# "The experiences of campus managers in learning International Computer Drivers Licence software programs in an FET College in KwaZulu Natal"

*By*

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# Abstract

The purpose of this study was to investigate the learning experiences of campus managers learning International Computer Drivers Licence (ICDL) programs in a FET College in KwaZulu Natal. Another aim of the study was to examine the cost effectiveness of the intervention programme in FET colleges.

From the literature, it appeared that the International Computer Drivers Licence computer training program had in recent years become the preferred computer training course in the world, used by both government and private enterprise. ECDL is the fastest growing information technology user qualification in the world. No prior knowledge of information technology (IT) or skill in computing is needed to study ECDL; it is designed for people wishing to gain a benchmark qualification in computing to enhance their career prospects or for personal development

According to Rickaby (2007, p. 12) the European Computer Drivers Licence is designed to provide a basic certification of competence in the understanding of information technology and the use of a personal computer.

The qualitative research method was employed. The interpretive paradigm was used. The study used a semi-structured interview, document analysis and observation. Six campus managers were interviewed, documents for the learning programme were analysed and an observation of actual ICDL lessons are to be carried out.

The results of the interviews, observation and document analysis was analysed using a guided analysis approach. A conclusion to the study was carried out and subsequent recommendations to the relevant interested parties are to be made available (Directorate of FET colleges and the college in which the study is to be carried out).

## SUPERVISOR'S STATEMENT

This dissertation has been submitted with/without my approval.

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Dr. Bheki Khoza

# DECLARATION

I, Julian Alan Luke Draai, declare that:

(i) The research reported in this dissertation, except where otherwise indicated, is my original work.

(ii) This dissertation has not been submitted for any degree or examination at any other university.

(iii) This dissertation does not contain other persons‟ data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.

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**Signed: _____**

Julian Alan Luke Draai

Student No: 207524519

# DEDICATION

This study is dedicated to the memory of the late David Hynd Stewart for the encouragement and financial support he provided to me in the initial stages of this research study.

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# Chapter 1

## Introduction, Orientation to study

## 1.1 Introduction

Significant achievements have been made in transforming the Further Education and Training (FET) sector since the newly merged colleges were formed in 2001. The progress is part of a process that began in 1994 with a number of interventions aimed at improving the quality of education. Various pieces of legislation, key amongst which are the South African Schools Act of 1995, the FET Act of 1998 and the National Skills Development Act which provides the legislative framework for the ground breaking reforms that are taking place in the sector, which ranged from systemic organizational restructuring to interventions focussed on site based curriculum delivery (Asmal, 2003).

Part of these ground breaking reforms at FET Colleges was the introduction of a new curriculum that would replace the National Technical Certificate (NTC) from levels 1 to 3. This curriculum is known as the National Curriculum Vocational (NCV). The NCV is a comprehensive curriculum. Its fourteen fields of study relate to a broad range of economic activities including: agriculture; arts and culture; business and commerce; communication and languages; computational work; construction; education and training; engineering and manufacturing; health and social services; hospitality and tourism; IT; law and security; nature conservation; personal services and technology (Duncan, 2009).

As an intervention to support teaching and learning in FET Colleges, the Department of Education (DoE introduced seven key strategic objectives that were in line with the broad framework for the FET College Sector Recapitalization Grant (DoE, 2009). Of the seven key strategic objectives the researcher is of the opinion that the following

objective is the one of the most important in terms of its relevance in this study. This objective is: the re-skilling of staff to offer responsive programs to that which industry would require.

The NCV programs were officially implemented in 2007 using the FET College sector as a vehicle. FET College educators had to be skilled and re-skilled to teach the various new subjects (Gerber, 2011). Regarding professional development for FET college lecturers, during 2006, 2007 and 2008, the South African Institute for Distance Learning (SAIDE) was commissioned by the Department of Education (DoE) to design and deliver the national training for the introduction of the new NCV curriculum in English First Additional Language (Levels 2, 3 and 4) to FET college lecturers (Saide, 2006). This kind of development initiative was extended to the other subjects in the NCV curriculum as well.

FET college campus managers, lecturers and administration staff were targeted for national training in the introduction of the new NCV curriculum. Part of this initiative was the introduction of the ICDL program to improve computer literacy. This study investigates what experiences campus managers have had with regard to learning Microsoft Office software applications.

## 1.2 Full Descriptive Title

The experiences of campus managers learning International Computer Driver's License programs at a FET College in KwaZulu Natal.

## 1.3 Focus and Purpose of study

### Focus

The purpose of this study is to investigate what experiences campus managers have had in learning International Computer Driver's License programs in a FET College in KwaZulu Natal.

## 1.4 Problem, rationale and objectives

From January 2007, the National Certificate (Vocational) replaced the NATED courses (N1 – N3). The National Certificate (Vocational) is a new and modern qualification at levels 2, 3 and 4 of the National Qualifications Framework (NQF). This NC (Vocational) was introduced at FET Colleges at NQF Level 2 in 2007, Level 3 in 2008 and Level 4 in 2009. The National Certificate (Vocational) is the new curriculum that is being introduced to public FET colleges around the country. It gives Grade 9 learners a Vocational alternative to an academic Grade 10 – 12 by offering industry focused training on the NQF levels 2 – 4.

The problem arose when many of the newly appointed campus managers were experiencing problems in the use of Microsoft Office i.e. Microsoft Word, Power Point, Excel and Outlook express. These are the programs most frequently used in the administration of processes in the new NCV. The rector of the FET College in question complained that the campus managers were taking too long in the execution of their duties and they had to therefore attend training in the ICDL program. The rector hoped that this training would greatly improve the efficiency and productivity of the campus managers of the FET College. This study is therefore trying to identify what experiences the campus managers have had when they were learning the ICDL programs. The objective being to determine how the programs are taught; how the campus managers learn and how they have benefitted from the experiences.

## 1.5 Key Questions

- What are the detailed characteristics of the application software that is covered in the ICDL course?
- How did the campus managers learn this application software suite?
- What are the experiences of the campus managers in learning ICDL programs?

## 1.6 Review of related literature

Kolb (1984) describes learning as a four-step process. He identifies the steps as (1) watching (2) thinking (mind), (3) feeling (emotion), and (4) doing (muscle). He draws primarily on the works of Dewey (1938) emphasized the need for learning to be grounded in experience. Lewin (1942) stressed the importance of people being active in learning, and Piaget (1970) who described intelligence as the result of the interaction of the person and the environment. Kolb's (1984) definition was chosen because it ties in with the assumptions of other prominent learning theorists such as Lewin (1942) and Dewey (1938).

There are five main learning areas that make up the full ICDL course. These areas are word processing, spreadsheets, presentation, e-mail and internet browsing. Each learning area contains some or all aspects of David Kolb's Experiential Learning in which watching, thinking and doing are incorporated. All the campus managers undertaking the ICDL course had basic background knowledge of the learning areas covered in the ICDL course. This was ascertained during the semi-structured interviews conducted with the campus managers. Their learning is therefore grounded in experience, as Dewey (1938) emphasizes. The researcher assumed that the campus managers that attended the ICDL course were not going to be passive learners, but that they would be actively involved in translating what they were being taught by manipulating the software using computers. This echoes Lewins (1942) sentiments that it is important that people are active in learning. Using Blooms Taxonomy (1956) the researcher hopes to classify and interpret the learning experiences of the campus managers undertaking the ICDL course. A committee of colleges, led by Bloom (1956), identified three domains of educational activities:

- Cognitive: mental skills (Knowledge)
- Affective: growth in feelings or emotional areas (Attitude)
- Psychomotor: manual or physical skills (Skills)

The researcher felt that the learning experiences of the campus managers undertaking the ICDL course could be classified and analysed using the learning domains of Blooms Taxonomy (1956). In a recent case study, "ICDL 'Boot camp' a Success for College Students", Zambia (2010) it was noted that the following five assessment criteria that were used to measure the learning experience are aligned with Blooms Taxonomy (1956) learning domains as well as the experiential learning theories of Kurt Lewin, John Dewey and David Kolb. These assessment criteria are as follows:

- Were you encouraged to actively participate?
- Was the event (learning) structured in a logical way?
- Were your objectives achieved?
- Facilitator's level of knowledge of the topics
- Did you have fun?

In this investigation the researcher used the learning domains of Bloom and the learning theories of Lewin, Dewey and Kolb to categorize and make meaning of the findings. In this way, the researcher hoped to answer the research questions in this study. Building upon earlier work by John Dewey and Kurt Levin, American educational theorist David A. Kolb (1984) believes "learning is the process whereby knowledge is created through the transformation of experience" (1984, p. 38). The theory presents a cyclical model of learning, consisting of four stages:

- concrete experience (or "Do")
- reflective observation (or "Observe")
- abstract conceptualization (or "Think")
- active experimentation (or "Plan")

It was felt that these four stages will form the cornerstones of the investigation into the experiences of campus managers in learning International Computer Driver's License programs in a FET College in KwaZulu Natal.

## 1.7 Theoretical and conceptual frameworks

### Concepts

The following concepts are used in this study:

*Experience*: as a general concept comprises knowledge of or skill in or observation of something or some event gained through involvement in or exposure to that thing or event (Wikipedia, 2011).

*Campus manager*: A campus manager works at a college to coordinate all areas of college life, business and learning. A campus manager supervises campus activities and maintains a campus environment that is safe, clean and conducive to learning. (E-how 2011)

*Learning*: Learning is acquiring new or modifying existing knowledge, behaviours, skills, values, or preferences and may involve synthesizing different types of information. The ability to learn is possessed by humans, animals and some machines. Progress over time tends to follow learning curves (Wikipedia, 2011).

*ICDL*: ICDL/ECDL is an internationally recognized qualification in IT skills, certifying to a set standard the skills people already have, or the skills they attain through training (ICDLonline, 2010).

IT: (Information technology) The technology required for information processing. IT concerns the use of electronic computers and computer software to convert, store, protect, process, transmit and retrieve information (Rickaby, 2007).

FETC: (Further Education and training college) Further Education and Training (FET) colleges strive to provide high-quality education and training to help students equip

themselves with the qualifications and skills needed to start out on a chosen career path (Future Education, 2010).

## 1.8 Paradigm / ontology / epistemology

The paradigm used to frame this study is based on the principles of interpretivism. Interpretivism foregrounds the meaning that individuals or communities assign to their experiences (Maree et al, 2007). Also, the central endeavour in the context of the interpretive paradigm is to understand the subjective world of human experience (Cohen *et al*, 2007). This suggests that the individual makes meaning of the world through what he/she experiences.

Qualitative research examines life experiences (i.e., the lived experience) in an effort to understand and give them meaning (Byrne, 2001). Burrell and Morgan (1979) also contend that the subjective view of the world derives from the assumption that while the social world is perceived as external to individual cognition, it is made up of names, concepts and labels that are social and historic creations; human constructed entities. This implies that human beings interact with the objective world and transform it into a subjective reality. Interpretive studies assume that people create and associate their own subjective and inter subjective meanings as they interact with the world around them (Orlikowski & Baroudi, 1991).

"Epistemology and methodology are intimately related: the former involves the philosophy of how we come to know the world and the latter involves the practice of coming to know and how we study this practice" (Henning, 2004). In the methodology, the researcher made use of document analysis, observations and semi-structured interviews to obtain data which emerges from the lived experiences of the campus managers. Therefore, the epistemology of this study is one whereby the acquisition of knowledge is gained by the application of the above methodologies (document analysis, observations and semi-structured interviews).

## 1.9 Frames of enquiry / Theories

The researcher used a combination of Blooms Taxonomy and the learning theories of Kolb, Dewey and Lewin as the frames of enquiry in analysing the experiences of campus managers in learning ICDL programs. With Blooms taxonomy, the following domains are to be applied: Cognitive, Affective and Psychomotor. Kolb (1984) published his learning styles model in 1984. The model gave rise to related terms such as Kolb's experiential learning theory (ELT). Kolb includes this 'cycle of learning' as a central principle his experiential learning theory: typically expressed as four-stage cycle of learning in which 'immediate or concrete experiences' provide a basis for 'observations and reflections'. These 'observations and reflections' are assimilated and distilled into 'abstract concepts' producing new implications for action which can be 'actively tested' thus creating new experiences. The researcher therefore believed that the above concepts of Kolb also provide useful frames of enquiry to interpret and understand the experiences of the campus managers as they undertook the ICDL program.

The ICDL program has five learning areas that the campus managers had to master i.e. Word-processing, spreadsheets, presentations, e-mail and the Internet. Each area is broken down into many smaller learning areas which incorporate the cognitive, affective and psychomotor domains as described by Bloom, i.e. Knowledge, comprehension, application, analysis, synthesis and evaluation. e.g. While undertaking word processing, the participant applies knowledge of sentence construction (cognitive domain) to type out a sentence (psychomotor domain).

## 1.10 Research design and methodology

The research design and methodology in this investigation is based on a case study.
A case study research is a “systematic inquiry into an event or a set of related events which aims to describe and explain the phenomenon of interest” (Bromley 1990, p. 203). The researcher wishes to gain an in depth understanding of the experiences of campus managers in learning International Computer Driver’s License programs in a

FET College in KwaZulu Natal. For this reason, the researcher adopted a qualitative approach in the study. According to Henning (2004), in qualitative research we wish to give as clear and detailed account of actions and representations of actions as possible, so that we can gain a better understanding of our world, hopefully to use it to bring about a measure of social change. A 'thick description' of what campus managers have experienced as they undertook the ICDL course is sought by the researcher. A 'thick description' gives an account of the phenomenon that is (a) coherent and (b) gives more than facts and empirical content, but that also (c) interprets the information in the light of other empirical information in the same study (Henning, 2004). This research study is therefore a qualitative case study.

**Context and Sampling:**

Six campus managers from three campuses of a particular FET College within the Ethekwini area of KwaZulu Natal, South Africa were chosen. These campus managers undertook the ICDL course between 2007 and 2008. According to Cohen *et al* (2007) in purposive sampling, often a feature of qualitative research, researchers handpick the cases to be included in the sample on the basis of their judgment of their typicality or possession of the particular characteristics being sought. In this way, they build up a sample that is satisfactory to their specific needs, for example: a group of principals and senior managers of secondary schools is chosen as the research in studying the incidence of stress among senior managers. The researcher has sought these individuals because the particular characteristic is that they are all managers that have undergone ICDL training. The researcher therefore believed that since having chosen these particular managers from this particular FET College, purposive sampling was appropriate for this study.

**Methods of data collection / production**

There are four main methods that social researchers can use: questionnaires, interviews, observation and documents (Denscombe, 2007). The methods of data

collection the researcher used were as follows: Observation, document analysis and semi-structured interviews.

According to Maree *et al* (2007) there are four types of observation used in qualitative research. They are: Complete observer, Observer as participant, participant as observer and complete participant. According to Hesse-Biber and Leavy (2011, p. 204):

> "The complete observer role allows the researcher to study a setting without interfering with its day-to-day operations, thereby minimizing the bias (or reactivity) that might result from the presence of the researcher interacting and possibly changing the very nature of social relationships in the setting."

Furthermore, with regard to the observer as participant, Hesse-Biber and Leavy (2011) state that this role requires researchers to reveal their researcher identity in the research setting, but to the extent to which they actually engage with the members of the setting is limited. By participant observation we mean the method in which the observer participates in the daily life of the people under study, either openly in the role of researcher or covertly in some disguised role, observing things that happen, listening to what is said, and questioning people, over some length of time. (Becker & Greer, 1957; cited in Denscombe, 2007). The participants in this study were not questioned.

