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**Chapter 3: The research methodology and process**


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**Table of content**

<b>3</b>	<b>The Research Methodology and Process .....</b>	<b>65</b>
3.1	Introduction .....	65
3.2	The nature of the study .....	65
3.2.1	Exploratory nature of the study .....	65
3.2.2	Descriptive nature of the study.....	66
3.2.3	Contextual nature of the study .....	66
3.3	The context of the study.....	66
3.3.1	The module .....	66
3.3.2	Online communication.....	67
3.3.3	The rule on communication.....	69
3.3.4	Assignments.....	70
3.4	The research question and sub-questions.....	71
3.5	The role of the researcher and others involved in this study.....	72
3.5.1	People who assisted in this study.....	73
3.5.2	The role of the interviewer.....	73
3.6	Graphic presentation explaining roles and interactions .....	74
3.7	Qualitative approach .....	75
3.8	Research design .....	77
3.9	Research paradigm.....	80
3.10	Sampling .....	81
3.11	Data collection .....	83
3.11.1	Video recordings .....	84
3.11.2	Field notes on first contact session.....	84
3.11.3	Asynchronous electronic text messages .....	85
3.11.4	Synchronous electronic text messages .....	86
3.11.5	Focus group interviews.....	86
3.12	Different sources of data .....	89
3.13	Data analysis.....	90
3.13.1	The unit of analysis .....	92
3.14	Coding.....	93
3.14.1	Description of Category 1 .....	97
3.14.2	Description of Category 2 .....	97
3.14.3	Description of Category 3 .....	98
3.15	Qualitative criteria .....	99
3.15.1	Confirmability .....	99
3.15.2	Meaning of the context.....	100
3.15.3	Recurring patterning and saturation .....	100

---

**Chapter 3: The research methodology and process**


---

3.15.4	Credibility .....	100
3.15.5	Transferability.....	101
3.15.6	Crystallisation .....	101
3.16	Reporting the research.....	102
3.17	Ethical considerations .....	104
3.17.1	Respect for others .....	104
3.17.2	Fair treatment .....	104
3.17.3	Protection from harm.....	105
3.18	Summary.....	105

### ***3 The Research Methodology and Process***

#### **3.1 Introduction**

In Chapter 2 the literature with regard to the context of this study was discussed. The conceptual framework developed for this study, was also presented in Chapter 2. Chapter 3 will be dedicated to the research methodology and the research process followed. Research strategies, methods of data collection and data analysis, methods of ensuring authenticity and trustworthiness, as well as ethical considerations will be discussed. The description of the data collection and data analysis processes will also be enhanced by means of figures and tables.

#### **3.2 The nature of the study**

As the affective experiences of participants within an online learning environment were explored and interpreted, the research design had to be exploratory, descriptive and contextual in nature.

##### ***3.2.1 Exploratory nature of the study***

An exploratory study was conducted to investigate the phenomenon of affective experiences in an online environment, to identify or discover important categories of meaning and to make suggestions for further research (Marshall & Rossman 1999: 33).

## Chapter 3: The research methodology and process

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Central concepts identified from data obtained during the literature searches provided the basis for the interpretations.

### ***3.2.2 Descriptive nature of the study***

The research was descriptive as it described and documented not only the data collection process, but also the phenomenon that was studied. Data obtained from focus group interviews provided precise information on the phenomenon.

### ***3.2.3 Contextual nature of the study***

The study was contextual because it was based on the experiences of participants within a specific environment. Participants attached specific meanings to these experiences within this context (Morse 1994:106). This study focused on the feelings of participants – feelings that were identified when they experienced an online learning event. This event will be explained in more detail.

## **3.3 The context of the study**

### ***3.3.1 The module***

The basis for the study was the fifth module of a two-year tutored master's degree in computer-assisted education. This module, with its focus on e-learning, was presented entirely online for a period of six weeks, from 18 July 2002 till 29 August 2002. The study participants, who registered for this specific module, were all adults who were combining part-time study with a full-time job.

The module was presented in the style of the internationally acclaimed reality television game show, *Survivor*. However, as the module was presented entirely online, the game was played in cyberspace; and as the learning experiences of participants were based on surfing the Web, the game was called *CyberSurviver*.



Before the module commenced, 'tribes' or groups were formed by requesting all participants to stand in a single line and by numbering them from one to six sequentially. All the participants called number one formed a group; all the

### Chapter 3: The research methodology and process

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participants called number two formed a group, and so forth, until six groups were formed. Participants were at different levels of computer and Web literacy.

The module with its focus on e-learning lent itself to inclusion in the research study. It was suitable for the purpose of conducting research on the affective experiences of participants in an e-learning event because *CyberSurviver* took place in the faceless nature of the e-learning environment. Not only was there supposed to be no face-to-face contact between lecturer and student, but also between students who were registered for the module. Face-to-face contact with the lecturer was restricted to the introductory contact session at the start of the module and a reflective session after completion of the module. Participants were also discouraged to call each other by telephone or to meet personally.

Thus, with the exception of the initial face-to-face introductory meeting and the final debriefing or 'tribal council' session, the entire module was presented over the Internet. As the module was presented over the Internet, the medium of communication was the Web. The Web was used extensively as a communication tool, a virtual meeting-place, a venue for tests and assessment, a drop-off space for assignments and completed tasks, as well as a resource of information. Using the Web as the medium of contact between the facilitator and the learners made learning experiences decidedly different from those in the traditional face-to-face environment of teaching and learning.

In the e-learning environment, participants had to interact and communicate mainly by means of e-mail, Internet groups, and the online learning platform *WebCT*. This meant that every participant had access to all the e-mails, those sent by participatory group (tribe) members, as well as members from rival tribal groups. Participants could also communicate synchronously by means of the Internet-based synchronous tool<sup>12</sup> *Yahoo! Messenger*. Some participants had a desktop computer at home, but others could access the *Internet* only from their places of work.

#### **3.3.2 Online communication**

All the interactions between tribal members, as well as all the interactions between tribal members and the facilitator of the course, took place by means of a number of

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<sup>12</sup> A site on the Internet where users can have discussions in real time

### Chapter 3: The research methodology and process

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pre-selected Web-based communication tools. The lecturer purposively selected the following Web-based tools for communication:

- ☉ *Yahoo!* groups;
- ☉ *Yahoo!* Messenger;
- ☉ *NetMeeting*;
- ☉ *WebCT*; and
- ☉ *Interwise*.

These tools were selected in order to provide learners with a wide range of experiences regarding a variety of applications. By using these tools, learners sampled what the Internet had to offer in terms of synchronous and asynchronous communication. Furthermore, usage of these tools provided them with the opportunities to evaluate the different functionalities that were offered by both expensive commercial learning management systems and those applications that were available on the Internet free of charge.

During the first week of the module, a communication group in *Yahoo! Groups* called *E-learn* was established. This group served as sole medium of communication until the second week, when other tools were introduced and integrated on a regular basis. It soon became clear that *Yahoo! Groups* was going to be the more formal medium of communication, particularly when the message was meant for the entire group. On the other hand, *Yahoo! Messenger* proved to be popular for interpersonal contact purposes, even across tribal boundaries.

Figure 3.1 illustrates a communication event between the lecturer of the module and the participants (students). A screen dump<sup>13</sup> was made of the information that was e-mailed by the lecturer to the participants. Participants had to read through its contents, and had to access the information online in order to prepare for a test that had to be taken online.

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<sup>13</sup> Copying of information stored inside the computer (image of screen) onto page

## Chapter 3: The research methodology and process

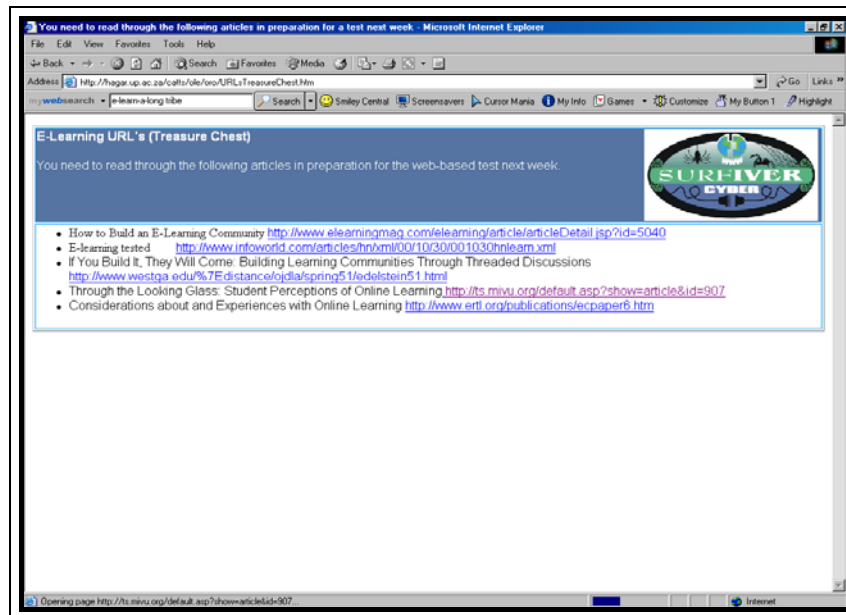


Figure 3.1: Online communication between facilitator and participants

### 3.3.3 The rule on communication

During the course of the game, all the interactions had to take place on 'Cyber Island' (online), and interpersonal telephone calls and any form of face-to-face contact between learners were strongly discouraged. The facilitator of the module (game) motivated this decision as follows:

*'The idea was to let the guys have an e-learning experience that was as authentic as possible, and in a real distance education environment they wouldn't have had f2f contact with each other (due to geographical distances). The idea was merely to give them no other choice but to optimally make use of the tools offered by the Web, rather than to opt for the easy way out (to see and phone each other). The idea was that they would experience first hand how the limitations and possibilities of the Internet affected communication.'* (Van Ryneveld [vanryneveld@TUT.AC.ZA](mailto:vanryneveld@TUT.AC.ZA) 2004)]

Despite this ruling on communication, learners who experienced technical difficulties, for example, in transferring their website files by means of File Transfer Protocol (FTP) to the server on campus, did meet face-to-face with more experienced learners on a number of Saturday mornings in order to be able to realise deadlines and milestones. This became known after participants completed the course. Thus, learners

