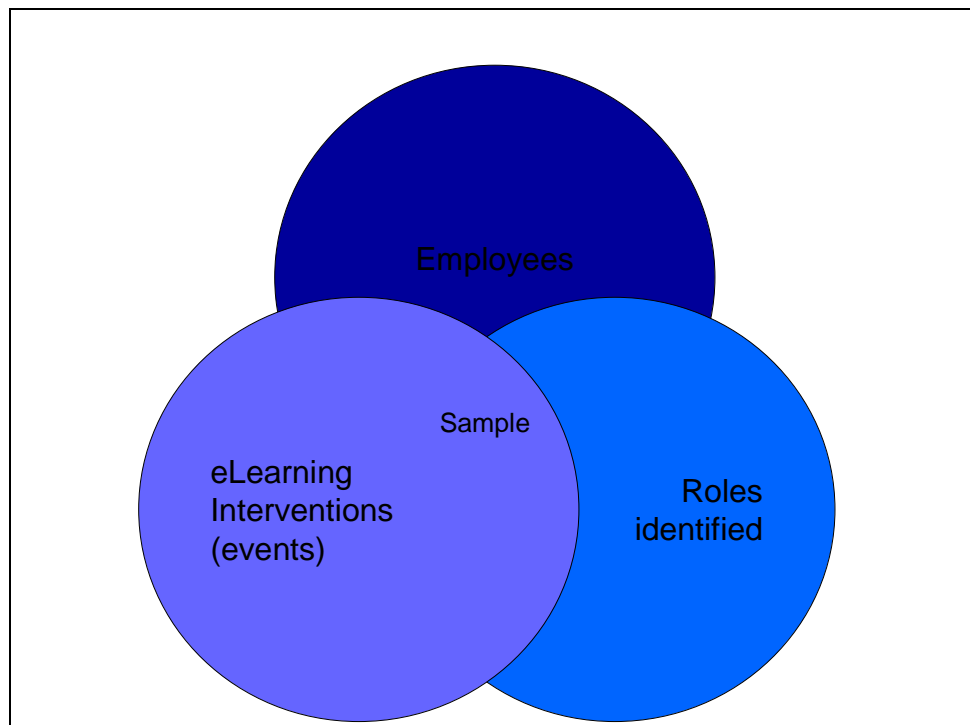
These people therefore had to adhere to the following criteria:

- had participated in one of the eLearning interventions; and
- be active in one of the roles identified.

In order to allow these people the right of refusal, they were invited to participate in the research via a formal invitation letter stating the expectations and intent of the research.

Figure 3.7 illustrates the overlap between the participants in the eLearning interventions, the roles identified and the people within these roles.

Figure 3.7: An integrated view of the sampling for the study representing what was sampled according to specific criteria



The sample for the focus groups was therefore designed in such a way to *encapsulate a relevant range in relation to the wider universe, but not to represent it directly* (Mason, 2002:124). Thus, although the sampling strategy shows the links to the wider universe, it is only intended as an illustration and it makes no claims as to how well it is represented in that universe (Mason, 2002). According to Krueger and Casey (2000), this type of sampling is **convenience sampling**.

The **challenge** with this way of sampling was that no claims could be made regarding the representation of the sample in relation to the wider universe.

The **advantage** with this way of sampling was that specific people with the ability to make a significant in-depth contribution to the study were selected.

Given the sampling strategy, Table 3.5 reflects the profile of the focus group participants. A discussion of the distributions follows after the table.