With regard to the complete participant, Rubin and Babbie (2010, p. 226) state that:

> "Four roles that qualitative researchers may play include: complete participant, participant-as-observer and complete observer. These roles can be viewed as forming a continuum, with the complete participant at one end and the complete observer at the other end."

This suggests that the observer may be either a complete insider or complete outsider when carrying out the observation.

In this study, The Experiences of Campus Managers in learning International Computer Driver's License programs in a FET College in KwaZulu Natal, the Complete Observer method was used. In this method, the researcher is a non-participant observer looking at the situation from a distance. It is the least obtrusive method of observation. Maree *et al*, (2007) I believe this will be an appropriate method since the intention is to observe the campus managers move through their lived experiences with minimal disturbance to them.

Analysis of the ICDL worksheets and test sheets to see the methods that are used to tutor and assess the progress of the participants was carried out. The scrutiny of such documents should be able to give insight into what experiences the campus managers have had as they undertook the ICDL course. According to Garman (1982) document analysis is a technique in education evaluation which relies heavily upon a variety of written materials for data, insights and judgments about programs or events. Ideally, document analysis is employed in conjunction with other techniques, such as interviews with key people, or participant observation. It was therefore assumed that document analysis would work well with the latter two techniques (observation and semi-structured interviews) which were used in this study.

The semi-structured interviews were conducted on a one on one basis. Six campus managers from three campuses of the FET College were involved. According to Maree et al (2007) the semi-structured interview is commonly used in research projects to corroborate data emerging from other data sources. It seldom spans a long time period and usually requires the participant to answer a set of predetermined questions. Each interview should take between twelve and fifteen minutes to complete. Maree et al (2007) also emphasize that the researcher must be attentive to the responses of participants so as to identify new emerging lines of inquiry. This it was believed had the potential to further enrich the emerging data.

## 1.11 Findings

As in quantitative research, the basic strategy to ensure rigour in qualitative research is systematic and self-conscious research design, data collection, interpretation, and communication (Mays & Pope 1995, p. 110). This suggests that if the research is not systematic and the data is not analysed and interpreted accurately, the thoroughness of the research project will be compromised. With regard to credibility, Trochim (2006) states that the credibility criteria involves establishing that the results of qualitative research are credible or believable from the perspective of the participant in the research. Concerning the aspect of relevance, an investigator must document the potential usefulness of the results and establish their relevance within the context of the field of study (Harris *et al* 2009, p. 87). Within the framework of this study, this documentation could prove to be useful to the senior personnel in FET College's i.e. college rectors.

When appraising the report (findings) of this study, the researcher, with the guidance of the supervisor, paid careful attention to the above-mentioned aspects of rigour, credibility and relevance.

## 1.12 Validity / Reliability / Trustworthiness

According to Van der Reis et al (2003) no single method of collecting survey data provides the researcher and policy maker with perfectly valid and reliable data from which to interpret research findings and derive appropriate policies. Many earlier researchers have reported that, in order to attain professional quality standards, it is preferable to use multiple rather than single methods of data collection (Van der Reis *et al*, 2003). The researcher therefore believed that by using interviews, observation and document analysis, the validity, reliability and trustworthiness of this study were enhanced, since the researcher gave a multiple perspective of the learning experiences of the campus managers.

## 1.13 Ethical Issues

According to Henning (2004) respondents need to give informed consent to participate. This means that they must be fully informed about the research in which the interview is going to be used. They need to know that their privacy and sensitivity will be protected and what is going to happen to their information after recording (Henning, 2004). Under Guidelines for reasonable informed consent, Cohen, Manion & Morrison (2007) state that the person is free to withdraw consent and to discontinue participation in the project at any time without prejudice to the participant. Permission was obtained from the participants as well as from the rector of the FET College. Grinyer (2002) states that anonymity for respondents/participants is assumed to be an integral feature of ethical research. The researcher guaranteed that the identities of the participants will not be disclosed.

### 1.14 Limitations

The researcher has undertaken the ICDL course at the FET College where the research was conducted. There exists the danger that personal bias could creep into the study. According to Plous (1993) in a selective search for evidence, researchers tend to be willing to gather facts that support certain conclusions but disregard other facts that support different conclusions. The researcher, along with guidance from a supervisor therefore worked closely to prevent personal bias from creeping into the study.

# CHAPTER 2

## LITERATURE REVIEW

### 2:1 Introduction

This chapter presents a background of a literature review, DoE's position with regard to ICDL Training, the origins of the International Computer Driver's License, its aims and objectives, benefits and relevant case studies are discussed.

### 2:2 A background of a literature review

According to Maree, Creswell, Ebersohn, Eloff, Ferreira, Ivankova, Jansen, Niewenhuis, Pietersen, Plano Clark, van der Westhuizen (2007), a literature review will normally provide an overview of current, and sometimes not so current yet sufficiently relevant, research appropriate to your research topic. Furthermore, Henning (2004) states that the literature review is used first and foremost in the contextualization of your study to argue a case identify or niche to be occupied by your own research and so on. Although Maree *et al* (2007) raise an important aspect of the purpose of the literature review, Henning (2004) captures the purpose of the literature review more appropriately. Looking at the literature review from the interpretivist perspective, Henning (2004) states that the interpretive researcher looks for the frames that shape the meaning.

### 2:3 DOE's position with regard to ICDL Training

According to Asmal (2003) the Department of Education (DoE) supported by the business community and our international donor friends have put in place a number of capacity building programmes. These include, among others, the Tirisano International Exchange Programme (IEP) programme and the joint KPMG/National Business Initiative programme. Asmal (2003) also states that these are programmes that are aimed at developing the capacities of senior and middle management in the newly

merged public FET colleges. To date the public FET College sector has benefited from an investment of over R270 million through nationally directed support programmes investing in the development of skills for our college personnel (Asmal, 2003). Therefore, it is clear that a substantial amount of money is being invested in the training of college personnel. One such intervention is the introduction of a program called the International Computer Driver's License, which forms the basis of this research project.

In pursuit of flexibility and responsiveness, the FET Colleges Act, 2006 makes it the responsibility of public FET colleges to employ the lecturers and support staff. The terms and conditions of service are set out in this Act. In order to ensure that the appropriate calibre of lecturers is developed and recruited, the Department must develop a national lecturer development framework, which spells out the knowledge, skills and qualifications required to teach at a public FET college (Pandor, 2006). Apart from campus managers and administrative managers, college lecturers were also given the opportunity to upgrade their computer skills using the ICDL program. This suggests that FET College lecturers need to be fully compliant with the requirements to effectively teach the new curriculum.

## 2:4 Origins of the ICDL

Within the framework of this literature review, the intention is to define the ICDL program, its origins and perceived effectiveness with regard to improved computer software usage. The experiences of campus managers in learning International Computer Driver's License programs will be examined as well as any shortcomings and advantages that the managers may have experienced will be discussed.

According to Rickaby (2007, p. xi)

> "The European Computer Driver's License is designed to provide a basic certification of competence in the understanding of information technology and the use of a personal computer. This entails using spread sheets,

designing and using simple databases, preparing and delivering presentations, Information and communication- e-mail and the use of the Internet."

This information appears to suggest that individuals undertaking the ICDL course would become completely conversant with all aspects of Microsoft Office. However, it remained to be seen if this would be the case of the participants in this study. It must be understood and noted that the European Computer Driver's License (ECDL) and the International Computer Driver License (ICDL) are one and the same course. The above description of Rickaby (2007) appears to suggest that the ICDL course represents the benchmark for equipping learners with all the skills necessary for the efficient manipulation of Microsoft Office applications.

Also, the European Computer Driving License (ECDL) is a qualification from the British Computer Society which is recognized internationally. One can do the course in a learning centre or as a flexible distance learning course (Directgov, 2012). This suggests that the candidate has the option of either learning the course in a learning centre or doing the course online. However, this study focuses on candidates learning the course in a learning centre.

### 2:5 Aims of the ICDL

According to Sami (2007), ICDL is designed to help people both at work and at home. It confirms to potential employers that the person has a recognized, relevant and up-to-date qualification. This qualification would be especially useful to practising campus managers and new lecturers in FET colleges, because it would confirm computer competence in Microsoft Office. For those new to computers, the ICDL certification programs will provide them with a solid foundation of computer skills helping them to competently and confidently use computers (Sami, 2007). It was assumed that this

would assist new lecturers in successfully delivering the new National Curriculum Vocational program (NCV).

## 2:6 Objectives of the ICDL

According to the ICDL Foundation (2011) the objectives of the ICDL are:

- To promote and encourage computer literacy for all
- To raise the level of knowledge about Information Technology (IT).
- To raise the level of competence in using personal computers and common computer applications for all citizens within Europe and internationally.
- To ensure all computer users understand the best practices and the advantages of using a personal computer to increase the productivity of all employees who need to use computers in their work.
- To enable better returns from investments in Information Technology (IT).
- To provide a basic qualification which will allow all people, regardless of their background, to be part of the Information Society.

Furthermore, according to Elearnuk (2012) the International Computer Driving License (ICDL) Series shows users how to meet International Computer Driving License (ICDL) objectives on a computer using a Windows operating system. Elearnuk (2012), further states that this course is for those who have never used a computer and those who have some computer experience but no formal qualification proving their knowledge or skills. This means that the ICDL course affords the candidate the opportunity of obtaining a formal qualification which acknowledges their skills in Microsoft Office software applications. With regards to this study, the participants (campus managers) are the people who seek/require this formal qualification.

According to The Community Education Computer Society (2012), to obtain the ICDL, a student must pass seven modules which certifies that the holder has the knowledge and skill needed to use the most common applications practically and productively. The

researcher is of the opinion that the above information concisely sums up the objectives of the ICDL course. With regards to this study, the researcher attempted to determine how the experiences of campus managers in an FET College, helped the campus managers to attain these skills and knowledge.

### 2.2.3 Benefits of the ICDL

Today, computer skills are increasingly important to people in all walks of life. The ECDL is an information technology certificate for all citizens. It is intended for those who need to, or wish to know how to use a personal computer. It is suitable for people from every work discipline, for people entering the job market, and for all ages (Cacttus, 2010). An innovative and tangible method of skills measurement and validation. A model for education and training in the Information Society. A highly effective training delivery mode. Greater public awareness of the benefits of active participation in the Information field. A flexible and accessible qualification that offers increased mobility to holders (ECDL Foundation, 2011). One of the benefits of the ECDL is that it provides IT skills qualification for everyone. The researcher assumes that this includes all people that use Microsoft Office programs.

The above information appears to suggest that the ICDL program represents value for money, is the benchmark for computer literacy at all levels of learning and will provide an acceptable competence for all those who complete and pass the course. With over 40 million tests taken, it is easy to see why ICDL is recognized as the world's leading IT skills certification, and the global benchmark for core computer skills (ICDL Thailand, 2013). It also suggests that participants all over the world can be assured that the level of delivery is uniform throughout all ICDL Centres. However, the researcher wished to establish what learning experiences participants in a FET College in KZN have had in learning the ICDL program, in order to determine if there is sufficient validity and reliability in the above information. The following table illustrates the benefits of learning ICDL for both participants and organizations.

| Benefits to the Participant | Benefits to the Organization |
|---|---|
| Increases knowledge and confidence | Improves pay-back on IT investments |
| Results in an internationally recognized qualification | Helps to reduce IT support costs |
| Confirms up-to-date IT skills to prospective employers | Helps to motivate staff and complements an organization's investment in people |
| It's the most widely recognized international IT literacy qualification in the world | Increases IT quality and productivity |
| It's structured into manageable learning components | Provides evidence to clients of an organization's ability to deliver effectively |
| Improves job prospects | Provides a benchmark for employee recruitment |

Table 2.1 Open ICDL (2012) Benefits of ICDL learning to participants and Organization (http://www.openicdl.com/?pagina_id=121)

With regards to benefits for the participant, there is the suggestion that computer knowledge grows and this leads to the participant becoming more confident. One of the most common benefits is raising general familiarity and confidence with computers (ECDL Foundation, 2003). An IC$^3$ computer course provides a clear pathway to further training that will increase one's marketable skills and lead to greater career and personal opportunities (Internet and Computer Core Certification, 2009). This suggests that individuals attending computer literacy courses will be in a better position to apply for higher advertised positions should they be advertised. Information technology literacy is the full form of IT literacy which implies that one should know the basic knowledge of modern technology as well as know how to use it. For example knowing how to use a computer is a simple IT literacy (Answers Corporation, 2012). This suggests that when it comes to computer skills training, as part of IT literacy, the ICDL course is the most widely recognized. With regard to the aspect of an internationally recognized qualification, the ICDL is a standard definition and a measure of actual computer skills that is internationally recognized. It also provides a balance between employer needs and employee skills (IDEL, 2008). This means that a prospective employer will immediately be able to ascertain an individual's degree of computer

competency. This further suggests that the employer will be able to suitably match the prospective employee's skills with those required in the job description.

Developing computer skills and keeping them up to date not only gets workers a job today but prepares them for future jobs and promotions (Idaho Green, 2011). This suggests that it is important for an individual to improve their computer skills and also keep in touch with current and emerging computer hardware and software. It can be assumed that workers could find themselves in an advantageous position in the event that promotional posts become available within a company or institution.

With regard to payback on IT investments, Dehning (2002, p. 1) states that:

> "Quantifying the returns on IT investments is a major topic of IS (information systems) research. In the early 1990's, researchers found a productivity paradox concerning IT investments. This paradox showed IT investments with negative or zero returns. In an age where management weighs the costs and benefits of every discretionary investment dollar, finding evidence of the returns of IT investments is critical."

In terms of FET Colleges, this would suggest that the financial managers of the college would be obliged to ensure that every rand spent on computer literacy has been spent wisely and the investment was worthwhile. This would be seen in the campus managers' manipulating computer software with ease and efficiency.

In terms of support costs, campus managers could be trained to solve their own IT related problems and thereby reduce support costs. Many IT faults have an effect on your business. Whether it's the service it provides, the sales its making or the efficiency of its working. IT faults have an impact and unfortunately it isn't until the fault occurs that you will know how costly the impact will be (Complete Computer Solutions, 2012). The following intervention could prove to be useful; Provide training sessions for your support staff on how to use your core software and hardware even if they don't use the

software directly for their jobs. Encourage staff-led lunches and group discussions so employees can share knowledge and to improve overall efficiency (Microsoft Corporation, 2011). Thus it is fair to assume that once all ICDL participants have successfully passed the ICDL course, they will be in a position to solve some or many of their IT related problems and thereby reduce IT support costs. Also, in support of Microsoft Corporation, the majority of PC problems dealt with by IT support staff could be avoided if employees possessed improved computer skills. By educating employees to ICDL standards, companies find that they experience fewer PC related problems and thus require less IT support (ICDL Canada, 2007).

Recent researches reveal that training enables most organizations to meet their goals and objectives. In doing so, employees are able to learn new work concepts, refresh their skills, improve their work attitude and boost productivity (Cole, 2002). This suggests that once employees have upgraded their skills, their improved attitude towards their work helps them to become more productive. This would be advantageous for businesses and institutions such as FET Colleges.

Companies require ICDL as a standard for employees entering the organization ensuring a level of competence (ICDL Canada, 2007). This means that in addition to academic qualifications, individuals would need to possess an IT qualification to prove their competence with computers and related software. This also suggests that an employee without a benchmarked IT qualification could be compromised in the recruitment process. During the course of this investigation, the researcher could not determine if the possession of an IT qualification was a pre-requisite for recruitment at FET colleges.