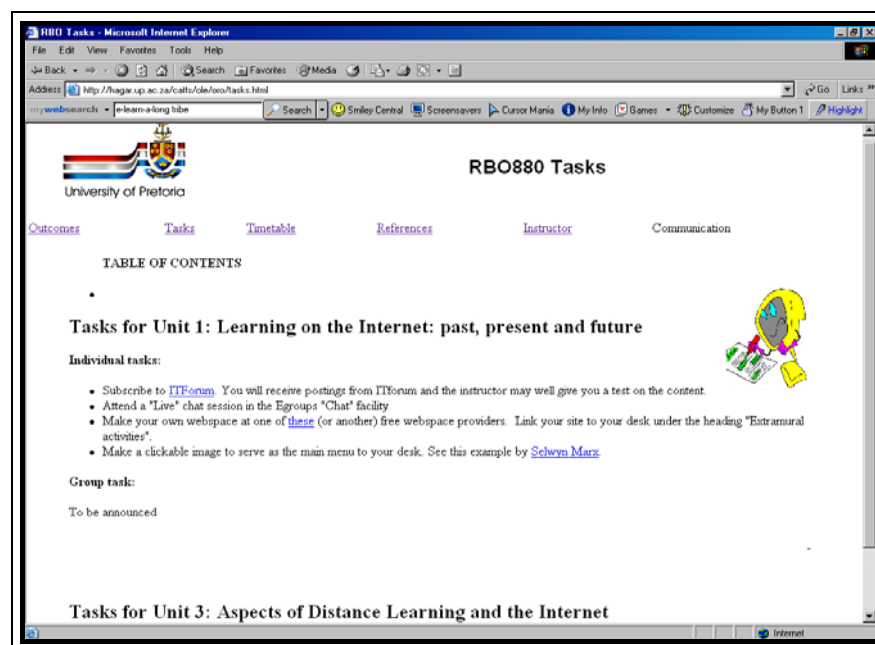
## Chapter 3: The research methodology and process

occasionally did have face-to-face contact, and some level of interpersonal discussions did take place behind the scenes, even though these practices were not officially allowed. Although online communication was not the only type of communication that occurred, it was fair to say that the majority of the interactions did take place online.

### 3.3.4 Assignments

Participants had to access the Internet for instructions from the lecturer, which were posted on a weekly basis. These instructions included completion of certain individual and collaborative or tribal assignments.

For the tribal assignments, learners had to collaborate and negotiate online, using the Web-based mediums available to them. All assignments also had to be submitted electronically. A screen dump made from the site of the module illustrated how the participants had to access information to perform assignments. Refer to Figure 3.2.



**Figure 3.2: Individual tasks in unit 1 of the module**

As with the television show *Survivor*, immunity and reward challenges were posted regularly. At the end of the week's activities, tribe members had to vote off a team member on the basis of pre-set criteria. Evicted members joined each other in a separate tribe. This separate tribe had to complete all the assignments as stipulated for the primary tribes. Unfortunately, once a member was voted out of a tribe, s/he

### Chapter 3: The research methodology and process

was not eligible for the final grand prize. The grand prize was a weekend at a self-catering holiday destination for the sole *CyberSurviver* and her/his family. An abbreviated assignment schedule for the participants during the six-week module is presented in Table 3.1.

**Table 3.1: Abbreviated assignment schedule for participants during the six-week module (Adendorff 2004:110)**

Week	Assignments
18 - 24 July 2002	<ul style="list-style-type: none"> <li>☉ Tribal assignment 1</li> <li>☉ Individual assignment 1 (with tribal involvement)</li> <li>☉ Individual assignment 2</li> </ul>
25 - 31 July 2002	<ul style="list-style-type: none"> <li>☉ Tribal assignment 2</li> <li>☉ Individual assignment 3</li> <li>☉ Individual assignment 4</li> <li>☉ Collaborative behaviour</li> </ul>
1 - 7 August 2002	<ul style="list-style-type: none"> <li>☉ Tribal assignment 2 (continued)</li> <li>☉ Individual assignment 5</li> <li>☉ Individual assignment 6 (with tribal involvement and support)</li> <li>☉ Individual assignment 7</li> </ul>
8 -14 August 2002	<ul style="list-style-type: none"> <li>☉ Tribal assignment 3</li> <li>☉ Individual assignment 8</li> <li>☉ Individual assignment 9</li> <li>☉ Collaborative behaviour</li> </ul>
15 - 21 August 2002	<ul style="list-style-type: none"> <li>☉ Tribal assignment 4</li> <li>☉ Individual assignment 10</li> <li>☉ Individual assignment 11</li> <li>☉ Collaborative behaviour</li> </ul>
22 - 28 August 2002	<ul style="list-style-type: none"> <li>☉ Tribal assignment 5</li> <li>☉ Individual assignment 12</li> <li>☉ Individual assignment 13</li> </ul>

A more detailed explanation of how the game was organised is provided as Annexure D. Linda van Ryneveld, the lecturer of the *CyberSurviver* module, compiled the explanation.

#### 3.4 The research question and sub-questions

This study was aimed at answering the following research question: *What are the affective experiences of students in an online learning environment?* In order to answer the research question, specific research objectives were set. These research objectives were converted into sub-questions as follows:

- ☉ How did online students cope in the online learning environment?
- ☉ Why did online students ask for help?
- ☉ Why did online students offer help?
- ☉ What were the principal causes of motivation and frustration?



### Chapter 3: The research methodology and process

- ☉ What was the nature of the cooperation between students (the nature of the peer support)?
- ☉ How (and to what extent) did the affective experiences of students contribute towards the successful completion of an online course?
- ☉ What could make a student drop off a course regardless of volition?




#### 3.5 The role of the researcher and others involved in this study

A collaborative research project was launched by a team of three researchers who each investigated an independent topic but with the involvement of one specific group of participants. The participants formed the populations of the studies of two of the researchers, while one researcher focused specifically on the role of the lecturer.

Adendorff's (2004) study specifically addressed the role of the lecturer who facilitated the online module. Van Ryneveld (2004), who facilitated the module, researched the role of games in adult learning. For the purposes of this study, the *affective* experiences (feelings) of participants during an online course were investigated. Although the group of participants involved in the online module comprised the populations of two of the studies, each researcher worked independently. The researchers, however, did involve each other for member checking purposes (Holloway & Wheeler 2002:257, 258).

Table 3.2 indicates the roles and responsibilities of the researchers involved in the collaborative research project. The first column lists the names of the researchers in alphabetical order according to surname. The second and third columns indicate the roles and responsibilities of the researchers within the project.

**Table 3.2: Roles and responsibilities of the researchers within *The Collaborative Research Project***

Researcher	Role	Responsibility
Debbie Adendorff 	Researcher Observer	Investigated the roles and competencies of an online facilitator.
 Salomé Meyer	Researcher Observer	Studied the affective experiences of students in an online learning environment.
Linda van Ryneveld 	Lecturer/ Facilitator	Facilitated the online module.
	Researcher	Studied the interaction in an adult online learning community.

## **Chapter 3: The research methodology and process**

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### ***3.5.1 People who assisted in this study***

According to Holloway and Wheeler (2002:115), the researcher and the interviewer can be one and the same person. They state that the facilitator becomes the interviewer. In this research, the roles and responsibilities of the facilitator, interviewer, researcher, observer, and coder were separated or shared by people. Dr Sonja Grobler served as independent interviewer and co-coder, while Dr Sandra van Wyk served as independent analyst and verifier of coded data. A third independent person took field notes during interviews to allow the interviewer to concentrate on the responses of participants and to prompt appropriately. This separation of roles was done in order to reduce researcher bias, and increase the reliability of the data collection process.

I co-coordinated the data collection procedure and data analysis. The fact that different venues were used for the focus group interviews did not seem to pose a problem. During both interview sessions, a Dictaphone was placed in such a position that the voices of all the participants and the interviewer could be clearly recorded, and all data were captured. I introduced the participants, the interviewer and the field worker, requested permission for the recordings to be done, and ensured that written informed consent was obtained from all participants prior to the commencement of data collection. The informed consent document is attached as Annexure A.

### ***3.5.2 The role of the interviewer***

An independent person was employed to conduct the focus group interviews and, specifically, to focus the contents discussed during the interviews and prevent dishonest responses from participants. The interviewer had to create a supportive environment, ask focused questions, and encourage discussions and expressions of differing opinions (Marshall & Rossman 1999:114). For these reasons, and to manage potential conflict situations, it was thought necessary to employ a qualified person to conduct the focus group interviews.

The interviewer employed was qualified to facilitate stress management, conflict management and cultural sensitivity. She was skilled in stimulating discussions and controlling groups, and she was flexible and open minded. The interviewer was a psychiatric nurse specialist and an expert in qualitative research.

### **Chapter 3: The research methodology and process**

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These skills of the interviewer were crucial to obtaining useful data. The interviewer introduced the topic and confirmed the reasons for conducting the interview. An atmosphere of trust, acceptance, cooperation and rapport was created (Neuman 1997:253). This was followed by an invitation to respond spontaneously and in an informal manner. The interviewer remained neutral with respect to both verbal and non-verbal behaviour. However, the interviewer knew when to probe and was aware that participants might become uncomfortable, and would then intercede (Morse 1994:231, 232).

Breakwell, Hammond and Five-Shaw (1995:281) refer to the art of interviewing as process facilitation and state that the skills of the interviewer are fundamental to the effectiveness of the focus group interview. The interviewer in this study succeeded in focusing the participants on the research topic throughout the interviews. The result was a considerable amount of useful data that could be analysed to obtain answers to the research question and to achieve the objectives of the study.

#### **3.6 Graphic presentation explaining roles and interactions**

A graphic presentation has been designed to attempt an explanation of the roles of the researchers and the interactions that took place between participants, participants and the lecturer, as well as between researchers, and researchers and participants. This graphic presentation is depicted as Figure 3.3.

All the interactions took place within the e-learning environment. Within this environment, indicated by a rounded rectangle, the participants were the primary focal group. The participants are indicated by a rectangle containing drawings of stick figures. Each of the three researchers involved in the collaborative research project is indicated by a triangle. The interaction between researchers, as they shared information, gave support and did member checking, is illustrated by means of the overlapping of triangles.

The triangle that represents Van Ryneveld, who facilitated the module, overlaps more with the rectangle of the participants than do the triangles representing Adendorff or Meyer, as Van Ryneveld was more involved with the participants. Adendorff's triangle overlaps more with Van Ryneveld's than Meyer's, because Adendorff's research focused on the facilitator, while Meyer's research focused on the participants. The

### Chapter 3: The research methodology and process

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triangles of Adendorff and Meyer overlap slightly, indicating the member checking and mutual support.