Table 3.5: Profile of the focus group participants

Measure	Results	
Number of participants in Day 1	28	
Number of participants in Day 2	21	
Average age	Needs Analyst	38 years
	Instructional Designer	38 years
	Technologist	37 years
	eLearning Administrator	56 years
	Online Facilitator	37 years
	Operations Manager	35 years
	Team Leader	28 years
	Implementer	30 years
	Learner Support	51 years
	eLearners	26 years
Current roles	Needs analyst	7%
	Instructional Designer	13%
	Technologist	4%
	eLearning Administrator	4%
	Online Facilitator	4%
	Operations Manager	4%
	Team Leader	17%
	Implementer	7%
	Learner support	4%
	eLearners	36%
Gender	Male	39%
	Female	61%
Language	Afrikaans	43%
	English	57%
Race	White	46%
	Black	18%
	Indian	15%
	Coloured	21%
Qualifications	Level 4	39%
	Level 5	29%
	Level 6	18%
	Level 7	14%

Twenty-eight people in total were exposed to the study. These people all attended Day 1. Based on the complexity of the second part (Day 2 and 3) of the focus groups and the recommendations of the observers only **twenty-one** people were invited to attend Day 2 and 3 of the focus groups.

The roles – eLearners, Learner Support, Operations Manager, Online Facilitator, Team Leader and Implementer – represent the **client's presence** i.e. the receiver of eLearning. **These role-players are also referred to as 'Business'** as they are accountable for producing the contracted business results.

The roles – eLearning Administrator, Technologist, Instructional Designer and Needs Analyst – represent the **Learning and Development specialist** function. In total 72% of the people present represented the business side and 28% the specialist function. Two of the three operational managers participated in the study.

The **average age** of the group from Business was **35**, while the average age from the Learning and Development Department was **43**. The eLearners average age was **26**. This might also be significant as the designers designing the training are significantly older than the receivers of the eLearning.

The **male** (39%) to **female** (61%) distribution reflects the overall Absa distribution of males to females (as per the Absa Human resources Management System). The two **home languages** that the participants indicated were Afrikaans and English. Fifty-seven percent of the participants indicated that English was their home language. Afrikaans (43%) did not become an issue as the official business language of Absa is English and the focus groups and all correspondence was conducted in English.

The **race** distribution of the group reflected the wider eChannels and People Management environment with 46% whites and 54% non-white.

The **qualifications** of the learners were defined according to the NQF levels. None of the participants had qualifications lower than matric (Level 4). This is due to the recruitment policy of Absa stating Level 4 as a minimum entry requirement. Thirty-nine percent of the participants had at least a level four qualification. Sixty-one percent of the group had higher education qualifications (Level 5-7).

The second sample that was used during the study was the colleagues of the sampled focus group participants.

3.13.2. Colleagues of the focus group participants

The focus group participants sampled their colleagues that they interviewed based on their participation in the eLearning interventions. This sampling was conducted **two weeks** prior to the focus group interviews taking place. The timing was important as enough time needed to be allowed for completing the interviews, but the knowledge gained by the focus group participants also needed to be recent enough to be of value in the systemic inquiry process.

Each participant was requested to interview **four** colleagues. They could select these colleagues based on their own network and the availability (convenience) of both the participant and the colleague.

The **access** to the interviewees was negotiated through the known networks of the focus group participants.

The sampling strategy was influenced by practical considerations, constraints and difficulties in the working environment. A view on what data was needed from whom – per research objective – influenced the decisions made regarding the sampling strategy. The ethical rights of the sample were considered throughout and formed a principle part of the decision-making process.

The issue with this sample was that the researcher had no control over the selection of the sample. To counter the lack of control, a detailed data collection tool was provided containing:

- how to sample;
- how to interview; and
- the actual interview questions.

The sampling activities conclude the detailed discussions of the aspects of Chapter 3. The summary provides an overview of all these aspects.

3.14. Summary

This chapter addressed the research process and design of this study. The case study was described as the appropriate research strategy, while interviews, focus group interviews, observations and a survey were used as the data collection methods. Systems thinking was explained as both a research philosophy and tool. The quality of the research design is a matter of concern for all research studies. The quality criteria were described in terms of good craftsmanship, honest communication and action. Lastly, the sample of the study and the method of data sampling for the study were discussed. This concluded the design of the intellectual puzzle for the study.