Maintaining the professional and managerial competence of staff is an important priority, as it represents a critical investment in the future of the organization (United Nations, 2012). This means that organizations and institutions regard investment in people as being very important to their continued existence. In terms of this study, this factor would be significant in that competent ICDL campus managers would result in a

meaningful return on IT investments.

The key benefits of ICDL for employees are that it establishes a tangible IT benchmark for new employees to help ensure consistent levels of IT ability throughout an organization and provides evidence to clients of an organization's ability to deliver effectively (Mather, 2007). In this study, the clients would be NCV students who would expect FET managers to effectively deliver the programs in the NCV curriculum using MS Office software.

With regard to table 2.1 on p. 19, the researcher felt that the benefits of the participant having undergone ICDL training are substantial as knowledge and confidence are increased, an international qualification is achieved, prospective employers are assured of up-to-date skills and the IT literacy qualification is recognized internationally. The ICDL course is structured in manageable components and job prospects are improved (OpenICDL, 2012).

The application that dominates computer-literacy classes is word processing. Word processing constitutes *all* of some computer-literacy classes (Rosenberge, 1989). It is interesting to note, that eighteen years later, this opinion is still held by Rickaby (2007) who states that Microsoft Word is without doubt the world's most widespread word processor. This suggests that word processing continues to be the most widely used software program. However, software programs such as spreadsheets, presentation and internet usage are also taught in the ICDL learning program and their importance should not be overshadowed by the word processing aspect of the course. A total investigation into all aspects of the ICDL course is required in order to determine what learning experiences the participants had during the ICDL course.

With regard to MS Word experiences, Grant, Malloy and Murphy (2009, p. 152) state the following:

> "Clearly, students have more experience with word processing than other business computer applications. This conclusion is probably linked to the use of other technologies as well as students using word processing for high school research."

The above statement assumes that students that have had experiences with computers would have a fundamental knowledge of MS Word. However, it could not be determined if the ICDL participants had had similar experiences with MS Word tasks. Furthermore, with regard to spread sheets, Grant, Malloy and Murphy (2009, p. 152) also state that:

> "Spreadsheet applications are more complicated and more powerful than word processing or presentation applications. High school computer courses generally do not provide students with sufficient training in spread sheet skills to solve business problems."

This statement suggests that the students in the above study had attained a basic knowledge of spreadsheets which did not allow them to be fully conversant with the software. It had yet to be seen how the ICDL participants would fare in learning spreadsheets without any prior high school computer skills intervention programs.

Within the framework of this study, it was felt that the issues surrounding the ICDL participant's attitudes and anxieties towards learning MS Office software should be examined, since these aspects may or may not have affected their learning experiences. Loyd and Gressard (1986) showed that positive attitudes toward computers are positively correlated with teachers' extent of experience with computer technology and with familiarity; anxieties and fears tend to decrease and confidence increases. Furthermore, Gardner, Discenza, and Dukes (1993) determined that computer anxiety is a major cause of resistance to using computers. Therefore, it is reasonable to assume that some or all of the participants may have been anxious when starting the ICDL course.

A computer ndaba was organized as part of a research project at SEIDET (Siyabuswa Education Improvement and Development Trust). The word “ndaba” is a Zulu (a local South African language) word and is defined as “a topic of conversation, affair” (Scheepers & de Villiers, 2000). Three issues were discussed during this ndaba. In relation to this study, the third issue was found to be of importance because it questioned how the teachers were going to learn about PC’s and other aspects of computers. This aspect relates directly to the second research question which asks: “How did the campus managers learn this application software”.

According to Scheepers and de Villiers (2000, p. 177)

> “The Computer-Ndaba sessions were held on Saturday afternoons from 15h15–17h45 as this was the only time available to the teachers. The dedication and commitment of the teachers to learn about computers can be seen in that Saturday afternoons are usually reserved for sport, family time and that some of the teachers had to travel quite far to come to the sessions.”

This suggests that these teachers were prepared to sacrifice their leisure time in order to acquire the skills necessary for the manipulation of computer software programs. It then became reasonable to assume that these teachers were very serious about learning these skills. It remained to be seen if the participants of this study would be as committed as the teachers attending the Computer-Nadaba sessions. MS Word, MS Excel and E-mail were covered over a two to three week period.

In the Computer Ndaba course, it is seen that two learning methods were employed i.e. co-operative learning and traditional learning method. Co-operative learning can be defined as an organizational structure in which a group of students pursue academic goals through collaborative efforts. Students work together in small groups, draw on each other’s strengths, and assist each other in completing the task (Scheepers & de Villiers, 2000). The traditional computer class follows the model of learning that we are

all used to from our days in school. The course involves a teacher and fellow students. You are lead through the course by your instructor who dictates the pace, the content, and the emphasis on what you are learning (Learn Real Computer Skills, 2012). In this study, the traditional learning method was used. It was felt that the experiences and outcomes of the ICDL course may be significantly different if both co-operative and traditional methods were used. The assumption being that the co-operative method may have further enhanced the learning of the computer software programs.

There were two sets of questionnaires that were completed by the teachers, which consisted of closed questions and open-ended questions. In the case of the open-ended question- a question is asked and a space is provided for a word, phrase or even a comment (Maree et al, 2007). Closed questions allow researchers to gather a greater amount of data in less time using standard questions and scales for eliciting responses. Data elicited from closed questions are usually easier to analyse and interpret (Kelly et al, 2006). The closed questions covered the background of the teacher, the comparison between the teaching method used in MS Word and MS Excel and the teacher's experience with group work and co-operative learning in general (Scheepers & de Villiers, 2000). The results from the closed questions revealed that most of the teachers had no experience with computers and only some of them had knowledge of using computers. The overwhelming interest in attending the course may have been motivated by this factor. The closed questions also revealed that co-operative learning was best suited to learning MS Word and the traditional method was better suited to learning MS Excel. With regard to the open questions, Scheepers and de Villiers (2000, p. 183) stated that:

> " The majority of teachers thought that group work was introduced in this specific course so that they can share ideas and opinions. The sharing of ideas was also the most liked part of the group work. They also felt that they had gained more knowledge working in a group and that the help received from other group members were valuable to them. They had problems in the

groups with passive members who did not share their ideas, as well as dominating members."

Although the teachers in the study appreciated the advantages of collaborative learning, the issue of passive and dominant learners in the group presented some problems. In order to overcome these problems, Davis (1993) suggests that the class be broken into small groups or tasks are assigned to pairs of students. Davis (2003) further recommends that everyone is asked to jot down a response to their question and then choose someone to speak. These experiences of other participants in other computer literacy courses were reviewed so as to get an understanding of how they learnt the modules in their computer software programs. This is so that the researcher could compare how they learnt the programs to the experiences of the FET college lecturers and draw conclusions thereof. Further case studies, involving experiences of learners and highlighting the efficacy of the ICDL program on a global scale are now examined.

### 2.2.4 ICDL Africa (2009) ICDL "BOOT CAMP" for college students, Zambia

There were 31 participants that took part in this ICDL course. A table was used to highlight the learning experiences of the participants. Certain data in the table were relevant and significant to this study.

| Learning Outcomes | Excellent | Very Good | Good | Fair | Poor |
|---|---|---|---|---|---|
| 1.Were objectives achieved? | 53 | 23 | 20 | 3 | 0 |
| 2. Was event structured in a logical way? | 46 | 39 | 14 | 0 | 0 |
| 3. Did you | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| have fun? | 34 | 38 | 10 | 14 | 3 |
| 4. Were you encouraged to actively participate? | 62 | 34 | 3 | 0 | 0 |
| 5.Presentation style? | 68 | 29 | 4 | 0 | 0 |
| 6. Facilitators level of knowledge of topics? | 20 | 75 | 5 | 0 | 0 |

Table 2.2 Participants Ratings for ICDL "BOOT CAMP" for college students, Zambia (http://www.icdlafrica.org/media/Zambian_Colleges1.pdf

Learning outcomes 1, 2, and 3 indicated that the majority (97%) of the participants in this study were confident that the course objectives were achieved. 100% of the participants felt that the event was structured in a logical way and the large majority indicated that they had fun learning the ICDL programs.

Learning outcomes 4, 5 and 6 indicated that the facilitator had also succeeded in encouraging the participants to actively take part in the programmes and they were impressed with the style of presentation. The majority of learners thought that the facilitator had a very good to excellent knowledge of the topics. In terms of this study, the researcher feels that the above experiences illustrate the efficacy of the ICDL course. The experiences of the participants in these studies were looked at to determine how ICDL learning had taken place in other parts of the world or other ICDL learning centres. The objective was to see how those courses were conducted and what successes were achieved. In this way, the researcher would be in a position to recommend alternative presentation methods, should the results of this study indicate that the methods used to teach FET managers software programs were flawed or had shortcomings.

### 2.2.8 ICDL Foundation (2010) KwaZulu Natal Department of Transport

According to Madhan (2010) ICT literacy has become an essential criterion in business today. Madhan (2010) further states that by equipping their staff with computer and Internet skills and setting the ICDL as a benchmark for digital literacy, they believe, they will be able to take advantage of modern technology to enhance their job functions. Since its inception, more than 950 employees have attended the ICDL training course, of which 250 have successfully completed their ICDL certification (Madhan, 2010).

The KwaZulu-Natal Department of Transport adopted the International Computer Driving Licence (ICDL) over three years ago, as a way of using technology to improve efficiency in the work place. The T² Centre, which is the official training component of the KwaZulu-Natal Department of Transport, became a registered ICDL training and testing centre in February 2006. The centre has two full-time ICDL trainers and test supervisors who run ICDL Programmes throughout the year (ICDL Foundation, 2010). Certain aspects in the above case study indicated that it is beneficial to have trained full time supervisors to conduct the ICDL courses at these centres throughout the year. This thinking comes from the assumption that these supervisors are completely familiar with all aspects of course presentation and can anticipate any problems that may arise. The fact that these supervisors are available throughout the years ensures that they are always available and the need to re-hire presenters is eliminated.

It is interesting to note, that, since its inception, of the 950 people that have undergone ICDL training in the Department of Transport, KZN, only 250 participants have managed to complete the whole course. This leaves 700 participants without a full qualification. However, the benefits are already being felt in the different departments. This is indicated by the fact that there are fewer personnel requesting IT support. It is therefore, fair and reasonable to assume that the personnel in these departments are learning to fix their own IT related problems due to their upgraded computer skills, acquired from their ICDL training. The fact that the test Supervisors and Trainers have achieved a high

pass rate to secure accreditation is evidence that the participants have experienced a very fruitful learning experience. This could bode well for the testing centres as their credibility will be upheld and maintained.

The fact that the T2 centre honours ICDL top graduates every year at a glamorous graduation ceremony shows that the organizers are very serious about showcasing their results, which is proving to be a motivating factor for employees to achieve higher marks. This, the researcher thinks, serves as a way of keeping results at a high level.
Several common assumptions that run through the above case studies highlight the experiences of ICDL participants. Based on the above testimonies, these assumptions are as follows:

That the ICDL course represents the benchmark in improving a person's ability to manipulate Microsoft Office more effectively and the participants generally have a very fruitful learning experience attending the ICDL course. That the ICDL learning experience boosts the confidence of the majority of the participants and the instructors/supervisors are very good at course presentation. That there is a growing confidence in the ICDL program and obtaining the ICDL qualification boosts the participant's chances of employment opportunities. People are happy with the high calibre of the supervisors.

### 2.2.9. First Steps Woman's Centre (2011) Quotes and Testimonials – UK

The KwaZulu Natal Transport Department case study has the following factors in common with those mentioned in this study in that highly trained professionals are used as tutors and an awareness of the importance ICT skills is created. The participants recommend the training to other people (In this case, other teachers). The level of the computer course is high and also, a high percentage pass rate is achieved. In terms of this study, these testimonies are an indication that positive learning experiences were had by the participants. The learning experiences of the ICDL participants in this case study were summarized as follows: The course was enjoyed by the majority of the participants. The tutor is described as being good, pleasant, helpful, understanding, and

giving clear step by step instruction. The tutor is also said to have gone way above the call of duty to make all students understand.

Participants expressed that they had more confidence after attending the course. The participants also felt that the venue was very good. The notes were described as being excellent and the course represents good value for money. The course is very well planned with a wide range of information covered on each topic. The course is presented in a very friendly way. With regard to this study, the researcher felt that all of the above learning conditions/aspects have a significant impact on how participants learn ICDL programs.

A common complaint heard in any office is that there aren't enough hours in the day. It can be a hindrance on the job to know one could do the job more efficiently, but does not know how to do it (Benchmark, 2012). This statement from Benchmark (2012) appears to suggest that more could be done within a working day if office workers only knew how. Benchmark (2012) has a course called Microsoft Office Specialist which it claims could overcome this problem. The program meets the current demand for knowing the most up-to-date Microsoft technologies, such as Word, Access, Excel, PowerPoint, Outlook and Windows (Benchmark, 2012). This suggest that there are other service providers who offer Microsoft Office training courses which offer specialized training in word processing, spread sheets, presentation and e-mail that could be considered.

According to Ernster (2012, p. 1):

> "I would highly recommend Microsoft Office Certifications; it proves to co-workers and management, via an unbiased source, that one knows and is able to use the tools at their disposal; to complete their tasks and duties in a more effective and efficient manner."

It appeared that a fair amount of confidence is placed in Microsoft Office Certifications which could be on par with other MS Office courses such as the ICDL course. In terms of this study, the significance of the researcher highlighting the above course and testimony is to illustrate that there are other Microsoft Office courses that claim to be as effective as the ICDL course. The researcher felt that every aspect of the ICDL learning should be described in detail because these aspects were to be compared with the details describing how the FET college managers had learnt software programs, and make recommendations accordingly.

OpenOffice (2012) claims that it is the leading open-source office software suite for word processing, spread sheets, presentations, graphics, databases and more. It is available in many languages and works on all common computers. OpenOffice (2012) further states that it stores all your data in an international open standard format and can also read and write files from other common office software packages. It can be downloaded and used completely free of charge for any purpose (OpenOffice, 2012*).* These statements from OpenOffice (2004) suggest that there are alternatives to the programs that are currently being used worldwide, e.g. Microsoft Office software. The researcher is of the opinion that the free OpenOffice software is a potentially beneficial program to people in poor countries who may find that the Microsoft Office program is expensive. Several statements, taken from the OpenOffice website bear testimony to the efficacy of the OpenOffice program. These statements are discussed below.

According to Benedict, Suarez-Potts and Wright (2004) the statements reflected are only from some of the people who have chosen to write to them about OpenOffice.org since late 2001, when, on the occasion of their first birthday (October 13), they began to keep track of reader mail. Several new OpenOffice users felt that the program has all the features of Microsoft Office and more, claiming that the program is more flexible, intuitive and does exactly what is required of it. From these statements, there is strong

evidence to suggest from users of the OpenOffice program that they would be in a position to delete Microsoft Office after a short period of using OpenOffice. It was felt that this would present a challenge and more importantly, an alternative to M.S. Office. The fact that OpenOffice is free, means that it could, in the future, be chosen above Microsoft Office which costs in the region of R1200.00 in South Africa. There are also users that feel that OpenOffice is a better office suite than Microsoft Office. In terms of this study, the ICDL participants may question the use of Microsoft Office as a program that they will be forced to buy and use after completing the ICDL course. There is also a suggestion from an OpenOffice user that OpenOffice software installs smoothly. To check on the validity of this claim, the researcher downloaded OpenOffice and found this claim to be true.