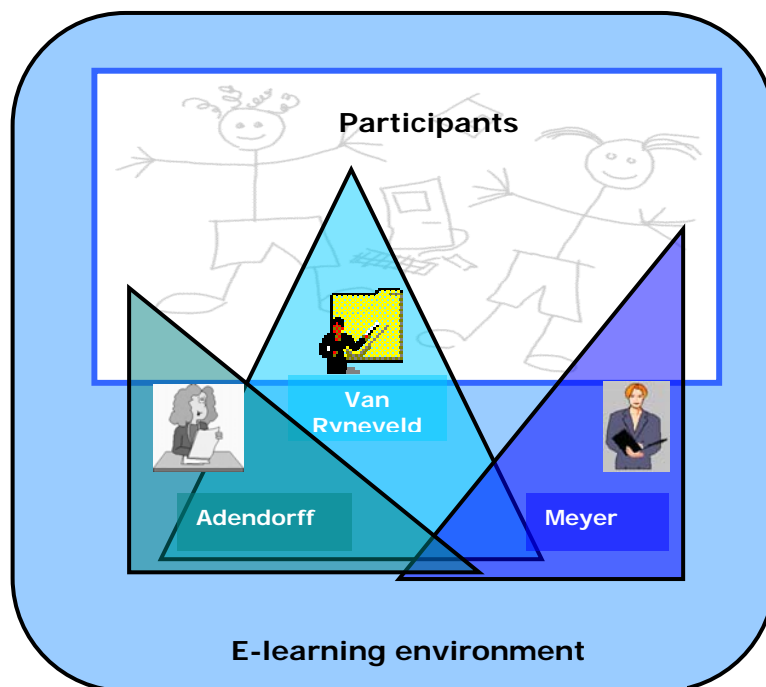


Figure 3.3: Graphic presentation explaining the roles of the researchers

#### 3.7 Qualitative approach

The qualitative approach was chosen for this study in order to explore and describe the affective experiences of students in an online learning environment. The qualitative approach to this research, being contextual in nature, was used to interpret the affective experiences of participants.

The purpose of conducting an interpretive study is to deepen and extend knowledge of why social life is perceived and experienced the way it is; social life, in the context of this study, being the six weeks of interacting with other human beings in the same situation with the same demands, but also different demands to a certain extent (Carr & Kemmis 1986). By conducting an interpretive study, participants could be observed in the situation in which they expressed themselves and in which they gave meaning to what they had experienced.

### Chapter 3: The research methodology and process

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A qualitative research approach was adopted because this research aimed at interpreting the phenomenon under study in terms of the meanings that the participants brought to it (Greenhalgh & Taylor 1997:740-743). Maykunt and Morehouse (1994:43) describe qualitative research as being exploratory and descriptive in focus, and purposive in sampling with the emphasis on people as instruments. Qualitative research is a form of social inquiry that focuses on the way people interpret the socially constructed nature of reality and make sense of their experiences and the world they live in (Denzin & Lincoln 2000:8; Holloway & Wheeler 2002:3). According to Mason (1997:4) in Creswell (1998:15), qualitative research is based on methods of data generation that are flexible and sensitive to the social context in which data is produced.

It was decided to specifically follow a qualitative research method, as such a method involves a collection or a variety of empirical material, such as personal experiences that describe routine and problematic moments and meaning in individuals' lives. This viewpoint is endorsed by Brink (1996:119) who explains that qualitative research is concerned with how people make sense of their lives. Another reason why a qualitative approach was chosen for this study is that such an approach is usually used to explore areas about which little is known and to gain information about phenomena, such as emotions and thought processes, that are difficult to extract through mere conventional research methods, as indicated by Strauss and Corbin (1998:11). Neuman (1997:420) also states that data obtained through qualitative research is rich in detail and capable of showing the complex processes of social life. All of the aforementioned characteristics of a qualitative study convinced me that such an approach would provide the proper framework for this research.

The characteristics of qualitative research, as explained by Holloway and Wheeler (2002:10), were used as a measure against which the characteristics mentioned by other authors could be compared. The researcher's<sup>14</sup> interpretation of how this study measured up to these characteristics is shown in the last column of Table 3.3. Thus, Table 3.3 represents the characteristics of qualitative research as described by various authors and as applied to this research study.

The reasons for using a qualitative research design for this study became clear when the characteristics of qualitative research, as explained in Table 3.3, were compared. From the table, it was apparent that the characteristics distinguishing qualitative





















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<sup>14</sup> Authorial representation is included to convey the position of the researcher (Creswell 1998:172).

### Chapter 3: The research methodology and process

research, as described by a number of published and skilled researchers, did apply to this study. Table 3.3 provides evidence supporting the qualitative approach to this research.

**Table 3.3: Characteristics of qualitative research**

Characteristics described by Holloway and Wheeler (2002:10)	Creswell (1998)	Merriam (1998)	Bogdan and Biklen (1992)	This study
<i>The data has primacy; the theoretical framework is not predetermined, but is derived directly from the data.</i>				
<i>Qualitative research is context-bound and researchers must be context sensitive.</i>				
<i>Researchers immerse themselves in the natural setting of the people whose thoughts they wish to explore.</i>				
<i>Qualitative researchers focus on the <b>emic</b> perspective - the views of the people involved in the research and their perceptions, meanings and interpretations.</i>				
<i>Qualitative researchers use 'thick description'; they describe, analyse and interpret.</i>				
<i>The relationship between the researcher and the research subjects is a close relationship, and is based on a position of equality.</i>				
<i>Data collection and data analysis generally proceed together, and they interact in some forms of qualitative research.</i>				

### 3.8 Research design

As this study explored a phenomenon, namely the affective experiences of students in an online learning environment, it could be described as a *phenomenological study*. The *qualitative* approach to research was used to interpret the phenomenon. The context, in which this research was conducted, was bound, as the study investigated the experiences of a specific group of students during a specific online event (the *CyberSurviver* module). This study focused on a group of people who had something in common.

A case study was chosen as a design for this study because it reflected *particularistic*, *descriptive* and *heuristic* characteristics. This study was particularistic because it focused on a particular event. It was descriptive, as rich and thick descriptions were

### Chapter 3: The research methodology and process

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extracted from the data gathered. It had heuristic qualities, as the meanings that students attached to their experiences were uncovered (Creswell 1998:172; Merriam 1998:27.) On the one hand, the case study could be related to the online culture but, on the other hand, the study aimed at interpreting meaning attached to experiences within the online culture. For this reason, the study could be regarded as having a *hybrid design*. A schematic representation of the research design is presented in Figure 3.4.

This study had features of both an *ethnographic study* and a *hermeneutic study*. By *interpreting the meaning* (hermeneutics) that participants attached to their experiences in an online environment, an *online culture* (ethnography) was described. This research had the contextual nature, as well as the reflective character of an ethnographic study. This study specifically gave priority to the case study design but, by employing aspects of hermeneutics and ethnography, an attempt was made to obtain more complete research results. These aspects also assisted in understanding the research.

Chapter 3: The research methodology and process

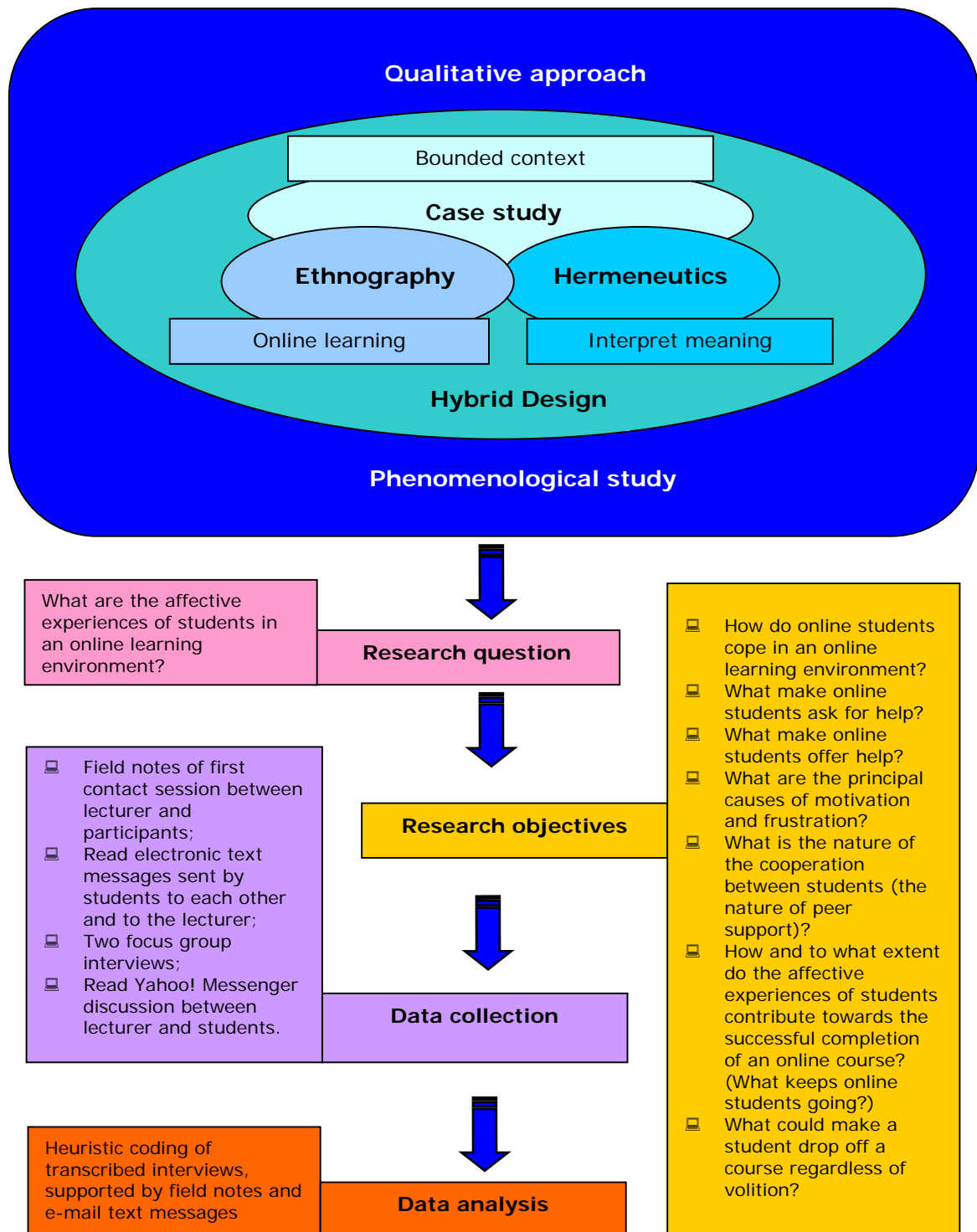


Figure 3.4: Schematic representation of research design



### Chapter 3: The research methodology and process

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The case studied was a single case, which was specifically chosen for its topical relevance (Yin 1992:34). The case study was executed by investigating the particular phenomenon and the context within which it occurred (Yin 1992:31). Ethnographic aspects were employed in this study, as the study involved an ongoing attempt to place significant encounters, events, and understanding of the feelings of participants into a fuller and more meaningful context. The experiences of the participants were interpreted as meaningful, and their interactions were generated from and informed by the meaningfulness of their experiences (Tedlock 2000:455). Anthropological concepts, such as myths, stories and rituals, were not present in this study (Creswell 1998; Wolcott 1994). Although I did not interact with the participants while they were actively doing the module, I penetrated into their environment by being logged onto their online communications for a certain period. This was indicative of how I was an observer of participation rather than an observing participant (Tedlock 2000:265).