According to Rickaby (2004) Microsoft Word is the most popular word processing suite in the world. On the contrary, there are users of OpenOffice that feel that the product (OpenOffice) outdoes any other word processor used. This suggests that the monopoly that Microsoft has had over the years, is being challenged. In terms of this study, this could mean that OpenOffice could also be used in computer literacy programs in poor countries where the participants will not be compelled to buy Microsoft Office after they have completed the ICDL course. Open office is an alternative office suite. In terms of the recommendations in this study, the researcher could suggest that the participants in the ICDL study could use the Open Office suite which may prove to be easier to work with in learning word processing, spread sheets etc.

Although many of the aforementioned claims and suggestions from users of OpenOffice present challenges to the use of Microsoft Office in the ICDL program, the researcher felt that it would be difficult to validate all these claims within the scope of this study. However, it is apparent that OpenOffice is gaining in popularity as an alternative software office suite. The significance of this phenomenon is that OpenOffice could be considered as an option to Microsoft Office in the ICDL program. Another statement that the researcher found of interest was that OpenOffice users found that they had no

trouble importing or exporting files to and from M.S. Office, which includes M.S. Word, M.S. Excel and M.S. PowerPoint. This suggests that the users of OpenOffice can retain all their M.S. Office files and documents without having to continue using and upgrading M.S. Office.

Electricpaper is a company that has put together a learning program that incorporates methods they claim, are conducive to learning computer software programs. This program is called Skills suite for ICDL and incorporates the use of interactive lessons with pre and post evaluations. Electricpaper also claim to have worked with educationalists in designing a pedagogically effective model for teaching skills and concepts, based on accepted theories of learning (Electricpaper, 2010). It was noted, with interest, that there was no further elaboration on what these "accepted theories of learning" are. It could not be determined if any case studies had been carried out that highlight the effectiveness of the program. However, it was hoped that the interrogation of each learning step would reveal how the learning program achieves its learning objectives/outcomes. The learning program is divided into several categories. These categories are called voice-over, learner control, contextual information, interaction, feedback, course questions, consolidation tasks, projects, evaluation, accessibility, learning aids and bookmark.

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A program called Voiceover as well as text is used to guide learners. VoiceOver is much more than simply a text-to-speech tool. It uses speech to describe what is happening on your computer, and you can use it to control the computer without seeing the screen (Apple, 2012). In this learning technique, the learners are not placed under pressure as they are encouraged to work at their own pace. According to Sullivan (2001) in self-paced learning, the learner controls the pace of the learning process. The researcher feels that although this learning process may be comfortable for the participant, it could very well mean that the course may become too time consuming and drawn out, meaning that the participants could probably take longer to complete a particular section. With regard to the aspect of learner control, the researcher felt that this aspect

of the program suggests that the learner controls their own pace of learning by reverting back to what was learned previously. This suggests that the learner is free to go back to previous steps to see how certain operations are carried out and correct their mistakes accordingly.

According to Electricpaper (2010) people learn new skills more effectively when they can identify real-world situations in which the skills can be applied. This suggests that the participant is more likely to be keener to learn new skills when it can be seen that those attained skills could enhance their working experiences with particular work procedures. These particular work procedures are the manipulation of Microsoft Office software programs which forms the basis of this study. According to Bergreen (1990), the art of learning is one that takes motivation, planning, concentration and sound reasoning. Bergreen (2009) further asserts that open-mindedness, making learning meaningful, the desire to practice and improve one's retention, and learning how to learn, are all stepping stones to success. The researcher is of the opinion that the participant's ability to relate learning content to real life working situations is a motivating factor that could lead to improved learning retention. In terms of this study, these factors would indicate positive learning experiences for campus managers learning computer software programs and the researcher needed to look out for these factors in the collected data.

It was felt that the instructional screens that incorporate interactions is an important aspect of learning, as it gives the participant an opportunity to reflect on what has been learnt. Another aspect of the learning program also emphasizes the importance of learning by doing. Cherry (2012), states that, while seeing information and then writing it down is important, actually putting new knowledge and skills into practice can be one of the best ways to improve learning. If you are trying to acquire a new skill or ability, focus on gaining practical experience (Cherry, 2012).

Positive feedback is provided for each interaction (Electricpaper, 2010). According to Keegan (1995) positive feedback, rewards in general, work to some degree, merely by the fundamental behaviourist mechanism of positive reinforcement. This suggests that when a learner receives positive feedback from a tutor, it serves to positively influence their belief in their ability. Ames and Ames (1984) in Keegan (1995) suggest that the individual desires to maintain a belief that he is able to succeed.

Electricpaper (2010) states that their positive or corrective feedback system is used on different levels, depending on whether the learner responds correctly on the first or subsequent attempts. This suggests that a learner is given helpful feedback on whatever aspect of the course he/she is dealing with, and in this way, receives a positive reinforcement of what has been learnt. In terms of this study, the researcher feels that positive feedback, at various levels of learning is a key factor in influencing how campus managers learn Microsoft Office computer software programs.

The course provider, Electricpaper (2010), states that course questions are used at strategic points throughout the course to ensure that the learner has understood and retained what was learned. This aspect of the learning program was seen as crucial to the learning process as it would give the tutor an opportunity to determine if the participant has grasped the concepts of what has already been learned. With regard to this study, the successful answering of these questions would confirm how campus managers learn aspects of Microsoft Office software programs which are covered in the ICDL course.

Consolidation tasks at the end of every section enable the learner to apply the skills of that section to completing a real-world task (Electricpaper, 2010). This, it was assumed, is a form of an evaluation test that follows at the end of a section to see if the participant has attained sufficient skill in applying what has been learnt in a real life scenario. In

terms of this study, this could take on the form of an MS Excel program in which the campus manager is required to draw up a spread sheet for a college annual budget. Since practice makes perfect, you might want to consolidate your skills by completing the optional practice checks at the end of these tasks (Bessant, 2002). However, the consolidation tasks in this aspect of Skills Suite (Electricpaper, 2010) are an integral part of the learning program.

Participants wanting to hone their newly acquired skills are given the opportunity to independently attempt projects which are set out in Skills Suite (Electricpaper, 2010). The above statement suggests that the participant is given ample opportunity to practice their skills in their own time. This suggests that this aspect further serves to consolidate that which has already been learnt.

Skills Suite for ICDL contains pre- and post-learning evaluations (Electricpaper, 2010). The researcher feels that these pre and post learning evaluations are essential in that the participant has a chance to gauge how much was known before taking the course and how much learning had taken place after the course. This concept is also illustrated by Chamber E-Learning (2010) who states that learners can simply take the course without taking any tests (Figure 1, A) below, or they can take a skills assessment test before and after the course (Figure 1, B). The second example (B) is known as a 'triple event.' The researcher felt that a full discussion is necessary because the reader needs to have a very clear picture of how FET college managers need to apply these learning techniques to their everyday work tasks.

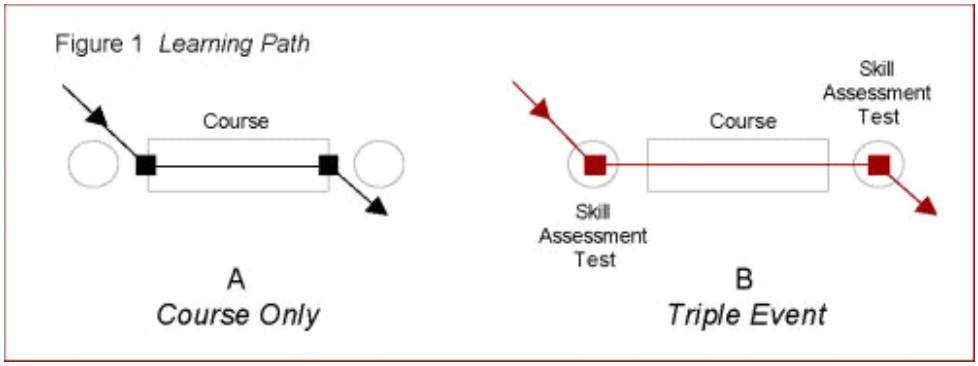


Figure 2.3 Triple Event-Chamber E-Learning (2010, p.1)
(http://www.chamberelearning.ca/Resources/ProofeLearningWorks/tabid/71/Default.aspx)

The researcher is therefore of the opinion that a pre and post evaluation test would be a useful tool for campus managers in a FET College in KwaZulu Natal learning MS Office software programs. A pre and post evaluation could be included in the FET ICDL course, so that FET authorities could immediately determine the effectiveness of the intervention.

The Personal settings feature enables the learner to customize the appearance of the content to suit their accessibility requirements and learning style (Electricpaper, 2012). This suggests that the participant is at liberty to configure the computer in a way that best suits them. This further suggests that items such as text size, sounds and screen resolution can be adjusted accordingly. The computer desktop like any real desktop can be customized to suit the individual's needs. Items that are often used can be placed close to hand while lesser used ones can be cleared away leaving an uncluttered work area. (The Place for Free Online Training Courses, 2012). In terms of this study, the researcher feels that the customization of the computer is another important aspect in understanding how campus managers in a FET College in KwaZulu Natal should be learning MS Office software programs.

According to Electricpaper (2011) learning aids such as Hints, Tips and Notes all help to support and motivate the learner, keeping interest level high. This suggests that the learner is guided as he/she moves through the program. According to Electricpaper (2005) hints are for difficult interactions, tips are useful for more advanced users and notes are additional informational not directly related to the learning point but interesting in its own right. This further suggests that these extra tools serve to motivate and help participants overcome difficult problems as they move through the program.

An electronic bookmark facility allows learners to mark positions of interest in the training to be returned to later (Electricpaper, 2010). This feature was seen as very useful as it allows the participant to proceed with learning, undisturbed and later return to aspects that may have not been clear when first encountered. In terms of this study, the researcher felt that this aspect of learning would be meaningful to campus managers learning MS Office software programs as it allows them to complete the course and then later go back to areas of interest.

Mango Leadership (2011) has a program called The Mango Bites Microsoft Office Training Series which has been developed to help businesses and teams improve productivity when working in Microsoft Office applications. The program is broken into short training courses across Microsoft Office applications Word, Excel, PowerPoint, Outlook, Access, Publisher as well as Microsoft Office 2007 upgrade and can be fully customized for your specific business requirements (Mango Leadership, 2011).

Mango leadership (2011) also run a M.S. Office training course which they claim teaches participants exactly what they need to know with a minimum amount of time out of the workplace. For this reason, the researcher felt that campus managers, with large portfolios would benefit from this course. This suggests that the participant is not obliged to undergo lengthy training on aspects that are already known and can focus solely on those aspects that they find problematic.

According to Mango Leadership (2011) the benefits of its program include: Improved efficient working practices in Microsoft Office suite, reduced workplace stress and frustration, increased staff motivation and performance and maximized return on training investments. The researcher felt that these benefits closely resemble the benefits of the ICDL course. However, the fundamental difference is that the ICDL course guarantees the participant an internationally recognized qualification. This could mean that individuals may ultimately choose the ICDL course over any other M.S. Office course offered by service providers.

Two other important aspects of the Mango Leadership course include: customized training and a training needs analysis. This suggests that the training provided will target exactly what participants need to know through a needs analysis. It would follow that this needs analysis was the aspect that would enable participants to learn what was needed to be learnt in the shortest possible time. On close inspection of the Mango Leadership course, the researcher found that the course offered training aspects that were over and above what is covered in the ICDL course. Advanced courses on M.S. Word, Excel and PowerPoint are offered after the basic concepts of the course have been completed e.g. data linking and data consolidation, Microsoft Office Excel 2007 upgrade etc. The researcher also noted with interest, that Mango Leadership (2011) do not rate their course as internationally recognized, but it is evident from what is offered that their course offers a wide variety of M.S. Office training solutions. In terms of this study, this suggests that Mango Leadership course, like the ICDL course, is a worthy contender when M.S. Office training is being considered.

Looking at the learning programme as laid out by ICDL International, the following application software is taught:

### 2.2.10 Word Processing

This module enables candidates to demonstrate the ability to use a word processing application to accomplish everyday tasks associated with creating, formatting and finishing small-sized word processing documents such as letters and other everyday documents (ICDL Foundation, 2011). Library software and Word Processor are the most used software in the libraries, while database management software is the less used software (Abdulla et al, 2008). Also, Word processing helps in writing better papers because it allows us to concentrate on the substance of what we write without worrying about its form. Spelling checkers help to correct spelling, formatting helps in organizing the written text, and editing helps us to easily change text when we think of better ways of expressing ourselves (Wegner, 1994). This statement by Wegner (1994) appears to concisely define the fundamental concepts of word processing.

According to Scheepers and de Villiers (2000, p. 183):

> "A number of assessments were given for the Ms Word sessions. The teachers requested this because they felt unsure about their knowledge of Microsoft Word. A total of 3 assessments were given compared to only 1 for Microsoft Excel. The average obtained for the Ms Excel individual test was 54%, whilst the average for Microsoft Word was 47%. A final examination was written in Microsoft Word and Microsoft Excel with the respective results being 47% and 46%."

This suggests that the teachers may have been more actively involved with spread sheet programs in the workplace and had not fully grasped all aspects of Ms Word. Depending on the contexts, it may not always be that Ms Word is the most frequently used software. In terms of this study, and the ability of the participants, it further suggests that the teaching of some software programs may require more attention than others.

With regard to the method by which software learning programs may be delivered, no significant instructional mode effect on students' post-survey attitudes scores was detected. In the computer-based instruction group, students did not have significantly higher scores in neither the total attitude scale nor the subscales than the students in the lecture-based instruction group (Varank, 2006). It was noted in the study of Varank, (2006) that there was no significant difference in the results between the lecture-based group and the computer-based instruction group when it came to learning Ms Word. This means that in the absence of a tutor, learners of Ms Word may attain the same level of learning by following computer-based instructions. This suggests that the ICDL participants could have chosen a computer-based instructional course over lecture-based instruction.

Participants viewed electronic literacy as being a necessary component in their lives either presently or in the future for gaining information on the Internet, finding and/or maintaining employment, communicating, word-processing, playing games and/or music, and managing finances (Langille & Hemming, 2005). With regards to this study, the researcher viewed communicating, managing finances and word-processing as the most important aspects of computer literacy. Writing was cited as being important for filling out application forms, taking inventory, filing for grants, record keeping, writing instructions, making appointments, advertising, and writing memos, resumes, reports, phone messages, and letters (Langille & Hemming, 2005). The Word Processor is the basic and widely used tool in a rapidly changing world of computer technology. When first launched, word processor packages were mainly used as a replacement for the typewriter. A word processor is a powerful tool that performs many functions and tasks Lê and Lê (2007). This is further evidence of the usefulness of word processing. Finally, in a study carried out by Johnson, Bartholomew and Miller (2006) both business management students and business faculty reported high usage and performance level in word processing in all core classes. This suggests that word processing could be a fundamental learning base in the learning of MS Office software.

### 2.2.11 Spread sheets

According to Walkenbach, Tyson, Wempen, Cary, Prague, Groh, Aitken, Bucki, (2007) Excel is the world's most widely used spread sheet program, and is by far the most popular, resulting in it becoming the world standard. This suggests that the campus managers attending the ICDL course are afforded the opportunity to learn spread sheets through a trustworthy source i.e. MS Excel. To add to this positive sentiment, Walkenbach *et al* (2007) further state that the appeal of Excel is due to the fact that it is so versatile. Also, using spread sheets allows us to store and manipulate tabular data. It also allows us to represent data in many different ways by using graphs and charts. With this useful tool, we can model data in a much more efficient and useful way (Wegner, 1994).

A survey of 53 prospective employers of business management graduates was also conducted to identify their needs for computer literacy. The results of this survey are shown in a table which confirm the findings of Dudley & Dudley (1995). The use of spreadsheets and word processing are highest on the list (Johnson, D. Bartholomew, K. Miller, D. 2006). This indicates that next to MS Word, MS Excel rates as a widely used MS Office software application. To further enforce this notion, Johnson, Bartholomew and Miller (2006) state that when current or future employers were asked what computer literacy skills were most needed in business graduates, they ranked word processing and spread sheet skills highest.

According to Varank (2006, p. 113):

> "Merchant, Kreie and Cronan (2001) measured and compared three groups of a total of 54 undergraduate students' performance ratings of computer skills and their evaluations of the training methods after they participated in three different training programs, which were lecture, hand-out, and multimedia computer-based training (CBT), to learn spread sheet software. Based on an analysis of variance, subjects' performance scores in multimedia CBT group were significantly less than those in lecture and

hand-out groups and the multimedia CBT group was less satisfied with their instructional method."

This statement indicated that it may be better to use the lecture-method to teach spread sheets over other methods such as computer based training which does not involve a lecturer or hand-outs. This was contrary to the study of Varank, (2006) where it was noted that there was no significant difference in the results between the lecture-based group and the computer-based instruction group when it came to learning Ms Word. From these statements, it can be assumed that the lecture method is better suited to the teaching of spreadsheets and computer-based training is effective for the teaching of word processing.

A study in Australia, Canada and New Zealand in 1996-97 revealed that accountants working in manufacturing and commerce use spread sheets more and appear to be more sophisticated users than those working in accounting practices and government (Coy, Buchanan, Nelson & Fisher, 1999, p. 2). As FET colleges are government financed institutions, and are accountable for funds spent on IT investment, it may be desirable that the same level of sophistication with spread sheet usage appearing in Australia, Canada and New Zealand is applied in FET colleges. This means that the ICDL participants in this study should apply themselves wholeheartedly to mastering the techniques of spreadsheet usage in order to efficiently monitor and control accounts, lists and numerical data that are part of their administrative duties.

### 2.2.12 Using Databases

This module enables candidates to understand some of the main concepts of databases and demonstrate the ability to use a database application (ICDL Foundation, 2010). A database is a tool for collecting and organizing information. Databases can store information about people, products, orders, or anything else (Microsoft Corporation, 2012). The researcher feels that this module is an indispensable tool in the hands of the campus manager who has to keep detailed lists of the students, the college course offerings, inventory and college results.

According to Johnson, Bartholomew and Miller (2006) a candidate should be able to create a MS Access database containing several tables of business data and be able to generate appropriate queries and reports that provide information for business needs. In the case of FET colleges, this data could take the form of students enrolled for courses over several years, pass and failure statistics, lecturers currently and previously employed by the college etc. Wegner (1994) state that spread sheets provide a starting point for the discussion of databases. We review database applications such as airline reservation, credit cards, grades, social security, and banking that are central to the functioning of modern society. This suggests that attaining a working knowledge of spread sheets is an essential prerequisite to understanding how to use a database. It is therefore logical that ICDL participants who have problems understanding the concepts of spreadsheets will inevitably have problems with understanding concepts of database. It could therefore be suggested that participants first gain a thorough knowledge of spread sheets before attempting to learn database.

According to Chappel (2013, p. 1)

> "Databases are actually much more powerful than spread sheets in the way you're able to manipulate data. Here are just a few of the actions that you can perform on a database that would be difficult if not impossible to perform on a spread sheet: Retrieve all records that match certain criteria, update records in bulk, cross-reference records in different tables and perform complex aggregate calculations."

This further strengthened the researcher's notion that it is important to first learn how to manipulate spreadsheets before attempting to use the database software and that spread sheets are the foundation of any database that may be created. While reading through the literature on database, the issue of security surfaced frequently. Baccam, (2009, p. 2) stated the following with regard to the security of databases:

> "Organizations are becoming more concerned about data security, especially as the intrinsic value of our data continues to increase. However, database security often gets overlooked. Managing organizational assets such as data, as well as overall information security concerns, are two of the key technology areas having a large effect on companies today. Although it is often difficult to put an exact price tag on the data we store, we do know data is an extremely valuable asset, and the compromise and/or exposure of such information can cause significant damage to business and company reputation. As a result, a security strategy needs to be developed to address information security risks, including data security."

With regard to the issue of security of databases in FET colleges, the only security measure that came to mind is the implementation of passwords by administrative staff. Access controls, encryption, auditing, separation of environments and secure configuration are critical areas that need to be considered in an overall security strategy (Baccam, 2009). For the purpose of this study, these five critical areas were not discussed in detail because the volume of detail in each area would fall outside the parameters of this investigation. However, it is clear that there are substantial mechanisms that can be implemented to protect databases.

### 2.2.13 Presentation

This module enables candidates to demonstrate competence in using presentation on a computer. PowerPoint is one of the simplest computer programs to learn (ICDL Foundation, 2010). In the event that a campus manager needs to present a strategic plan or annual budget, it was felt that MS PowerPoint would be an obvious choice for a manager that wishes to create an effective presentation.

PowerPoint is a presentation application that comes bundled with the Microsoft Office Suite. PowerPoint can be used to present a slide show, a presentation, or even to create flyers and invitations. Graphs, images, shapes, headers, etc. can also be imported or pasted to create a more visually appealing spreadsheet (Menges & McCullough, 2012, p.1). In addition to being a useful presentation tool, PowerPoint could be used to make spread sheets appear more interesting or attractive.

During 2007, the OpenOffice suite had emerged as an alternative to Microsoft Office. It includes a word processor, spread sheet, presentation program, database and drawing package. The first three are compatible with Word, Excel and PowerPoint (McMillan, 2008, p. 2). McMillan (2008) also claims that huge cost savings can be made by adopting Open Source. This means that ICDL participants have a cost saving alternative that could be used if MS PowerPoint is found to be expensive.

### 2.2.14 Communication and Web Browsing

E-mail has revolutionized the way we communicate. Over the internet, we can send e-mail to people all over the world at a moment's notice. This is a great boon to communication and allows us to send all kinds of files like pictures, data and of course personal correspondence to people who are on the network (Wegner, 1994). In terms of this study, e-mail proficiency should be seen as a priority because it affords the user a fast, reliable and cost effective way of keeping in touch with business associates. In this study, these business associates would be other campus managers, administration staff, department heads, senior lecturers and lecturers.

There is growing evidence that employees with access to the internet and e-mail are spending a disproportionate amount of time surfing the web. Sancin (2010, p. 3) had the following to say with regard to this problem:

> "The Internet has much to offer small businesses. Quick and easy access to information and contacts have made doing business easier than ever. Unfortunately, it has also unleashed a new set of issues to confront; loss of productivity, downloading illegal content, exposure to pornographic material, and new kinds of malware and viruses. These problems leave companies vulnerable to loss of profits, legal liability, and devastating malware attacks. Managing these threats can seem overwhelming. More and more computers are being infected by bad or harmful web sites."

Regardless of the size of a business, this problem appears to be a major distraction to employees with internet access and the participants of the ICDL course are no exception. This would mean that preventative measures should be implemented in order to prevent or deter errant users from indulging in such practices. Using effective web filtering software, IT professionals can manage and maintain the kinds of sites employees can access when using business computers (Sancin, 2010).

According to Gohring, (2008, p.1) the following actions were taken against employees who were found guilty of inappropriate use of the internet and e-mail:

> "The vast majority of bosses who fired workers for Internet misuse; 84 percent said the employee was accessing porn or other inappropriate content. While looking at inappropriate content is an obvious no-no on company time, simply surfing the Web led to a surprising number of firings. As many as 34 percent of managers in the study said they let go of workers for excessive personal use of the Internet, according to the survey."

It is interesting to note that decisive action has been taken in the corporate sector against employees who have been found guilty of abusing the internet and their e-mail services. However, it has yet to be seen if the same punitive measures would apply to managers in the FET sector that are found guilty of internet and e-mail

misconduct. A search through the internet for cases pertaining to misconduct of FET managers in this regard proved fruitless.

## 2.3 Conclusion

In this chapter, a background of a literature review was discussed to elaborate on what constitutes a literature review. The position of the Department of Education was discussed and it was learnt that a large amount of funds were made available for the development of support programs that were designed to develop FET College personnel. In terms of IT literacy, the International Computers Driver's License (ICDL) was chosen by the senior FET college authorities to upgrade the computer skills of all managers, administrators and lecturing staff. The personnel targeted in this study were six campus managers from two campuses.

The origins of the ICDL course were discussed, as well as its aims and objectives. The administrators of the ICDL course claimed that their program is of a very high standard and represents the benchmark of computer literacy programs. It was discovered that participants of computer literacy programs viewed computer literacy as essential to their jobs and considered the skills they attained as being vital to future employability. It was also seen that the ICDL course has substantial benefits for both employees and the employer. These benefits were explained and discussed.

It appeared that although the ICDL program represented a well-designed tool for upgrading an individual's computer skills, there are other service providers such as OpenOffice and ElectricPaper that could rival the ICDL program. The issues surrounding anxiety and fear about computer training surfaced and were discussed briefly. Relevant case studies, highlighting the experiences of participants in computer literacy programs were examined and debated. Finally, case studies surrounding the

use of MS Word, MS Excel, MS PowerPoint, Web Browsing and E-mail were highlighted and discussed.

# CHAPTER 3

## Conceptual and Theoretical Framework

### 3.1 Introduction

To investigate the experiences of campus managers in learning International Computer Driver's License programs in a FET College in KwaZulu Natal, both a conceptual and theoretical framework was used. The concepts that are used in this study are defined and explained. A definition of the interpretive paradigm, as well as an explanation thereof is given. As regards the theoretical framework, Blooms Taxonomy of Learning Dorman's, as well as the learning theories of Lewin, Kolb, Dewey and Piaget are applied.

A conceptual framework is described as a set of broad ideas and principles taken from relevant fields of enquiry and are used to structure a subsequent presentation (Reichel & Ramey, 1987). When clearly articulated, a conceptual framework has potential usefulness as a tool to scaffold research and, therefore, to assist a researcher to make meaning of subsequent findings. Such a framework should be intended as a starting point for reflection about the research and its context. The framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate this. As with all investigations in the social world, the framework itself forms part of the *agenda for negotiation* to be scrutinized and tested, reviewed and reformed as a result of investigation (Guba & Lincoln, 1989). The researcher finds the use of the words 'a tool to scaffold research' meaningful in that it describes the conceptual framework as a main support structure upon which the research design is built. It could be argued that without a solid 'scaffold', the research design could collapse.

A theoretical framework is a collection of interrelated concepts like a theory but not necessarily so well worked-out. A theoretical framework guides your research, determining what things you will measure, and what statistical relationships you will look for (Borgatti, 1998). Within the context of this study, the researcher will use Blooms Taxonomy of Learning Domains to illustrate these interrelated concepts of which (Borgatti, 1998) speaks.

## 3.2 Concepts

With regard to the conceptual and theoretical framework of this study, the researcher uses the following concepts: Experience, campus, manager, ICDL, training, FET and college. A definition of each concept is now given, followed by an explanation of these concepts.

### 3.3.1 Experience

According to Soans and Spooner (2001) an experience can be defined as follows:

Practical contact with and observation of facts or events. Knowledge or skill gained over time and an event that leaves an impression on one: a learning experience. Considering the first point, the practical contact in this case study can be described as the interaction between the participant, the learning program and related materials (worksheets and tests), the instructor (tutor) and the computer with peripherals such as printers, scanners and memory flash discs (Device used for data storage).The event is the participants learning the ICDL application software. This event will be observable and the researcher will endeavour to collect data on how the participants learn application software through the research technique of observation.

The second aspect of the dictionary explanation deals with the knowledge and skill that is hoped would be acquired over the duration of the ICDL course. The third aspect of

the definition is concerned with the actual experiences in the ICDL learning event and what impressions were left on the participants.

Experience, in the context of learning ICDL programmes can be seen in the light of experiential learning which Kolb (1975) was a leading proponent. David A. Kolb (with Roger Fry) created his famous model out of four elements: concrete experience, observation and reflection, the formation of abstract concepts and testing in new situations. He represented these in the famous experiential learning circle that involves (1) concrete experience followed by (2) observation and reflection followed by (3) forming abstract concepts followed by (4) testing in new situations (after Kurt Lewin). It is a model that appears time and again.

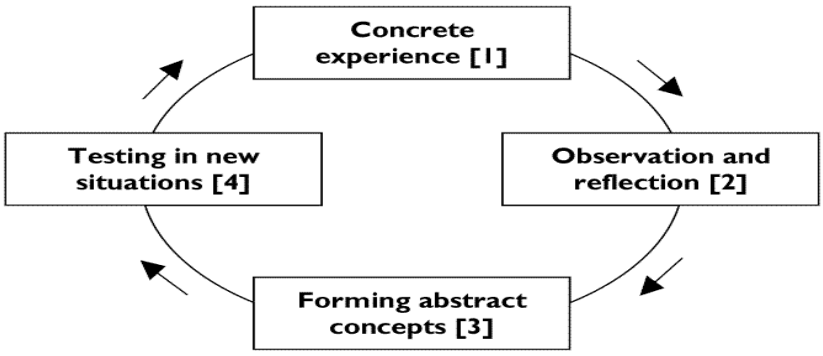


Fig. 3.1 Kolb (1984) Cycle of Experiential Learning

(http://openlearn.open.ac.uk/mod/oucontent/view.php?id=399347&section=3.3.1)

This 'Learning Cycle' provides a helpful simple diagram of the process of experiential learning, which is broadly: Do, review, develop and implement ideas for improvement and test in new applications.

### 3.3.2 Campus

The grounds and buildings of a university or college. (Soans & Spooner, 2001)

Also, a campus is traditionally the land on which a college or university and related institutional buildings are situated. Usually a campus includes libraries, lecture halls, residence halls and park-like settings. The definition currently describes a collection of buildings that belong to a given institution, either academic or non-academic. The word first was adopted to describe a particular urban space at the College of New Jersey (now Princeton University) during the early decades of the 18th century. Some other American colleges later adopted the word to describe individual fields at their own institutions, but "campus" did not yet describe the whole university property. A school might have one space called a campus, one called a field, and another called a yard. According to Wikipedia, (2011) the meaning expanded to include the whole institutional property during the 20th century, with the old meaning persisting into the 1950s in some places. Sometimes the lands, on which company office buildings sit, along with the buildings, are called campuses. The Microsoft Campus in Redmond, Washington, as well as hospitals uses the term to describe the territory of their facilities. The word "campus" has also been applied to European universities, although most such institutions are characterized by ownership of individual buildings in urban settings rather than park-like lawns in which buildings are placed (Wikipedia, 2011). Within the context of this study, the word 'campus' means: a satellite campus of a FET College. Several technical colleges were merged to form single FET colleges in KZN and the remaining eight provinces in South Africa. In this case study, six individual technical colleges were merged to form one FET College. "Today, at this very moment, I am pleased to launch the new 50 stronger, multi-campus FET colleges with a total of 6 756 teaching and 3 636 non-teaching staff" (Asmal, 2003, p.5).