As a person's experience of the world is connected with language, it was thought appropriate to use the electronic communication sources, mentioned in Section 3.11, to attempt to understand the meaning making of the participants with regard to their experiences during the *CyberSurviver* game. Hermeneutics was used for this purpose.

However, data was purposively interpreted, and did not have an end product. Not their behaviour, but the words (language) that participants used to describe their feelings were interpreted. Similar to an ethnographic study, the emic perspective (from the viewpoint of the participants), as well as the etic perspective (from the researcher's point of view), was considered (Morse 1994:162). Also similar to an ethnographic study, this study focused on a group of people who had something in common, namely the *CyberSurviver* module (Morse 1994:161). An effort was made to learn about and understand a human group (Morse 1994:161, citing Agar 1980). In this instance, the group was the participants of this study who were involved in the *CyberSurviver* module. An attempt was also made not only to describe the behaviour of the participants, but to understand and interpret their experiences under certain circumstances (Morse 1994:162).

#### 3.9 Research paradigm

This study can be seen as falling within the *constructivist-hermeneutic-interpretivist-qualitative paradigm*. The educational paradigms of Reeves (1996), as explained on the website *Learning with software: Pedagogies and practices project* (Learning 1996),

### Chapter 3: The research methodology and process

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are employed to explain this paradigm. Aspects of the *constructivist-hermeneutic-interpretivist-qualitative paradigm* and their application to this study are explained as follows:

- ☉ The **constructivist** viewpoint represents the belief that humans individually and collectively construct reality. The participants in this study had to complete individual and cooperative assignments.
- ☉ The **hermeneutic** aspect attempts to expose the meaning that human beings give to words. The data for this study were obtained by means of focus group interviews and were transcribed verbatim.
- ☉ The **interpretivist** aspect emphasises the researcher's interpretation of the meanings given to experiences by participants. The transcribed data were coded in an attempt to interpret the affective experiences of participants.
- ☉ The **qualitative** aspect emphasises the fact that human beings are the primary instruments of the research. In this study, the experiences of the participants as verbalised by the participants were investigated.

#### 3.10 Sampling

A group of participants were selected because the expectation was that they would have something to say about the experiences that they shared in an online learning environment. Their participation in the study were considered from the following three perspectives that, according to Cohen *et al.* (2000:46), should not be seen in isolation:

- ☉ *Experiences of place;*
- ☉ *Experiences of events and time; and*
- ☉ *Ways of talking about experiences.*

Events, incidents and experiences are typically the objects of purposeful sampling in qualitative research. As this was a qualitative study, a purposive rather than a random sampling method was employed (Maykunt & Morehouse 1994:56).

Participants in an online module focussing on e-learning were decided on as the population for this study owing to the learning environment they proceeded in. The population therefore consisted of a complete group of participants who was registered for a master's degree in computer-integrated education (Burns & Grove 1997:293,295). It was purposively decided to use this group of participants, because

### Chapter 3: The research methodology and process

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they would be *forced* to make meaning of their learning experience/s (Cohen *et al.* 2000:50). The challenging nature of the module made it specifically interesting. Participants shared characteristics in the sense that they did the same module and would be able to respond to the research question (Marshall & Rossman 1999:15). The participants all experienced learning events at the same time, and they had to communicate in a specified and prescribed manner.

No computations or power analyses were done to determine the minimum numbers for sampling; therefore, the adequacy of the sample size was relative, and the intended purpose for using the sample was judged (Sandelowski 1995:371-8). Fifteen of the 24 students who started out with the module, completed the module that ended on 29 August 2002.

The sample group chose themselves to a certain extent, as all participants were invited to participate in the focus group interviews. Of the fifteen *CyberSurviver* participants who completed the module, thirteen participants volunteered to participate in the first focus group interview and twelve participants volunteered to participate in the second focus group discussion. This is indicative that they experienced a need to talk about their feelings and experiences.

Eight participants of the first as well as the second focus group interview were female. All participants were employed in an educational setting. The profile of participants with regard to age and gender is provided. The age and gender profile of the participants who participated in the first focus group interview is indicated in Table 3.4.

**Table 3.4: Profile of participants of the first focus group interview with regard to gender and age**

Age	Female	Male
30+	4	4
40+	3	0
50+	2	0

The age and gender profile of the participants who participated in the second focus group interview is indicated in Table 3.5.

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**Chapter 3: The research methodology and process**


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**Table 3.5: Profile of participants of the second focus group interview with regard to gender and age**

Age	Female	Male
30+	2	4
40+	4	0
50+	2	0

### 3.11 Data collection

In qualitative research, four basic types of data collection methods are used to gather information, namely: observations, interviews, documents, and audiovisual materials (Creswell 1998:120; Fastrak Consulting 1999).

As mentioned in Section 3.1, the module started on 18 July 2002. However, I was already present during the introductory session when the participants were briefed on the nature of the module. Linda van Ryneveld, the lecturer, informed the participants that I was one of three PhD candidates who were conducting research relating to the online learning environment. Participants were informed that I would be making observations, as I was conducting research about affective issues in an online learning environment. Participants were also informed that I would not interact with them specifically, but that I would act as an observer (a 'fly on the wall') and would have access to all their online communication – communication with the lecturer, as well as one another. At this stage, the participants had only provided verbal consent to participate in the study.

During the six-week module, the interactions between the participants were observed by reading e-mails sent by the participants to each other and the lecturer. Contact with the participants was only made after the module was completed. An optional focus group interview was arranged for 4 March 2003 with the intention of inviting participants to discuss the feelings that they experienced during their involvement in the online module.

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## Chapter 3: The research methodology and process

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### **3.11.1 Video recordings**

#### ***First contact session***

A video recording was made of the first contact session. This was done as a backup because I was not yet sure of the type of data that would be needed. The layout of the room lent itself toward getting all the students into one shot, and therefore it was possible to put the video camera in a stationary position. This allowed for the taking of field notes. Field notes were also taken due to the fact that there was some uncertainty about the type of data needed. Taking field notes was seen as an opportunity to collect data that could be used for the study.

#### ***Second contact session***

I attended the second contact session as an observer. A videotape was also taken of the second and final contact session between the lecturer and the participants. Unfortunately, the setting was not ideal as the room was oblong and the seats were placed in a wide semi-circle. The video camera had to be moved around to record the proceedings. However, the video recording was not used, as it was not needed. By that time, it was clear to me what type of data was needed. The recording was done to accommodate the other two researchers of the collaborative research project, should they want to use it. It was possible to make the recording, as I attended the session as an observer.

### **3.11.2 Field notes on first contact session**

By observing, it was possible to obtain first-hand data about the phenomenon under study. The data for this study was collected by taking field notes during observation (Cantrell 2001). Field notes can be described as detailed notes containing observable actions. At the same time, personal notes were taken. Everything seen and heard during this session was written down in a chronological manner (Holloway & Wheeler 2002:285). I tried to be as neutral as possible (Holloway & Wheeler 2002:87), but it became obvious that the participants were very aware of the fact that notes were taken on their non-verbal and verbal responses to the information provided by the lecturer. This was experienced as the negative side of taking field notes.

### Chapter 3: The research methodology and process

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I was even of the opinion that the behaviour of the participants was artificial to a certain extent. This could have been the case because people do tend to behave differently when they know that they are observed. One could argue that people get used to the observer and ignore the person after a while, but the observer has no means to detect this discrepancy (Aumueller 2002). The artificial behaviour is especially evident when people are aware that they are being scrutinised as a group (Kliemt 1990:72-95).

However, on the positive side of this encounter, I was convinced that this research would produce results, because the participants were observed as feeling overwhelmed, unsure, threatened, apprehensive, and even defensive. Comments made and questions asked by the participants betrayed their level of competency. It became evident that some kept silent because they lacked the necessary computer skills for the module. The behaviour of the participants at this first session indicated that they would experience their share of emotions/feelings in the course of events.

#### **3.11.3 Asynchronous electronic text messages**

*Yahoo! Groups* offers a group service that allows facilitators and learners alike to send public messages to others in the group. The participants in this study primarily communicated by posting *e-mail text messages* through a *Yahoo!* group specifically established for this course. Everyone registered for the group had access to all e-mail that was sent by any other member of the group, including the lecturer. Hundreds of e-mail text messages were sent during the course of the module. These messages could be accessed on the Web on an electronic bulletin board<sup>15</sup>; however, group members also had the option to receive the messages in an e-mail format (as if on a listserv<sup>16</sup>). The *WebCT* learning management system was introduced at a particular point during the module. A number of learners used the *WebCT* e-mail facility to communicate. Most of the communication in this module took place by e-mail.

Throughout the six weeks that the participants actively partook in the module, they were only observed and no interaction occurred between the participants and the observer. Observation was done in an effort to enhance understanding of the feelings that participants experienced and to confirm the trustworthiness of the study. The text messages were analysed but not coded, and used as confirmation of feelings

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<sup>15</sup> A computer network facility that allows any user to leave messages that can be read by any other user

<sup>16</sup> An Internet service that provides e-mailing to subscribers of the service

## Chapter 3: The research methodology and process

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expressed during focus group interviews. I was online most of the time during the day for the six-week period, and was convinced that the focus group interviews would produce rich data. The data obtained exceeded all expectations, as it provided thick descriptions of the experiences of the participants, and allowed for a myriad of inferences to be made.

### **3.11.4 Synchronous electronic text messages**

*Yahoo! Messenger* allowed the participants to send instant messages to one another and to the facilitator when they were online at the same time. At times offline (asynchronous) messages were also sent and received.