### 3.3.3 Manager

One who handles, controls, or directs, especially:

a) One who directs a business or other enterprise. b) One who controls resources and expenditures, as of a household (Farflex,2011).To be more specific, the researcher places the word ‘campus’ in front of the word ‘manager’ in order to clearly define and explain the role of the manager in a FET College setting. The role of the manager can be illustrated in the following notice in which a FET College has advertised for a campus manager.

**Key Performance Areas:**

Overall consolidation of all operational activities on the campus and to initiate and maintain financial sustainability on the campus. Management of quality of all aspects of service and delivery and to create an environment conducive to education and training on the campus. Assist in the overall marketing of the delivery of course offerings on the campus while also assisting in the engagement with industry and facilitate further/initiate partnerships. Operationalize the College’s Strategic Plan, Vision, Mission and Values, while controlling, managing and implementing all personnel measures e.g. leave, attendance registers, staff development, staff evaluation, time-tables etc. He must also Co-ordinate budget inputs and compilation of the campus pro-forma budget. Control the overall examination aspects on the campus and management of staff and students **(**Kekana, 2011). As can be seen, it is evident that the role of a manager in a FET College is vital to the overall smooth running of the campus.

### 3.3.4. International Computer Drivers Licence (ICDL)

According to Rickaby (2007) the European Computer Drivers Licence is designed to provide a basic certification of competence in the understanding of information technology and the use of a personal computer. To achieve this, it requires students to pass a theoretical test to assess the basic principles of information technology, plus six practical tests that assess competence in using a computer and managing files; using spread sheets; Designing and using simple databases; Preparing and delivering

presentations. Information and communication; e-mail and the use of the Internet. Each of the above forms a module within the ECDL 4 syllabus. The European Computer Drivers Licence is an internationally accepted qualification that should help you prove your competence to a potential employer. It aims to improve overall knowledge in the use of computers and information technology throughout Europe, as well as internationally through the ICDL qualification.

It must be understood and noted that the ECDL (European Computer Drivers Licence) and the ICDL (International Computer Driver License) are one and the same course. Note also that the acronym *ICDL* may also be acronyms for: International Children's Digital Library, International Centre for Distance Learning, International Conference on Development and Learning, International Conference on Dielectric Liquids, Integrated Circuit Design Language, Inter Command Data Link (Farflex, 2011).

### 3.3.5 Paradigms/Epistemology

The paradigm that is used in this study is Interpretivism. According to Cohen, Manion & Morrison (2007) the interpretive paradigm, in contrast to its normative counterpart, is characterized by a concern for the individual. Whereas normative studies are positivist, all theories constructed within the context of the interpretive paradigm tend to be anti-positivist. The central endeavour in the context of the interpretive paradigm is to understand the subjective world of human experience. To retain the integrity of the phenomena being investigated, efforts are made to get inside the person and to understand from within. This assertion appears to suggest that in order to fully understand an individual; a strong attempt should be made to understand the individual's way of thinking, as opposed to just observing what they are doing. The researcher therefore sees the subjective reality of the individual as key to understanding and interpreting the experiences that ICDL participants have undergone.

Maree (2007) shares a similar perspective with Cohen, Manion & Morrison (2007) in that the interpretivist perspective is based on the following assumptions: Human life can only be understood from within. It cannot be observed from some external reality. Interpretivism therefore focuses on people's subjective experiences, on how people "construct" the social world by sharing meanings, and how they interact with or relate to each other. Social life is a distinctively human product. Interpretivist assume that reality is not objectively determined, but is socially constructed (Husserl, 1965). The underlying assumption is that by placing people in their social contexts, there is greater opportunity to understand the perceptions they have of their own activities (Hussey & Hussey, 1997). The uniqueness of a particular situation (the context) is important to understand and interpret the meanings constructed.

Human behaviour is affected by knowledge of the social world. Interpretivism proposes that that there are multiple and not single realities of phenomena, and that these realities can differ across time and place (Maree *et al,* 2007). These statements suggest that phenomena may be interpreted differently from one individual to another and this determines how the individual is likely to see reality in phenomena over time and in different contexts. The researcher felt that the interpretations of phenomena may therefore be wide and varied. In terms of this study, the varied experiences of campus managers learning ICDL software will enable the researcher to understand precisely how they learn MS Office software programs. Maree et al, (2007) further assert that, as our knowledge and understanding of the social world and the realities being constructed increase, it enriches our theoretical and conceptual framework. Our knowledge and understanding are always limited to the things to which we have been exposed, our own unique experiences and the meanings we have imparted (Maree *et al,* 2007).

The ultimate aim of interpretive research is to offer a perspective of a situation and to analyse the situation under study to provide insight into the way in which a particular group of people make sense of their situation or the phenomena they encounter. The

researcher concurs with Maree (2007) on the following points: That human life cannot be observed from some external reality, because it is probable that an individual's uniqueness may give rise to multiple interpretations or perspectives on any given phenomena. It would then follow that every individual's interpretation, brought about by own subjective experiences should be considered as valid in an attempt to understand a given phenomenon.

It appears that the meanings constructed by individuals depend largely on time, place and prevailing conditions when phenomena are being investigated. The researcher is also of the opinion that conditions may be wide and varied and yield interpretations that are deep and complex. These conditions could be regarded as ideal or adverse, depending on how subjectively the researcher interprets them. However, the objective of the researcher would be to obtain 'thick' descriptions to explain what an individual experiences 'from the inside'. Their thinking of how they perceive the phenomenon. Elizabeth Henning (2004, p. 142) says that in interpretive research, in what Yvonna Lincoln (2002) and other authors refer to as the "new" paradigm, there is a definite logic – the methods of inquiry should ultimately lead to interpretation (*verstehen*) and to explication – clarifying the research topic by means of a "thick description" and a "thick explanation".

The researcher was of the opinion that an individual's understanding of phenomena cannot be limited to a specific time frame with specific prevailing conditions. For this reason, the researcher felt that the participant's subjectivity could change as time goes by and conditions change. It was further felt that it is probable that the phenomenon under investigation could be seen in a different light with new meanings emerging. The researcher therefore believed that this was the reason why interpretivist research is dynamic and evolves as new perspectives are discovered.

### 3.4.1 Theoretical Framework

### 3.4.2 Blooms Taxonomy of Learning Domains

The original Taxonomy provided carefully developed definitions for each of the six major categories in the cognitive domain. The categories were Knowledge, Comprehension, Application ,Analysis, Synthesis, and Evaluation (Krathwohl, 2002).

Knowledge. According to Ehow, (2012) begin with a knowledge base. Common verbs associated with revealing a student's knowledge are to tell, describe, list, state, and name. Knowledge is a basic recall of ideas. In terms of this study, the researcher feels that the participants learning ICDL software programs should have a basic knowledge of MS Office programs and should recall what their previous experiences with the program were. This means, that they should be able to tell of their past experiences, describe what they know, list and state what their previous learning experiences with the program were. This would define what their learning base comprises of and what their knowledge base is.

Understanding (comprehension). If we understand something it means that we can use it in the future. It means we can summarize pieces of information because we know what they mean and what the message is. This kind of thinking is useful for comprehension of text and pictures (Anderson & Pace, 2011). From the above statement, the researcher felt that it was fair to assume that the initial concepts learnt by ICDL participants in word-processing and presentation can be identified in work tasks such as letters, tables, charts, schedules and time-tables.

Application. According to about.com (2012) application questions are those where students have to actually apply, or use, the knowledge they have learned. They might be asked to solve a problem with the information they have gained in class being

necessary to create a viable solution. This suggests that the ICDL participants, empowered with what they have learnt, will be able to apply their skills to tasks such as memo writing, drawing up of timetables, compiling presentations, recording of marks etc.

Analysing. According to Anderson & Krathwohl ( 2001, pp. 67-68), analysing is the breaking down of material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing. In terms of this study, this would be seen as the meaning the participants of ICDL attribute to the stages of learning e.g. in MS Word, after having broken down the program into constituent parts i.e. Cutting and pasting, saving and printing, viewing a document in different ways and inserting objects into a document (Rickaby, 2007).

Synthesis. According to Abudi (2010), synthesis is when the individual can pull parts together to form a new whole – in this way the individual works with various elements to arrange and combine them to form a new structure (Thinking “outside the box.”). In terms of this study, the researcher feels that this suggests that the ICDL participants are able to draw components from each aspect of the MS Office application in order complete tasks e.g. Drawing up of a strategic plan for the college, using aspects of Word, Excel and PowerPoint. MS Word would form the basis of the strategic plan, MS Excel would form the basis of the budget layout and PowerPoint would form the basis of the presentation of the strategic plan.

Evaluation. Evaluation refers to on-going evaluation of individual experiences, which contribute to individual preference (Jordan, 2011). This means that the participants that have learned the ICDL course would be in a position to evaluate what they have learned and apply this learning experience appropriately to a particular work process e.g. drawing up a spreadsheet to record assessment marks of learners.

While every attempt to understand the learning experiences of campus managers through the lens of Blooms Taxonomy, the research must keep in mind that it may not be possible to identify each learning experience as classified in the taxonomies domains. However, the researcher will attempt to classify each learning experience as closely as possible to Blooms Taxonomy of Learning Domains.

### 3.4.3 CONTEXT

Six campus managers were chosen which comprised of three males and three females from two campuses. The two campuses visited were situated in Pinetown and Durban, which are two major towns within the Ethekwini area of KwaZulu Natal.

## 3.6. CONCLUSION

In the previous chapter which covered this study's literature review, it can be seen that the ICDL programme enjoys enormous popularity on a global scale. The ICDL programme is said to have become the global benchmark of computer training programmes. The ICDL programme which is internationally accepted and represents value for money, is the benchmark for computer literacy at all levels of learning and will provide an acceptable competence for all those who complete and pass the course. It also suggests that participants all over the world can be assured that their level of delivery is uniform throughout all ICDL centres.

From the various reports collected there appears to be an overwhelming preference for the ICDL training programme over other computer literacy programmes. It also appears that one of the main motivations for participation in the ICDL programme is that it affords those with a full qualification in order to articulate between institutions and businesses. As far as the overall experiences of the participants in this study are concerned, the following was noted:

The course was enjoyed by the majority of the participants who made the following assertions: Participants expressed they had more confidence after attending the

course. The participants felt that the venues are very good. The notes are excellent and the course represents good value for money. The course is very well laid out with a wide range of information covered on each topic. The course is presented in a very friendly way. The concepts used in this study were defined and were explained briefly. These concepts are: Experience, campus, manager, ICDL, training, FET and college. An interpretive paradigm, which has been defined and elaborated upon, has been chosen for this study. The tutors are described as being good, pleasant, helpful, understanding, and giving clear step by step instruction. The tutors are also said to have gone way above the call of duty to make all students understand.

Blooms Taxonomy of Learning Domains has been chosen to categorize the learning experiences of campus managers that have undergone ICDL training in this case study. The researcher finds this taxonomy useful in that the learning stages in the ICDL programme bear a close resemblance to that of Blooms learning domains. In other words, Bloom (1956) asserts that learning takes place in a particular sequence. The learning sequence in the ICDL suggests that in order for the participant to proceed to the next level of competence, certain concepts should be first mastered. This, the researcher feels is what Blooms Taxonomy of learning domains suggests.

# CHAPTER 4

## Research Design and Methodology

### 4.1 INTRODUCTION

This chapter describes the research design and methodology employed in the study. A detailed description and explanation of design and methodology is given, along with a justification for their use. The different data collection methods, which include semi-structured interviews, observation and document analysis are explained. Reasons for using these methods are given, which also includes the advantages of using such methods. The definition of a case study is given, as well as an explanation of the sampling method. The importance of trustworthiness, as well as ethical concerns are taken into consideration. A guided analysis, which is used in this study, is also explained.

### 4.2 THE RESEARCH DESIGN

Shuttleworth (2006, p.1) describes research design as follows:

> "The design of qualitative research is probably the most flexible of the various experimental techniques, encompassing a variety of accepted methods and structures. From an individual case study to an extensive interview, this type of study still needs to be carefully constructed and designed, but there is no standardized structure. Case studies, interviews and survey designs are the most commonly used methods."

The above description of a research design appears to suggest that qualitative research design comprises many different methods of data collection which affords the researcher a flexible approach to the research topic. In this case study, the researcher

incorporates the use of a semi-structured interview, an observation and document analysis to collect data. According to Maree (2007) the semi-structured interview is commonly used in research projects to corroborate data emerging from other data sources. It seldom spans a long time period and usually requires the participant to answer a set of predetermined questions. It allows for the probing and clarification of answers. Maree (2007) goes further by saying that as a researcher, you must be attentive to the responses of your participant so that you can identify new emerging lines of inquiry that are directly related to the phenomenon being studied, and explore and probe these at the same time.

With regard to the use of observation, the researcher has chosen to use participant observation. Elizabeth Henning (2004, p. 100) says 'We have come to rely on the representations of individual respondents, and even though multiple interviews may strengthen an emerging theme, the information gleaned from observation fills gaps that are inevitably left by interviews. With regard to the document analysis that the researcher intends to use, Henning (2004) states that if documents and artifacts are omitted from a study, there will be gaps left unfilled. The researcher therefore believes that these statements clearly describe the flexibility about which Shuttleworth (2006) speaks. The researcher will use these flexible methods in order to fill all gaps in data collection and thereby hopes to answer the critical research questions as effectively as possible.

## 4.3 METHODOLOGY

This study used a qualitative method and the qualitative data obtained from the semi-structured interviews, non-participant observation and document analysis was analysed using the critical research questions. While the experiential learning theories of Kolb (1984) which are built upon the earlier works of Dewey (1938) and Lewin (1942) have been highlighted to frame this study, it is primarily the learning domains of Blooms taxonomy (1956) that will be used in the analysis of the data. The researcher intends to conduct these semi-structured interviews at two campuses of the FET College in question. Six campus managers in two campuses are to be interviewed. A sample of

the interview questions can be found in Appendix 2 at the end of this thesis. Permission to conduct these interviews is found in Appendix 3, also found at the end of this thesis.

### 4.3.1 DATA COLLECTION - Overview of the process.

Documents and learning materials, as well as a learning report were gathered from the learning centre for analysis. This was done so as to facilitate the answering of the critical research question: “What is the application software that is covered in the ICDL course?”

A non-participant observation was carried out at a local learning and assessment centre. The researcher used an observation schedule to record the actions of the participants as well as the conditions prevailing in the learning centre. The researchers own reflections on the observation were also recorded. This observation was conducted in order to gather data relating to the critical research question: ‘How do the campus managers learn this application software?’

Six campus managers were interviewed at two campuses of the FET College in question. These interviews were carried out in the offices of the participants and also in two computer laboratories as these venues were conducive for this purpose. One campus manager was interviewed at his home as he was on leave at the time. Ten questions, relating to the ICDL learning experience were put to the campus managers. These questions were specifically designed to answer the critical research question: ‘What are the experiences of the campus managers in learning ICDL programs?’

In the event that the participants did not give clear answers to questions, the interviewer found it necessary to re-phrase the questions. However, most of the questions put to all the participants appeared to be clear enough to elicit direct answers to the questions.

The interviews were recorded on a hand held digital recorder and transcribed. Each participant was interviewed once and each interview lasted approximately fifteen minutes.

Rajasekar, Philominathan and Chinnathambi (2006, p. 2) define research methodology as:

> "A systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of the research."