### **3.11.5 Focus group interviews**

Focus group discussions are in-depth interviews whereby a limited number of interacting individuals with common characteristics relevant to the study topic are used to elicit information that could not be obtained through other methods of data collection (Chamane & Kortenbout 1996:23-5). Focus group interviews are used as a self-contained method of data collection (De Vos *et al.* 2002:207).

In this study, two focus group interviews were used as the principal method of data collection. The main purpose of the focus group interviews was to collect data about the personal experiences (feelings) of participants. However, the interviews served a second purpose. In combination with field notes, they assisted in understanding the experiences of participants.

Interviews are regarded as opportunities to gather descriptive data from participants (including verbatim verbal accounts), and to access what cannot be observed. The focus group technique therefore provides rich data at a reasonable cost. According to Morse (1994:226), this technique with '*... proper guidance from the interviewer can describe rich detail of complex experiences and the reasoning behind ... actions, beliefs, perceptions, and attitudes*'. It is also called '*a walk in the head*' (Cantrell 2001).

The focus group technique has several advantages. In this study, it was used because the assumptions were made that interviewees would be less hesitant to provide

### Chapter 3: The research methodology and process

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information in a group than in a one-to-one situation and that they would cooperate with each other for a limited time. Further advantages of conducting focus group interviews are that they possibly yield the best information because of the interaction between participants (Creswell 1998:124). They also allow for flexibility because the interviewer can prompt participants and encourage them to explore their thoughts (Holloway & Wheeler 2002:93). However, the so-called 'group effect' has a disadvantage. Participants may provide conformed answers, as the perspective of individuals may be influenced by the opinion of the group (Holloway & Wheeler 2002:118; Kooker, Shoultz & Trotter 1998:283).

For this study, an interview protocol was designed to ensure obtaining answers to the research question. The interview protocol consisted of open-ended questions that were less structured than closed questions (Holloway & Wheeler 2002:80). The sub-questions for the interviews were based on the objectives for this study. These sub-questions were as follows:

- ☉ How do online students cope in an online learning environment?
- ☉ Why do online students ask for help?
- ☉ Why do online students offer help?
- ☉ What are the principal causes of motivation and frustration;
- ☉ What is the nature of the cooperation between students (the nature of peer support)?
- ☉ How (and to what extent) do affective experiences of students contribute towards the successful completion of an online course?
- ☉ What could make a student drop off a course regardless of volition?

The interviews were however not completely unstructured, as questions were formulated ahead of time, and based on the definition of the problem (Cantrell 2001). Questions asked during the focus group interviews are set out in Table 3.6. The interviews were audio taped and transcribed.



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**Chapter 3: The research methodology and process**


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**Table 3.6: Questions asked during focus group interviews**

<b>Interview 1</b>	Question 1	How did you experience this module?
	Question 2	Did all of you complete the module?
	Question 3	What technical knowledge do you need before you can start with such a course?
	Question 4	How does online communication differ from face-to-face communication? In what sense are they alike?
	Question 5	Which skills do you need to do this course?
<b>Interview 2</b>	Question 1	How did you cope in the online environment?
	Question 2	What kind of support did you get?
	Question 3	What made you stay?
	Question 4	When did people give up?
	Question 5	How did you feel about the online communication rules?

Prior to the first focus group interview, informed consent was obtained from the participants. Participants, who attended the second interview, and not the first, were given the opportunity to give consent in written format before the interview commenced. These sessions were conducted in 4 and 11 March 2003.

Regarding both sessions, an independent interviewer conducted the interview and an independent field worker took field notes. The independent interviewer was requested to conduct the interviews in an effort to enhance the objectivity of the research (Morse 1994:227). Field notes were taken by means of spontaneous observation (Burns & Grove 1997:352; Cantrell 2001). The purpose of the field notes was to assist in interpreting experiences of participants and therefore to enrich the data analysis (Burns & Grove 1997:359).

The expectation was that emotional responses would be provoked during these interviews. The interviewer was employed because of her skill in conducting interviews and managing conflict. Prior to conducting the interviews, three meetings were held with the interviewer to discuss the nature of the study and to relate information on online learning issues, allowing understanding of the contributions of participants and enabling effective probing during sessions (Morse 1994:229).

Another important reason for using an independent interviewer was to prevent researcher bias. I did the same master's programme in 1999, and might have had certain opinions and presumptions that could influence the course of the interview, and contaminate the information received. The interviewer and the field worker were introduced to the interviewees before the commencement of each interview, but I

### Chapter 3: The research methodology and process

stayed away while the interview was conducted and returned only to thank all involved.

#### 3.12 Different sources of data

The different sources of data are summarised in Table 3.7. A short clarification of each source is provided, as well as an explanation of its advantages and disadvantages for this study.

**Table 3.7: Sources of data; their advantages and disadvantages**

Sources of data	Clarification	Advantages	Disadvantages
<b>Field notes on first contact session</b>	The module was introduced during a meeting that was videotaped. The main purpose of the meeting was two-fold: To provide information on the nature of the module, and to introduce the researchers and the participants to each other.	The verbal and non-verbal behaviour of participants, which indicated their emotional feelings, could be observed in a direct manner.	The behaviour of the participants might have been artificial to some extent, as the participants were aware that the researcher was observing and that she was taking field notes.
<b>Electronic text messages (including e-mail messages)</b>	The participants used mainly electronic messages to communicate with each other and the lecturer. The <i>WebCT</i> learning management system was introduced at some point during the module. A number of learners used the <i>WebCT</i> e-mail facility to communicate, mainly with the facilitator.	The researcher could keep track of how participants felt emotionally by reading the electronic messages, without manipulating the data.	It was extremely time consuming to read through the e-mails every day.
<b>Focus group interviews and transcripts</b>	Two focus group interviews were held in March 2003. These were transcribed and the data obtained was analysed into different categories. These categories will be discussed in the next chapters.	The participants reflected on their experiences and verbalised their feelings. Concentrated amounts of data on the precise topic of this study were obtained.	The focus group interviews for this study were less cost effective, as the independent interviewer and the field worker had to be paid. Further costs incurred were the remuneration of the person who transcribed the data, and expenses for food and drinks after both interviews.

The different methods of data collection employed in this study, namely observations, field notes, electronic text messages and focus group interviews, yielded a variety of data that could be analysed.

## Chapter 3: The research methodology and process

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### 3.13 Data analysis

This study had its origins in my reflections as a nurse educator and on personal experiences as a student in an online environment, thus stressing the phenomenological nature of the study. The next step with regard to data collection and analysis was to start a dialogue with the participants in the study (by means of focus group interviews) to obtain their experiential descriptions of the topic, which were tape recorded and transcribed. The transcribed dialogues were then examined and inspected, and descriptive words were highlighted, thus searching for idiomatic phrases that would add to an understanding of their experiences. Furthermore, experiential descriptions in the literature were sought, which would complement the data imparted by the participants about their experiences. Synthesising these sources by means of the process of thematic analysis (coding) provided for insight into and comprehension of the meanings of the participants' experiences.

Although software programmes for the analysis of qualitative research were available, their acquisition was regarded as unnecessary, as either handwritten notes or the MS Excel software programme could be used for the data analysis. It was decided to do the coding by hand. The codes were written in the margins of the transcript pages. As only two focus group interview transcripts had to be analysed, this method seemed to work well. The data were analysed by both myself and the focus group interviewer who was a skilled qualitative researcher. A second independent analyst verified the interpretation of the focus group transcriptions.

The data was analysed with the intention to ferret out the essence of the phenomenon (Merriam 1998:158). This was done by searching for themes in the text, clustering them, and by creating categories to search for the meaning of the words that the participants used to communicate. By questioning the participants' statements, I tried to understand behaviour and to interpret meaning (Merriam 1998:193).

The challenge was to capture the recurring pattern that cut across the preponderance of the data (Merriam 1998:179). Three categories were identified. They were curative factors, process of development, and inhibiting factors. A unit of data was identified by means of its heuristic quality as well as its ability to stand on its own (Merriam 1998:180). The data became saturated during the early part of the coding of the second focus group transcription (Morse 1994:106). This served as verification

### Chapter 3: The research methodology and process

that the two focus group interviews were sufficient to provide thick and rich information (Cohen *et al.* 2000:72-3).

The process of interpretation was an important part of the data analysis. This process was guided by employing the *hermeneutic cycle*; a metaphor that explains the process of inquiry (Cohen *et al.* 2000:72-3). Hermeneutics means 'the science of interpretation'. Hermeneutics (from Greek *'Ἑρμηνευτικός*<sup>17</sup>, expert in interpretation, from *'Ἑρμηνεύειν*, to interpret) is the theory and practice of the interpretation of texts (Collins Concise Dictionary 2001:681). The *hermeneutic cycle* is the process by which interpreters return to a text, and derive an interpretation, perhaps a new interpretation every time for every interpreter. An interpreter reads the transcripts to form an impression of the whole. S/he then goes back and looks at the pieces (units) in order to analyse them. The pieces are then related to the whole, and the whole to the pieces, and this process continues back and forth, from pieces to whole to pieces to whole (Cohen *et al.* 2000:70-72). This cyclic process was applied to this study.

The *hermeneutic cycle*, by definition a closed loop, was made famous by Heidegger. It has interactive and interpretive qualities (Conroy 2003). Figure 3.5 is a schematic interpretation of the *hermeneutic cycle* as provided by Ross (2002).

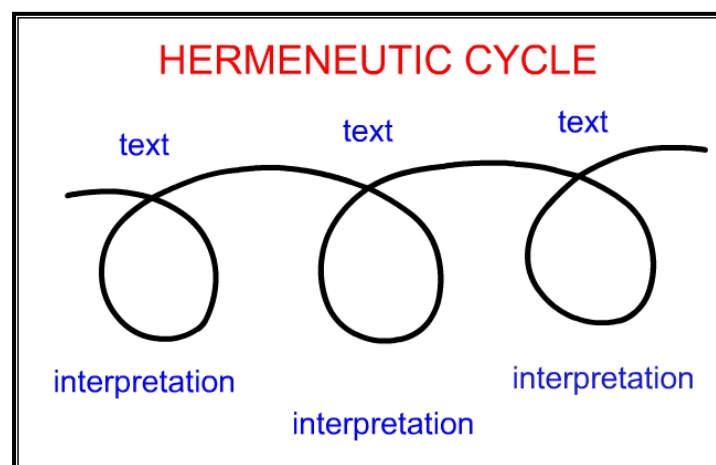


Figure 3.5: Hermeneutic cycle (Ross 2002)

The interpretive and partly ethnographic nature of the study emphasised the focus of the data analysis as not being the patterned behaviour and action of participants, but

<sup>17</sup> From *Little Greek 101: Learning New Testament Greek* available at <http://www.ibiblio.org/koine/greek/lessons/alphabet.html>.

### **Chapter 3: The research methodology and process**

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rather being the experiences of participants. The limited ethnographic characteristics of the research design affirmed the coding and linking of data obtained from the transcripts and the electronic means of interaction between participants. Synthesis occurred when the data was saturated. Morse (1994:37) emphasises that ethnographic work is often not developed beyond the level of description, but is presented as 'thick description'. This is reiterated by Vidich and Lyman (2000: 59,60) who say that '*... the aim of ethnography is to secure thick descriptions that will make thick interpretation possible*'. They are also of the opinion that '*an ethnography is now to be regarded as a piece of writing as such...* '.

The above explanations of data analyses are applicable to this study. The data analysis of this study started out as a thematic analysis, as described previously in this section as well as in Subsection 3.13.2. After the coding process was completed and the documentation of evidence commenced, it was realised that thematic descriptions were not possible in their purest form, and that the evidence would best be provided in the form of an academic report. It was however decided to keep the thematic analyses and the explanation of the coding process as part of the study as they enhance an understanding of the academic report.

#### **3.13.1      *The unit of analysis***

The unit of analysis was the narrative descriptions of the case study that were obtained from the transcribed information of the focus group interviews (Graneheim & Lundman 2004:105). The transcriptions of the focus group interviews are presented as Annexes B and C.

Each transcript was read to obtain a sense of the comprehensiveness of the affective experiences of the participants. The transcripts were read a second time to identify the themes that were applicable to the questions asked. Then they were read for a third time, and the most important concepts were written in the left-hand margins, while the experiences were noted in the right-hand margins. All these concepts and experiences noted were read again. The analysers then read through the concepts noted in the left-hand margins, and selected the themes. Throughout the analysis, reflective remarks were made. These were written on separate pieces of paper, or in the right-hand margins of the transcriptions, but in a different colour. Making these notes and remarks assisted in interpreting and connecting parts of the transcripts, and in retaining a thoughtful stance (Burns & Grove 1997:55).

## Chapter 3: The research methodology and process

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### 3.14 Coding

Coding was used to transform the raw data into a standardised form (Polit & Hungler 1993:329). This process was done step by step. It entailed the recognition of repetitive words, phrases, themes, and concepts or the recognition of words, phrases, themes, and concepts with similar meanings.

For level one coding, words, sentences or paragraphs that related to each other through their contents and context were considered (Graneheim & Lundman 2004:106). To describe the data and to get some insight into it, themes or '*meaning units*' were identified by means of *in vivo* coding (Burns & Grove 1997:534; Graneheim & Lundman 2004:106; Holloway & Wheeler 2002:239,240). Graneheim & Lundman (2004:106) were discussing the confusion surrounding terms used in qualitative research when they explained the concept '*meaning unit*' as follows:

*'A meaning unit ... has been referred to as a content unit or coding unit (Baxter, 1991), an idea unit (Kovach, 1991), a textual unit (Krippendorff, 1980), a keyword and phrase (Lichstein and Young, 1996), a unit of analysis (Downe-Wamboldt, 1992), and a theme (Polit and Hungler, 1991).'*

In this study, the term '*theme*' was used to refer to the first level of coding. Level two coding entails condensing data in an attempt to facilitate interpretation of the data (Burns & Grove 1997:534; Holloway & Wheeler 2002:159). Thus, an attempt was made to shed light on the specific *areas of content* but with little interpretation (Graneheim & Lundman (2004:106). Graneheim and Lundman (2004:106) define '*area of content*' as follows:

*'Parts of text dealing with a specific issue have been referred to as a domain or rough structure (Patton, 1990), a cluster (Barroso, 1997) and a content area (Baxter, 1991).'*

In this study, the concept *cluster* was used to refer to the second level of coding. Level three coding or axial coding was done to link the themes to the clusters and explain the meanings inherent to the situation. (Burns & Grove 1997:534; Graneheim & Lundman 2004:106; Holloway and Wheeler 2002:159.) Concerning this study, the third level of coding is referred to as *categories*. A category answers the question: '*What?*'. Clusters and themes within a category share a commonality, and therefore a

### Chapter 3: The research methodology and process

category can be identified as a thread that is running throughout the codes (Graneheim & Lundman 2004:107).

By applying this process to the raw data, the data was systemised (Henning 2004:107). This process is schematically set out in Figure 3.6. [Figure 3.6 must be read from the top left by following the arrows.]

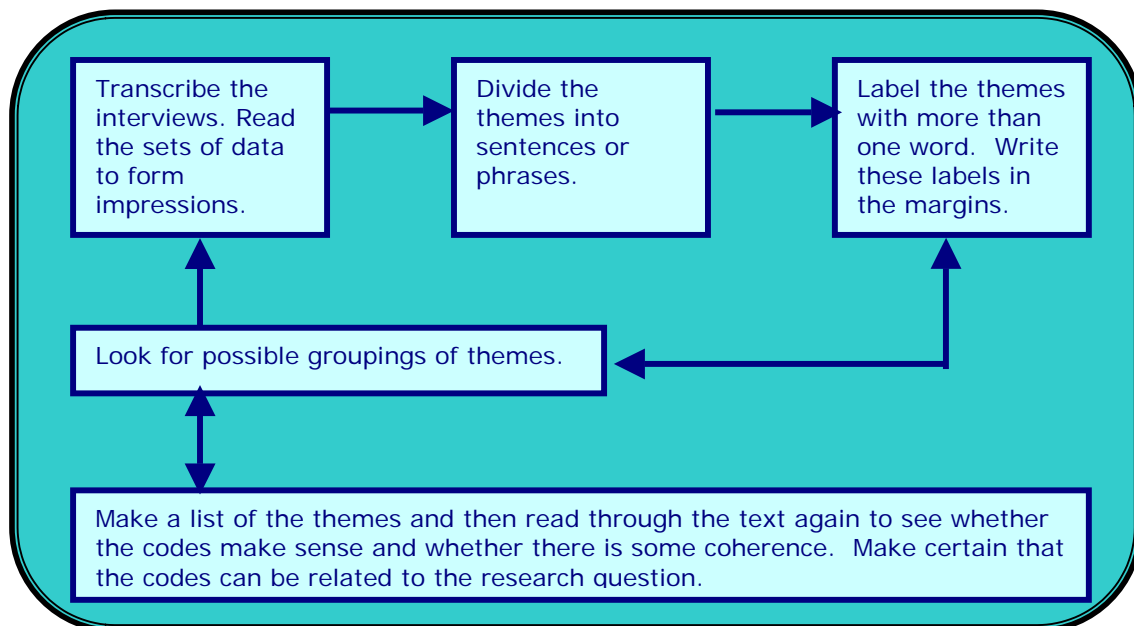


Figure 3.6: Process of coding (Henning 2004:104)

By phrasing or paraphrasing the words of the participants, themes could be identified (first level coding). By incorporating the themes into clusters (second level coding) and categories (third level coding), the themes were refined (Holloway & Wheeler 2002:239,240). Eventually, by comparing the themes to the whole, surplus themes were eliminated.

The following three main categories were identified when the data were coded:

- ☉ Curative factors;
- ☉ Process of affective development; and
- ☉ Inhibiting factors.

Category 1, called **Curative Factors**, contains the following clusters:

- ☉ Altruism versus individualism;
- ☉ Communication; and

### Chapter 3: The research methodology and process

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- ☉ Internal drive and value system.

Category 2 is called **Process of Affective Development**. The clusters are called:

- ☉ Initial phase;
- ☉ Second phase; and
- ☉ Third phase.

Category 3 is called **Inhibiting Factors** and contains the following clusters:

- ☉ Negative experiences with regard to voting;
- ☉ Insufficient information;
- ☉ Lack of computer skills;
- ☉ Groups and interaction issues;
- ☉ The problem of language;
- ☉ Time and overload;
- ☉ Financial implications; and
- ☉ Problems with regard to the provider.

Figure 3.7 is a schematic representation of the development of these three categories. It was developed in an effort to explain the coding process followed in this study. [Figure 3.7 should be read from right to left and top to bottom.]