The above definition suggests that research methodology is an ordered process that makes use of various methods to investigate a particular phenomenon. It is the blueprint which assists the researcher to gather the essential data needed to answer the researcher's critical questions. It describes the methods that are to be used in the research and the way in which the instruments are to be applied.

### 4.3.2 THE CASE STUDY

Nisbet and Watt (1984, p.72) states: "A case study is a specific instance that is frequently designed to illustrate a more general principal."

Cohen, Manion and Morrison (2000, p.181) also state:

> "The single instance is of a bounded system, for example a child, a clique, a class, a school, a community. It provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories or principles. Case studies can penetrate situations in ways that are not always susceptible to numerical analysis."

The above two definitions or descriptions suggest that case studies are useful in capturing the very character of unique situations that are played out by people in specific contexts and within specific time frames. With regard to this study, that specific instance is the experiences of campus managers in learning International Computer Drivers Licence programs in a FET College in KwaZulu Natal.

In this study, the researcher chose to use a case study because case studies strive to portray 'what it is like to be in a particular situation, to catch the close-up reality and 'thick description' (Geertz, 1983) of participants' lived experiences of, thoughts about and feelings for, a situation (Cohen, Manion & Morrison, 2000).

Qualitative case studies can be characterized as being particularistic, descriptive, and heuristic (Merriam, 2009). The aspect that most interests the researcher is the descriptive aspect since descriptive means that the end product of a case study is a rich, "thick" description of the phenomenon under study (Merriam, 2009) . This "thick" description is what the researcher seeks in order to best describe and interpret the experiences of campus managers in learning International Computer Drivers Licence programs. A similar perspective is echoed by Henning (2004) who states that in interpretive research, in what Yvonna Lincoln (2002) and other authors refer to as the "new" paradigm, there is a definite logic – the methods of inquiry should ultimately lead to interpretation (*verstehen*) and to explication- clarifying the research topic by means of a "thick description" and a "thick explanation". The researcher therefore believes that a qualitative case study will be appropriate in that it leads to a deep understanding of the phenomenon under investigation, which is in keeping with the paradigm of interpretivism, which the researcher has chosen to guide this study.

### 4.3.3 METHODS OF DATA COLLECTION

The researcher used semi-structured interviews, non-participant observation and document analysis to collect the data required in this study. A discussion on each of these methods follow.

#### 4.3.3.1 SEMI-STRUCTURED INTERVIEWS

Nadia Santiago (2009) says that semi-structured interviews are most often used in qualitative studies. Santiago (2009) further states that the style is most useful when one is investigating a topic that is very personal to participants and benefits include the ability to gain rapport and participants' trust, as well as a deeper understanding of responses. Maree (2007) also appears to express the same sentiment in stating that as a researcher you must be attentive to the responses of your participant so that you can identify new emerging lines of inquiry that are directly related to the phenomenon being studied, and explore and probe these. These statements from Santiago (2009) and Maree (2007) appear to suggest that a richer understanding of the phenomena is obtainable through the use of semi-structured interviews. The words “deeper understanding of responses” and “explore and probe” suggest to the researcher that a “thick description” of the phenomena under investigation is being sought. The researcher therefore feels that the use of this method of data collection is appropriate in investigating the experiences of campus managers in learning International Computer Drivers Licence programs.

#### 4.3.3.2 ADVANTAGES AND DISADVANTAGES OF SEMI-STRUCTURED INTERVIEWS

With regards to the advantages and disadvantages of semi-structured interviews, Wengraf (2000, p.1) states that very often, semi-structured interviewing is seen as ‘easier’. Novice researchers often feel that, with interviews that are only semi-structured,

they do not have to do much preparation. They do not have to work out each question in advance. This is a terrible mistake. Wengraf (2000) further asserts that semi-structured interviews are not 'easier' to prepare and implement than fully structured interviews; they might be seen as more difficult. They are semi-structured, but they must be fully planned and prepared. Compared with fully structured interviews, semi-structured interviews to be successful require the following: Much preparation before the session, more discipline and more creativity during the session and certainly more time for analysis and interpretation after the session. Semi-structured interviews may yield much more than fully structured ones can, under the right conditions. Under the wrong conditions, they may yield nothing at all. Semi-structured interviews are high-preparation high-risk, high gain, and high-analysis operations (Wengraf, 2000). The opinions expressed by these statements suggest that semi-structured interviews are designed not only to obtain specific data about the phenomenon under investigation, but also to glean additional information from the participant. The researcher is of the opinion that additional data may emerge that has the potential to add new perspectives to the study. The design of the interview should therefore be carefully considered. The researcher also feels that it would be advisable to ponder on what other unexpected data could emerge from the interview questions and in this way, accommodate the additional data that emerges. An open mind should be kept with regards to other data that emerges from the interview, even if that data does not initially appear to answer the critical research questions directly. Looking at the semi-structured interview, cognizance should be taken of the fact that specific time frames cannot be adhered to because the additional data is over and above what the researcher expects. This factor should be accommodated as it could be a vital part of the interview, and could add to a 'thick' description to the data.

According to Hancks (2011) semi-structured interviews with rural public librarians and economic development officials provided the data necessary to create this case study's thick description. A similar perspective is shared by Neergaard and Ulhøi (2007) who state that ethnographers searching for thick descriptions, nuance and meaning rather

than numerical data generally favour semi structured or unstructured interviews which can be more like conversations with perhaps just an initial general focus or direction imposed by the interviewer. That 'initial general focus or direction' is contained in the researcher's semi-structured interview questions. Considering these statements and perspectives the researcher is therefore confident that the use of semi-structured interviews will be appropriate in obtaining thick data.

According to Crabtree (2006) many researchers like to use semi-structured interviews because questions can be prepared ahead of time. This allows the interviewer to be prepared and appear competent during the interview. Semi-structured interviews also allow informants the freedom to express their views in their own terms. Semi-structure interviews can provide reliable, comparable qualitative data. Further, Hoepfl (1994) states that an interview guide or "schedule" is a list of questions or general topics that the interviewer wants to explore during each interview. Although it is prepared to insure that basically the same information is obtained from each person, there are no predetermined responses. In semi-structured interviews the interviewer is free to probe and explore within these predetermined inquiry areas. This further suggests that the researcher has ample opportunity to explore deeper into the psyche of participants by using semi-structured interviews, which is over and above that which can be expected in the initial responses to questions in the interview schedule.

With regards to the disadvantages of semi structured interviews, Maree (2007, p. 87) states that:

> "As a researcher, you must be attentive to the responses of your participant so that you can identify emerging lines of inquiry that are directly related to the phenomenon being studied, and explore and probe these. At the same time, it is easy to be side-tracked by trivial aspects that are not related to the study"

The researcher will therefore have to pay very careful attention to the design of the questions as these questions could elicit far more data than that which is required to sufficiently answer the critical research questions. The ability to discern between what is vital and what is superfluous data is critical in order for the researcher to answer the critical research questions as concisely as possible.

### 4.3.7 Non-Participant Observation

Maree (2007: p.85) states:

> "The researcher gets into the situation, but focuses mainly on his or her role as observer in the situation. The researcher may look for patterns of behaviour in a particular community to understand the assumptions, values and beliefs of the participants, and to make sense of the social dynamics – but the researcher remains uninvolved and does not influence the dynamics of the setting."

The above observation technique will be adopted by the researcher because the researcher would find it difficult to record responses between the teacher and the participants as they learn ICDL programs, as well as be part of the course as well. This assumption comes from the researcher's previous experience in the learning of ICDL programs, in which it was noted that the pace at which the course was conducted would not allow the researcher to take notes and code up the exchanges between the teacher and the participants. To support the researcher's viewpoint, the best illustration of non-participant observer role is perhaps the case of the researcher sitting at the back of the classroom coding up every three seconds the verbal exchanges between teacher and pupils by means of a structured set of observational categories (Cohen, Manion & Morrison, 2007).

There are two principle types of observation: participant and non-participant observation. In the former, observers engage in the very activities they set out to observe (Cohen, Manion & Morrison, 2007) The researcher, for reasons given in paragraph two, feels that non-participant observation would therefore be the right choice in this study.

### 4.3.8 DOCUMENT ANALYSIS

Any document, whether old or new, whether in printed format, handwritten or in electronic format and which relates to the research question may be of value (Henning, 2004). The researcher concurs with this statement in that the scrutiny of the work sheets and tests used in the ICDL program has the potential to shed light on the learning experiences of campus managers with regards to ICDL training. Work schedules in the literature will be compared with these worksheets and tests so as to see for similarities in the way in which these programs are learnt.

Identifying the type of documents that can provide useful information to answer your qualitative research questions. Consider both public and private documents as sources of information of your research (ALKathiri, 2012). In support of this above point of ALKathiri (2012), with regards to identifying the documents that can provide useful information to answer qualitative research questions, Wilson (2009) states that the selection of a document is, in itself, part of a design process of selection so it is important to explain why you have selected the document, how it relates to the research questions and what you hope to discover from its analysis. The researcher intended to request a complete set of lecture notes and tests from the tutor at a registered ICDL centre and compare these documents with the lecture notes and tests in the literature review to determine if these documents are indeed fit for purpose in this study.

### 4.3.9 GUIDED ANALYSIS

Guided analysis as it relates to data analysis involves a type of analytical categorization of data which involves developing the categories of the data first in an *a priori* way i.e. in a manner that is based on what is already known (Samuel, 2009) in Sodje (2011). The above statement suggests that the nature of the data that emerges initially can be analysed even further or scrutinized further after categorization.

### 4.3.10 SAMPLING METHOD

Cohen *et al* (2007) state that, as the name suggests the sample has been chosen for a specific purpose, for example: a group of principals and senior managers of secondary schools is chosen as the research in studying the incidence of stress among senior managers. This statement suggests that the researcher using purposive sampling has a specific target group in mind when choosing the sample for this study. The target group in this study is campus managers from a FET College in KwaZulu Natal. Ball (1990) in Cohen *et al* (2007) further state that in many cases purposive sampling is used in order to access 'knowledgeable people', i.e. those who have an in depth knowledge about particular issues, maybe by virtue of their professional role, power, access to networks, expertise or experience. To the researcher, these 'knowledgeable people' are the campus managers who have undergone ICDL training in a FET College in KwaZulu Natal. A similar sentiment is expressed by Maree (2007) in that purposive sampling means selecting participants according to pre-selected criteria relevant to a particular research question. Here again, that 'pre-selected criteria' is represented by the campus managers who have undergone ICDL training in a FET College in KwaZulu Natal. From these assertions and statements, the researcher believes that purposive sampling will be appropriate to use in this study.

### 4.3.11 TRUSTWORTHINESS

Guba and Lincoln (1985) state that the aim of trustworthiness in a qualitative inquiry is to support the argument that the inquiry's findings are "worth paying attention to"

Fenton and Mazulewicz (2008) state that in any qualitative research project, four issues of trustworthiness demand attention: credibility, transferability, dependability, and confirmability. With regard to the four issues stated above, (Lincoln & Guba, 1985, p.296). assert the following:

> "Credibility is an evaluation of whether or not the research findings represent a 'credible' conceptual interpretation of the data drawn from the participants' original data. Transferability is the degree to which the findings of this inquiry can apply or transfer beyond the bounds of the project. Dependability is an assessment of the quality of the integrated processes of data collection, data analysis, and theory generation. Confirmability is a measure of how well the inquiry's findings are supported by the data collected."

With regard to the issue of credibility, the researcher will rely wholly on a rigorous analysis of the data, which will be undertaken in a guided analysis. The issue of transferability has special significance in this study as the researcher wishes to transfer the findings to the relevant FET authority in the region of KwaZulu Natal. This is because the majority of personnel in FET Colleges in KZN have embarked on ICDL training. The researcher therefore feels that the findings of this study could be useful to those colleges.

Regarding dependability, Lincoln and Guba (1985) stress the close ties between credibility and dependability, arguing that, in practice, a demonstration of the former goes some distance in ensuring the latter. This may be achieved through the use of

"overlapping methods", such as the focus group and individual interview (Lincoln & Guba, 1985). Since there are no focus group interviews in this study, alternative methods to determine dependability will be sought.

According to Shenton (2004), in order to address the dependability issue more directly, the processes within the study should be reported in detail, thereby enabling a future researcher to repeat the work, if not necessarily to gain the same results. Thus, the research design may be viewed as a "prototype" model followed. The researcher was not aware of any similar study in KwaZulu Natal regarding the research topic and therefore believes that this study could indeed represent a "prototype model". It was therefore hoped that the findings of this study will be regarded as dependable.

Lincoln and Guba (1985) state that confirmability is a degree of neutrality or the extent to which the findings of a study are shaped by the respondents and not researcher bias, motivation, or interest. This statement suggests that the researcher should refrain from allowing his or her bias from creeping into the study. This further suggests that the researcher must be mindful of the fact that the study should entirely reflect the experiences of the participants and not be affected by his or her dispositions. To a large extent and as far as possible, the researcher worked closely with the supervisor in order to prevent personal bias from creeping into the study.

### 4.3.12 PERMISSION TO UNDERTAKE THE STUDY

The participants in this study were assured of their anonymity in that their identities would not be disclosed. This assurance is in the form of a letter to the participants that they may withdraw at any stage from the study and their identities will remain unknown (see appendix A). Another letter, (see appendix B) was addressed to the rector of the FET College in the study, requesting permission to undertake the study. The aims and objectives were outlined in this letter as well. Therefore, both the FET College rector and the participants of the college were duly informed about the nature of the research to be conducted.

### 4.3.13 CONCLUSION

The above statements and discussions highlight the use of various techniques used in this qualitative study. The researcher has interrogated each one of these methods with a view to determining if a qualitative paradigm is the best approach to the study (Its fitness for purpose). Semi-structured interviews, non-participant observation and document analysis are the instruments that the researcher used to address the critical research questions. The participants that were selected were campus managers who had undergone ICDL training. These participants represent a purposive sample because they were purposely and specifically selected to partake in this study, being fairly conversant with the phenomenon under investigation. The ethical considerations were also taken care of in the form of consent letters to the participants. The researcher is confident that the research design and methodology will adequately assist in answering the critical research questions of this study.

There is no single blueprint for planning research. Research design is governed by the notion of 'fitness for purpose'. The purposes of the research determine the methodology and design of the research (Cohen *et al*, 2007). The researcher is confident that the research design in this study is suitable to investigate the experiences of campus managers with regards to ICDL training in a FET College in KwaZulu Natal.

# CHAPTER 5

# DATA ANALYSIS AND DISCUSSION OF FINDINGS

## 5.1 INTRODUCTION

This chapter presents the analysis and discussions of the findings using guided analysis. The following questions are used to frame the themes and categorize the data for analysis.

1. What are the detailed characteristics of the application software that is covered in the ICDL course?
2. How did the campus managers learn this application software?
3. What are the experiences of the campus managers in learning ICDL programs?

This study used a qualitative method and the data from document analysis, semi-structured interviews and non-participative observation was analysed using themes. Identifying themes has its place in qualitative research. They are a starting point in a report of findings from a study (Bazeley, 2009 p. 1).

## 5.2 Data Analysis and discussion of Findings

Documents from an ICDL learning centre were obtained and scrutinized in order to obtain data to answer question 1. A non-participant observation of five participants was carried out to gather data to answer question 2. Ten open-ended questions were presented to six participants for the open-ended interview to obtain data for question 3. When participants showed signs of not fully understanding the questions, the question/s were rephrased for clarity. The non-participant observation was carried out at a certified

ICDL center and the documents for analysis were obtained from the same center. Notes for the observation were written down. The semi-structured interviews were carried out between two campuses of the same FET College. These interviews were carried out in the individual office of each participant. One interview was carried out at the home of a participant because that participant was on leave at the time. A digital voice recorder was used in the interviews and the recordings were manually transcribed into notes. Each set of data collected to answer the three critical questions were separately grouped into themes and categories. Full permission from the participants was obtained (Appendix C).