Chapter 3: The research methodology and process

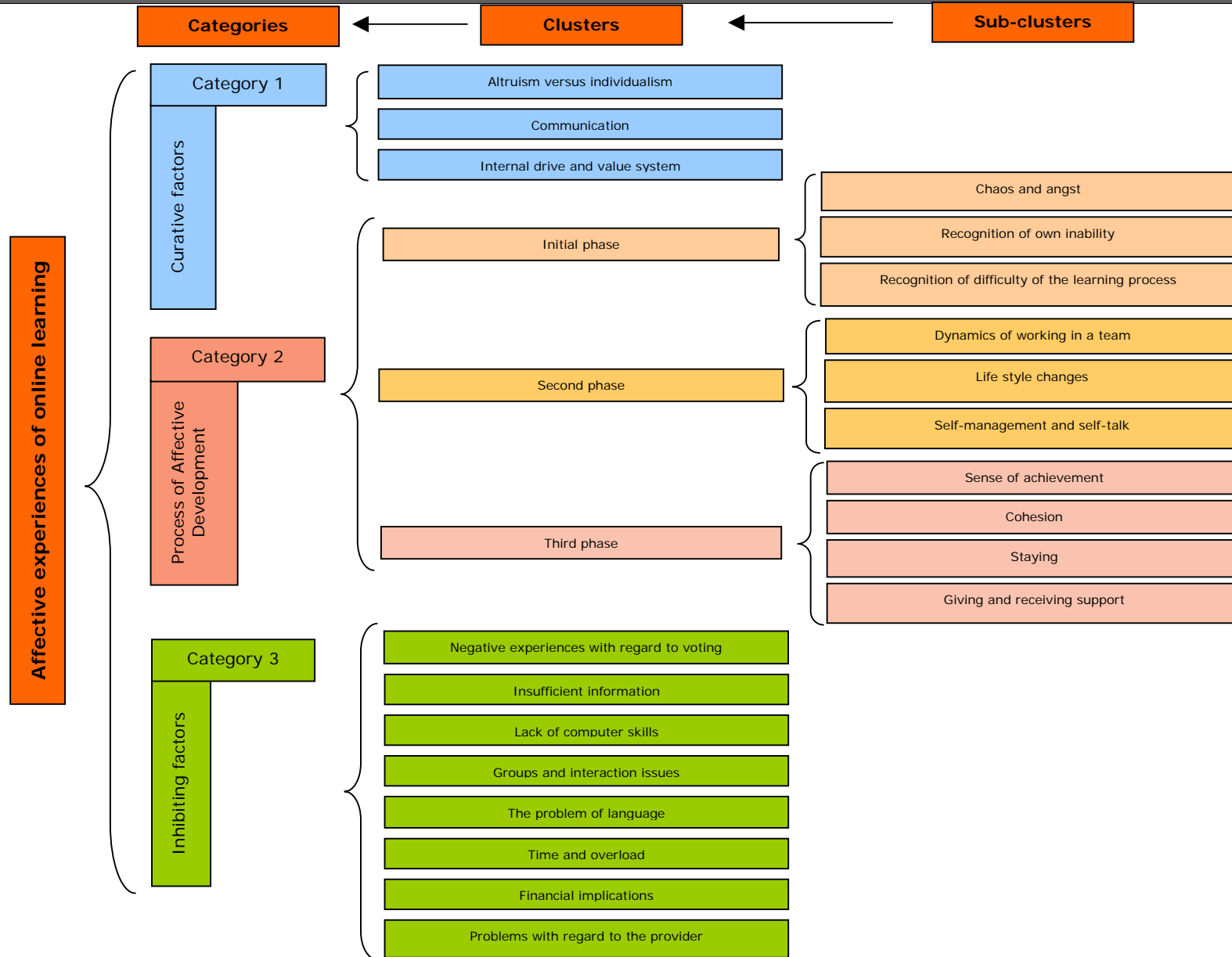
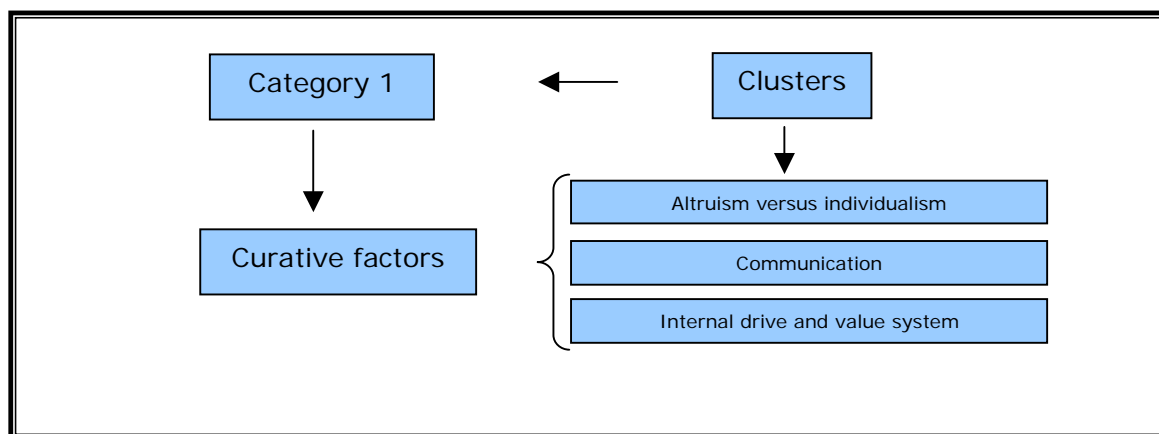


Figure 3.7: Process of coding data about experiences of online learning

To further explain the process of analysis, Figure 3.7 is broken down into Figures 3.8, 3.9 and 3.10.

### 3.14.1 Description of Category 1

The themes of Category 1 were written down as quotations or phrases. From these themes, three clusters were created, which were then put together to form Category 1. This process is explained in Figure 3.8. [Figure 3.8 should be read from right to left and top to bottom.]

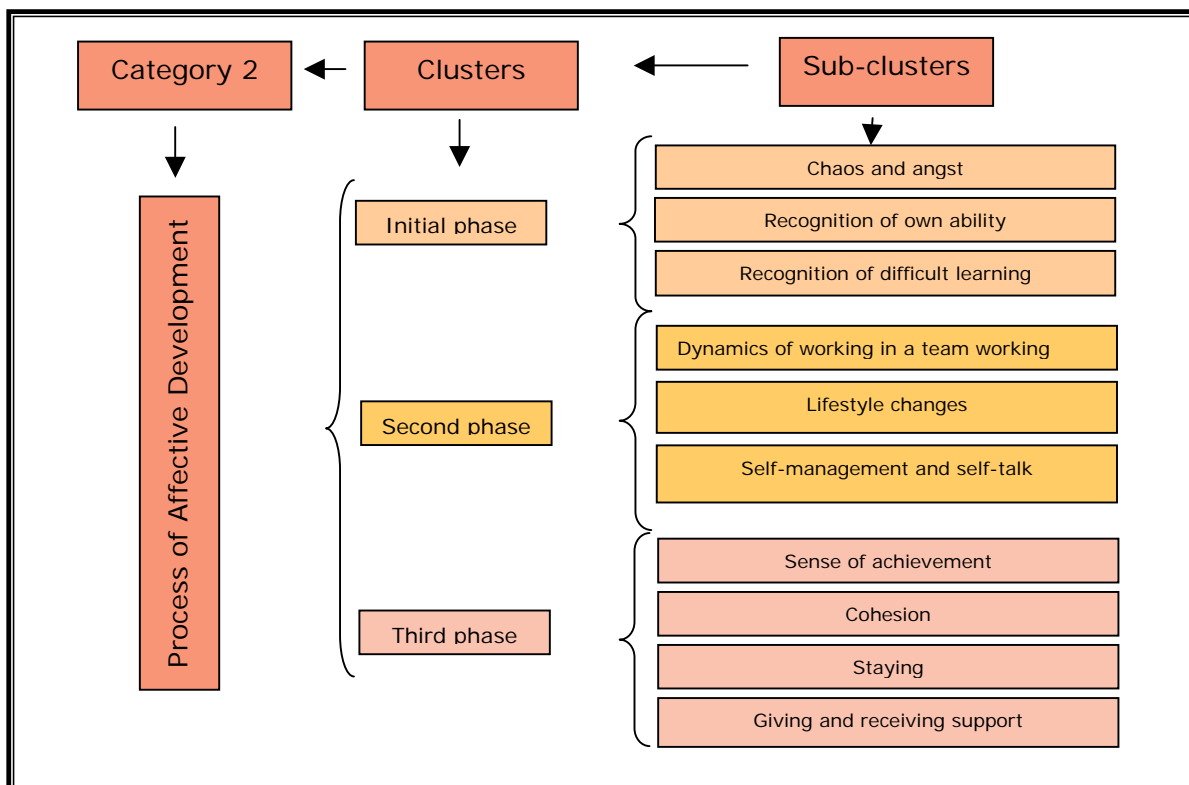


**Figure 3.8: Curative Factors: Category 1 derived from analysis of focus group transcripts**

The complete coding process of Category 1 is presented as Annexure E. A full analysis of the curative factors, as well as a literature control, is presented in Chapter 4.

### 3.14.2 Description of Category 2

As with Category 1, the themes of Category 2 were written down as quotations or phrases. From these themes, nine sub-clusters were formed, and from these sub-clusters, three main clusters were created. They were then put together to form Category 2. This process is explained in Figure 3.9 [Figure 3.9 should be read from right to left and top to bottom.]

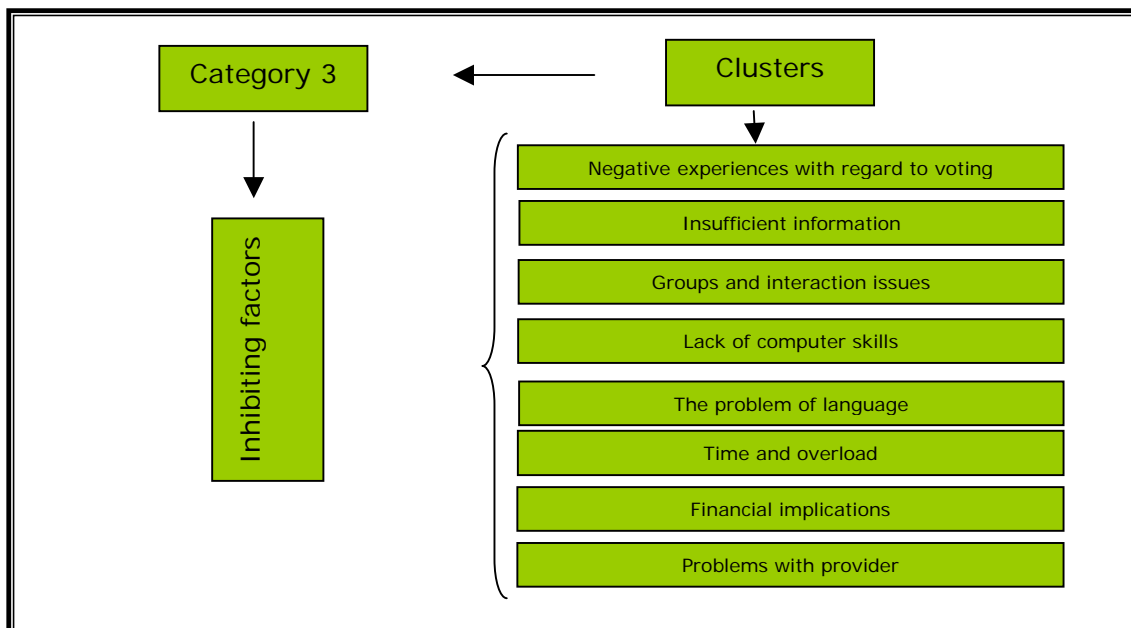


**Figure 3.9: Process of Affective Development: Category 2 derived from analysis of focus group transcripts**

The complete coding process of Category 2 is provided as Annexure F. A thorough analysis of the category *Process of Affective Development*, which includes the literature control, is presented in Chapter 5.

### 3.14.3 Description of Category 3

The themes of Category 3 were written down as quotations or phrases. From these themes, eight clusters were created, which were then put together to form Category 3. This process is schematically set out in Figure 3.10. [Figure 3.10 should be read from right to left and top to bottom.]



**Figure 3.10: Inhibiting Factors: Category 3 derived from analysis of focus group transcripts**

Chapter 6 provides a full analysis of the category *Inhibiting Factors* and includes a literature control. The complete coding process concerning Category 3 is provided as Annexure G.

### 3.15 Qualitative criteria

Morse's (1994:105-7) criteria were used to evaluate the trustworthiness of the study.

#### 3.15.1 Confirmability

Confirmability guarantees that findings, conclusions and recommendations are supported by the data and that there is internal agreement between the researcher's interpretation and the actual evidence (Brink 1996:125). In this study, confirmability was obtained by applying literature control to the data. The transcripts of the focus group interviews are included as Annexures B and C, and are therefore available for scrutiny (Morse 1994:105).

### **3.15.2      *Meaning of the context***

An attempt was made to adhere to this criterion for trustworthiness by trying to understand the results of the study by considering the viewpoint of the participants (Creswell 1998:51; Holloway & Wheeler 2002:255; Maykunt & Morehouse 1994:44). I concur with Schwandt (2000:194) who is of the opinion that '*understanding is interpretation*'. My understanding therefore implies my understanding of the data in its context. The context for this study was the online learning module *CyberSurviver* and their affective experiences during the module.

### **3.15.3      *Recurring patterning and saturation***

Recurring patterning was searched for and found in the verbalised and transcribed experiences of the participants (as obtained from the transcribed focus group interviews). Rich and thick descriptions were made, and it could be indicated that saturation of data was achieved during the early part of the coding of the second focus group transcription (Morse 1994:106). The repetition of quotations or the citing of quotations with similar meanings in Chapters 4, 5 and 6 (illustrating the different categories of meaning, namely *Curative Factors*, *Process of Development*, and *Inhibiting Factors*) is indicative of the richness or thickness of data and the extent of recurring patterning found in this study.

### **3.15.4      *Credibility***

A second independent data analyst was employed to co-code the data, and a third independent analyst was employed to authenticate the coded data (Holloway & Wheeler 2002:173; Morse 1994:119). These steps allowed the process of inquiry to be open to outside scrutiny (Cohen *et al.* 2000:86). By allowing the two other researchers involved in *The Collaborative Research Project* to read through the field notes and the interview transcripts enhanced member checking (Denzin & Lincoln 2000:393; Graneheim & Lundman 2004:109; Morse 1994:105). The detailed descriptions of the research design, the purposive sampling method and the implementation of *CyberSurviver* allowed of no other conclusion but that the research process was credible. A literature control was done by comparing the relevant information obtained during literature searches to research data obtained during the course of this study (Brink 1996:124).

### **3.15.5      *Transferability***

By presenting the data in a manner that will allow the reader of the research report to look for alternative interpretations ensures adherence to the criterion of dependability (Graneheim & Lundman 2004:110). Transferability of the findings of this study depends on the person who wants to use it for future research (Graneheim & Lundman 2004:109). As qualitative research emphasises the uniqueness of the human situation, it is variation rather than identical replication that is sought (Field & Morse 1985:105). By providing the necessary description, this study would enable an interested researcher to make a transfer to another situation. It was attempted to document the findings of this study in such a manner as to empower a researcher who would want to extrapolate them to another situation (De Vos *et al.* 2002:352; Woods & Cantazaro 1988:453).

### **3.15.6      *Crystallisation***

Denzin and Lincoln (2000:5) indicate that the central image of qualitative inquiry is the central image of crystallisation and not the concept of triangulation. For the purpose of crystallisation, I wrote reflective notes throughout my engagement with the process of coding of the data. As I continued with the interpretation of the data I referred back to the reflective notes. By doing this I was able to derive interpretation from different perspectives. My ability to interpret the data from different perspectives was enhanced by the reflective discussions I had with my promoters.

Crystallisation in this study was further enhanced by the hybrid design that was employed. By using the bounded nature of a case study, and combining that with the ethnographic emic and etic perspectives, as well as interpreting meaning of the verbalised affective experiences of the participants by means of hermeneutics, assisted in the process of crystallisation. Crystallisation was further enhanced by: employing an independent coder, by focussing on detail, as well as revisiting data from time to time during the study. The uniqueness of the affective experiences of the participants throughout the module added to the realisation of crystallisation. On completion of the coding and data analysis, a consensus discussion was held between the co-coder and myself to clarify discrepancies and identify similarities.

### 3.16 Reporting the research

The research report was written by means of academic reporting that provided ample opportunity for including quotations. Academic reporting was done by explicating the data (Gillett 2004). Creswell (1998:186) is quoting Merriam (1988:193) when he states: '*There is no standard format for reporting case study research*'. He also adds: '*... the overall intent of the case study undoubtedly shapes the larger structure of the written narrative*'. This research report is therefore written in a report format, which is personal, familiar, and at times even 'up-close' in an attempt to be readable and friendly. By writing in this manner it was attempted to make the detail come alive and transport the reader directly into the world of the study (Creswell 1998:170).

According to Creswell (1998:170), researchers encode qualitative studies rather for audiences than other academics. This necessitates writing with less method, and more parsimoniously, with the focus on practice and results. The implication of this is that one may not conform to the traditional method and discussion manner of writing, but rather write about the procedures followed and the consequent findings of the research conducted.

In this research report, ample quotations were used to bring in the voice of the participants. Some of the quotations were included more than once as they had reference to more than one category of meaning. Long quotations were used to convey more complex understandings. This was done by typing them in italics and indenting the paragraphs at the left and right margins. Embedded quotations were used for a shift in emphasis or to display a point. These quotations were also typed in italics and enclosed in single inverted commas so that they could stand out from the text and be read with ease. Eye-catching quotes or words that needed to be emphasised were either underlined or printed in a bold font (Creswell 1998:170-171). Quotes are indicated as follows:

- ☉ FG (Focus Groups) = Quotes from focus group interviews;
- ☉ EM (Electronic Messages) = Quotes from asynchronous *Yahoo! Groups* text messages, and the *WebCT* e-mail facility;
- ☉ YM (*Yahoo! Messenger*) = Quotes from *Yahoo! Messenger* synchronous text messages.

A quote will be indicated according to the example provided below:

**Quote FG 4.1**

*'Ek is bang ek drop die ander ouens, jy weet, en dan maak hulle dit nie.'*

[Translation]

*'I was afraid of letting the other guys down, you know, and then they wouldn't make it.'*

The number of the quote can be interpreted as follows:

- ☉ FG indicates that the quote is from the focus group interviews;
- ☉ 4 indicates that the quote is in Chapter 4; and
- ☉ 1 indicates that the quote is the first quote in Chapter 4.

I was sensitive to the fact that my personal frame of reference with regard to online learning could influence my interpretation of the participants' experiences. I stayed aware of this possibility throughout the process of data analysis and during the continuous and repetitive handling of the data, and purposefully strived to avoid imposing uneven or inappropriate meanings on the stories of participants (Clandinin & Connelly 1998:172).

According to Glesne and Peshkin (1992:147), with regard to qualitative research, it is important that one recognises the limitations of one's study. This implies that one is doing the best one can under certain circumstances. In an attempt to create a descriptive research report, ample raw data as well as descriptive data were supplied (Lincoln & Guba 1985:298). This was also done to ensure that readers could relate to the study. I am of the opinion that the large number of quotes elucidates the depth and richness of the data.

As this study aimed at determining the affective experiences of students in an online learning environment, it was crucial to include descriptions of the affective experiences of students, as expressed in their own words and transcribed verbatim. For this reason, quotations are presented in the language used by the student. If necessary, the quotations were translated into English and indicated as such. Pseudonyms were used instead of real names, and a pseudonym was not necessarily indicative of the gender of the participant.

Many of the students expressed themselves in English-Afrikaans or Engfrikaans, a form of slang incorporating English words into the Afrikaans language. These were



also translated into English. In extreme cases of slang neologisms, paraphrasing was used as a translation technique. In all cases, equivalence was sought at and above word level, including grammatical equivalence and textual equivalence. The difficulties that participants experienced in expressing themselves in a language other than their mother tongue are explained in Subsection 4.4.4.

### **3.17 Ethical considerations**

The following ethical principles were adhered to in this study: Respect for others; fair treatment; and protection from discomfort or harm (Brink 1996:39-46; Burns & Grove 1997:204-207).

#### **3.17.1      *Respect for others***

This principle is based on the beliefs that people are autonomous and that they have the right to self-determination (Brink 1996:39). The participants had the right to voluntary participation without punishment, the right to withdraw without discrimination, and the right to clarity about the purpose of the research (Brink 1996:40). The right to voluntary participation is ensured by obtaining informed consent from respondents to participate in a study (Burns & Grove 1997:209-12). The fact that the online module was going to be used as a basis for three doctoral studies was openly communicated by the lecturer during the first and second contact sessions. All learners registered for this module verbally consented that their input be used for the purposes of research projects. The participation of students in this study was completely voluntarily. Before each focus group interview, written informed consent was obtained from participants. A copy of the informed consent document is attached to this report as Annexure A.

#### **3.17.2      *Fair treatment***

Brink (1996:40-42) explains the principle of fair treatment as the participant's right to fair selection and privacy. The fair selection of participants was ensured by allowing them to select themselves and to participate voluntarily. The right to privacy can be explained as the participant's freedom to determine the extent of the information provided and withheld before the data is collected (Brink 1996:40-42; Burns & Grove

1997:203-204). In this study, the participants' right to privacy was acknowledged by providing them with the opportunity to give or withdraw informed consent, and by concentrating only on feelings and experiences that pertained to the module in question. The participants' right to refuse participation was respected without discrimination.

### **3.17.3 Protection from harm**

The participants and the interviewer met for the very first time during the first focus group interview. Therefore, the interviewer could not attach the name of a person to an opinion or a statement made. Participants not only have the right to anonymity and privacy during data collection, but also maintain the right to anonymity and privacy throughout the study (Brink 1996:41). Burns and Grove (1997:204-5) see anonymity as the inability to match the participant's identity with the data, and confidentiality as the researcher's management of the participant's private and anonymous information. In cases where participants did mention the names of peers during interviews, pseudonyms were used in transcriptions, quotations and any other documentation of the findings. Confidentiality was upheld by destroying the audiotapes on which the interviews were recorded.

### **3.18 Summary**

In this chapter, the research methodology and process were discussed. Research strategies, methods of data collection and data analysis, methods of ensuring authenticity and trustworthiness, as well as the ethical considerations were carefully explained. Figures and tables were used to illustrate and enhance understanding of the research design and the coding process. The analyses of Categories 1, 2 and 3 (namely *Curative Factors*, *Process of Affective Development*, and *Inhibiting Factors*), including the literature control, will be discussed in Chapters 4, 5 and 6.