### 5.2.1 Document Analysis

| Themes | Categories |
|---|---|
| Theme 1. MS Word | • Objectives<br>• Learning Outcomes<br>• Learning Resources |
| Theme 2. MS Excel | • Objectives<br>• Learning Outcomes<br>• Learning Resources |
| Theme 3. MS PowerPoint | • Objectives<br>• Learning Outcomes<br>• Learning Resources |
| Theme 4. MS Database | • Objectives<br>• Learning Outcomes<br>• Learning Resources |

Table 5.1 Themes of document Analysis

This case study is qualitative in nature and does not attempt to extend the findings to other similar phenomena. Therefore, the findings of this study cannot be generalized to

other FET Colleges. Most qualitative researchers do not recommend generalization from qualitative studies, as this research is not based on random samples and statistical controls (Niaz, 2007).

## 5.3 Discussion of Results

To a certain extent, direct quotations from the open-ended interviews are used in the discussions surrounding the experiences of the participants. According to Corden and Sainsbury, (2006) including verbatim quotations from research participants has become effectively standard practice in much qualitative social research.

### 5.3.1 Theme 1. Microsoft Word

#### 5.3.1.1 Objectives

According to syllabus version 4.0 to 5.0 of the ICDL program, the objectives of the Word program states that Word Processing requires the candidate to demonstrate the ability to use a word processing application to create everyday letters and documents. The action verb ‘create’ features prominently in the synthesis aspect of Blooms (1956) cognitive domain and signifies the compiling of component ideas into a new whole. Compared to the objectives stated in the literature, this may be too concise. The ICDL Foundation (2011) states that this module enables candidates to accomplish everyday tasks associated with creating, formatting and finishing small-sized word processing documents such as letters and other everyday documents In the literature. Wegner (1994) states that word processing helps in writing better papers because it allows us to concentrate on the substance of what we write without worrying about its form. Wegner (1994) sums up the essence of the objective in that individuals need to focus on writing quality documents without the fear of making errors such as spelling and punctuation.

The literature reveals that the application that dominates computer-literacy classes is word processing. Word processing constitutes *all* of some computer-literacy classes (Rosenberge, 1989). It is interesting to note that eighteen years later, this opinion is still held by Rickaby (2007) who states that Microsoft Word is without doubt the world's most widespread word processor. This suggests that word processing continues to be the most widely used software program. The literature further revealed that in a study carried out by Johnson, Bartholomew and Miller (2006) both business management students and business faculty reported high usage and performance level in word processing in all core classes. This suggests that word processing could be a fundamental learning base in the learning of MS Office software.

#### 5.3.1.2 Learning outcomes

There are seven learning outcomes in syllabus version 4.0 to 5.0 of the ICDL program.

These are:

- Work with documents and save them in different file formats.
- Choose built-in options such as the Help function to enhance productivity.
- Create and edit small-sized word processing documents that will be ready to share and distribute.
- Apply different formats to documents to enhance them before distribution and recognize good practice in choosing the appropriate formatting options.
- Insert tables, images and drawn objects into documents. Prepare documents for mail merge operations.
- Adjust document page settings and check and correct spelling before finally printing documents

To understand what learning outcomes were expected of the participants, Blooms Taxonomy (1956) was applied. The original taxonomy provided carefully developed definitions for six major categories in the cognitive domain. The categories were Analysis, Synthesis and Evaluation (Krathwohl, 2002). Ehow, (2012) suggested

beginning with a knowledge base. Common verbs associated with revealing a student's knowledge are to tell, describe, list, state, and name. These verbs are all part of the knowledge component of Blooms Taxonomy. Knowledge is a basic recall of ideas. In terms of this study, the researcher felt that the participants learning ICDL software programs should have had a basic knowledge of MS Office programs and should be able to recall what their previous experiences with the program were. Verbs associated with the knowledge and application aspects of Bloom feature prominently in the learning outcomes stated in the ICDL syllabus. It is therefore evident that the learning outcomes expected of the participants fell well within the framework of Blooms knowledge and application categories. This suggests that the learning outcomes of the program would have been fully realized.

#### 5.3.1.3 Learning Resources

Apart from the ICDL Foundation, there exist several other service providers that claimed to be able to deliver Microsoft programs contained in the ICDL course. Benchmark (2012) claim that workers could get more out of a working day if they had the 'know how' to. This program is called Microsoft Office Specialist. This program, they claim, meets the current demand for knowing the most up-to-date Microsoft technologies, such as Word, Access, Excel, PowerPoint etc. This program may however, only be suited to advanced users of MS Office. Ernster (2012) also claimed that MS Office Certifications allows one to complete tasks and duties in a more effective and efficient manner.

OpenOffice (2012) claimed that it is the leading open-source office software suite for word processing, spreadsheets, presentations, graphics, databases and more. It is available in many languages and works on all common computers. It can be downloaded and used completely free of charge for any purpose. This could present an alternative to MS Office in the ICDL course because individuals with a basic knowledge of word processing, spread sheets etc. could choose to download OpenOffice without having to incur costs.

Electricpaper (2012) is a company that has put together a learning program that incorporates methods they claim, are conducive to learning computer software programs. This program is called Skills Suite for ICDL and incorporates the use of interactive lessons with pre and post evaluations. A program called Voiceover as well as text is used to guide learners. It uses speech to describe what is happening on the computer, so you can use it to control the computer without looking at the screen. Mango Leadership (2011) also run a MS Office training course which they claim teaches participants exactly what they need to know within a minimum amount of time out of the workplace. This suggests that the participant is free to only attend the programs they find problematic. The relevance of highlighting these programs is as follows:

- Benchmark (2012) offers a program called Microsoft Office Specialist which could offer an alternative learning experience for those learners who are advanced Microsoft Office users. This suggests that using this program could mean a more meaningful experience for them.
- Open Office (2012) is a free downloadable program. Unlike Microsoft Office, no costs are incurred for its acquisition and use. Open Office users, with a basic knowledge of word processing, spread sheets etc. have an alternative office software suite that could provide a different learning experience than the ICDL program.
- Electricpaper (2012) has pre evaluations, Voiceover as well as text to guide learners. These techniques are not used in the ICDL program. The pre evaluation could immediately indicate the proficiency of learners before they start an office suite learning program. The learning experiences of participants could therefore be enhanced by these techniques.
- Mango Leadership (2011) provides a learning experience that targets specific problematic areas in learning Microsoft Office programs. Therefore, participants wanting to learn a specific Microsoft Office program need not be subjected to learning programs that they are already proficient in.

### 5.4.1 Theme 2. MS Excel

#### 5.4.1.1 Objectives

The ICDL Foundation Version 4.0 and 5.0 define the objective of Spread sheets as requiring the candidate to understand the concept of spread sheets and to demonstrate an ability to use a spread sheet to produce accurate work outputs. Using spread sheets allows us to store and manipulate tabular data. It was felt that this definition was vague and a more concise definition was sought. The following definition appeared to be more appropriate: It also allows us to represent data in many different ways by using graphs and charts. With this useful tool, we can model data in a much more efficient and useful way (Wegner, 1994). The literature revealed that Spread sheet applications are more complicated and more powerful than word processing or presentation applications (Grant, Malloy & Murphy, 2009).

#### 5.4.1.2 Learning Outcomes

The learning outcomes for Spread sheets as stipulated by version 4.0 and 5.0 of the ICDL program are as follows: The candidate shall be able to:

Work with spreadsheets and save them in different file formats. Choose built-in options such as the Help function within the application to enhance productivity. Enter data into cells and use good practice in creating lists. Select, sort and copy, move and delete data. Edit rows and columns in a worksheet. Copy, move, delete and appropriately rename worksheets. Create mathematical and logical formulas using standard spread sheet functions. Use good practice in formula creation and will be able to recognize error values in formulas. Format numbers and text content in a spread sheet. Choose, create and format charts to communicate information meaningfully. Adjust spread sheet page settings and check and correct spread sheet content before finally printing spread sheets. These competencies may appear to be very complex to a participant undertaking a course in spread sheets for the first time. However, the participants had some knowledge of spread sheets prior to undertaking the training. This was noted in

the non-participant observation that was undertaken. It was evident that several action verbs that are contained in Blooms Taxonomy e.g. choose, create and select were used in the formulation of the outcomes. This suggests that the course was designed in such a way, that the expected learning outcomes would have been achieved.

#### 5.4.1.3 Learning Resources

The learning resources for spreadsheets are contained in the learning resources for word processing. Therefore, repeating these learning resources for spreadsheets, presentations and database would have served no meaningful purpose.

## 5.5. PowerPoint

### 5.5.1 Objectives

According to the ICDL syllabus version 4.0 and 5.0, Presentation requires the candidate to demonstrate competence in using presentation software. Although this objective was concise, it required further elaboration. From the literature it was stated that PowerPoint can be used to present a slide show, a presentation, or even to create flyers and invitations. Graphs, images, shapes, headers, etc. can also be imported or pasted to create a more visually appealing spreadsheet (Menges & McCullough, 2012, p.1).The researcher felt that this definition of PowerPoint sufficiently outlined the objectives for PowerPoint. The literature also states that PowerPoint is one of the simplest computer programs to learn (ICDL Foundation, 2010). With regard to Blooms Taxonomy (1956), the aspect of presenting is synonymous with other action verbs contained in the synthesis aspect of the cognitive domain and is a recognized stage in which effective learning can take place.

### 5.5.2 Learning Outcomes

The following learning outcomes were listed by ICDL version 4.0 and 5.0: Work with presentations and save them in different file formats. Choose built-in options such as

the Help function within the application to enhance productivity; Understand different presentation views and when to use them; choose different slide layouts and designs and edit slides; Enter, edit and format text in presentations; Recognize good practise in applying unique titles to slides; Choose, create and format charts to communicate information meaningfully; Insert and edit pictures, images and drawn objects; Apply animation and transition effects to presentations and check and correct presentation content before finally printing and giving presentations; The verbs choose, apply and recognise feature prominently in these PowerPoint outcomes. These verbs are also prominent in Blooms Taxonomy (1956), which are referred as 'action verbs.' The verb 'choose' features in both the application and evaluation definition, while the verb 'apply' features in the Application definition. The verb 'recognises' features in both the knowledge and Comprehension definitions. It became fair to assume that the learning outcomes were compiled with the classification of educational objectives being taken into consideration.

### 5.5.3 Learning Resources

The learning resources for presentation are contained in the learning resources for word processing. Therefore, repeating these learning resources for spreadsheets, presentations and database would have served no meaningful purpose.

## 5.6 Database

### 5.6.1 Objectives

Version 4.0 and 5.0 of the ICDL learning program describes the objectives of database as requiring the candidate to understand the concept of a database and demonstrate competence in using a database. To elaborate on this concise objective, databases can store information about people, products, orders, or anything else (Microsoft Corporation, 2012). According to Johnson, Bartholomew and Miller (2006) a candidate should be able to create a MS Access database containing several tables of business data and be able to generate appropriate queries and reports that provide information for business needs. This suggests that the ICDL participants should be sufficiently

equipped to deal with all aspects of database as it relates to their work processes e.g. keeping detailed lists of the students, the college course offerings, inventory and college results.

The literature revealed a significant perspective in the learning of database. Wegner (1994) states that spread sheets provide a starting point for the discussion of databases. We review database applications such as airline reservation, credit cards, grades, social security, and banking that are central to the functioning of modern society. This suggests that attaining a working knowledge of spreadsheets is an essential prerequisite to understanding how to use a database. It is therefore logical that ICDL participants who have problems understanding the concepts of spreadsheets will inevitably have problems with understanding concepts of database. It could therefore be suggested that participants first gain a thorough knowledge of spread sheets before attempting to learn database.

### 5.6.2 Learning Outcomes

Version 4.0 and 5.0 of the ICDL syllabus state the learning outcomes of database as: Understand what a database is and how it is organized and operated. Create a simple database and view the database content in various modes. Create a table, define and modify fields and their properties; enter and edit data in a table. Sort and filter a table or form; create, modify and run queries to retrieve specific information from a database. Understand what a form is and create a form to enter, modify and delete records and data in records. Create routine reports and prepare outputs ready for distribution.

The verbs prepare, create, define and modify contained in the learning outcomes for database are also contained in Blooms (1956) cognitive domain, where they are referred to as ‘action’ verbs. These verbs fall into the taxonomy in the following way: Prepare falls within the Application and Synthesis definitions. Create falls within the Synthesis definition. Define falls within the Knowledge definition and modify falls within the Application definition. This suggests that Blooms Taxonomy could have been considered when these learning outcomes were created. It appeared that these action

verbs served as a guide that assisted learners in achieving the desired outcomes of the database course.

### 5.6.3 Learning Resources

As previously mentioned, the learning resources for presentation are contained in the learning resources for word processing. Therefore, repeating these learning resources for spreadsheets, presentations and database would have served no meaningful purpose.

## 5.7 The Observation

| Themes | Categories |
|---|---|
| Theme 1. Venue | ▪ Suitability of venue<br>▪ Computer hardware<br>▪ Teaching aids |
| Theme 2. Tutor | ▪ Tutor Attitude towards learners<br>▪ Presentation Style |
| Theme 3. Learning | ▪ Prior learning<br>▪ Nature of learning process |

Table 5.2 Themes for Observation

### 5.7.1 Theme 1 - Venue

**Suitability of venue**.

There was a very relaxed atmosphere in the carpeted and air-conditioned room. However, the computer room was situated next to individual offices, which presented a disturbance in the form of ringing telephones and fairly loud talking. This disturbance appeared to have had minimal effect on the conditions prevailing in the room, because the participants were focussed on their lesson.

**Computer Hardware.**

The computers were running Windows XP 2003 + 2007Intel Celeron 420. 1.6 GHZ processors. There was a single laser jet printer that was connected to all the computers. These work stations were set against a wall that was at right angles to the instructional whiteboard.

**Teaching aids.**

Apart from the computers, the only other teaching aid was a white board with assorted colour markers and a pull-down screen for an overhead projector. However, there was no overhead projector or data projector visible. It was felt that a combination of overhead or data projector with an instructional whiteboard could have had the potential to enhance the presentation of the course.

### 5.7.2 The Tutor

**Attitude of tutor towards learners.**

The Tutor's voice was very clear. The tutor moves swiftly around room and polite to all learners. She is well presented, neatly dressed and was very helpful to the participants, assisting them carrying out operations. There were friendly interactions between tutor and learners. Late learners accommodated. This positive attitude towards the learners

appeared to have set a very relaxed tone to the presentation of the course and it could be assumed that this was conducive to learning. Too much laughter and chat was prevented by keeping the pace of learning swift. Tutor does not readily indulge in class laughter, but smiles and maintains a professional conduct. When participants started helping each other, the tutor quickly went to them and assisted. The tutor motivated the learners by praising them for their positive responses.

The literature which was a written feedback from the participants revealed the following aspect with regard to the tutor's attitude: Positive attitudes toward computers are positively correlated with teacher's extent of experience with computer technology and with familiarity; anxieties and fears tend to decrease, and confidence increases (Loyd and Gressard, 1986).

**Presentation Style**

The tutor introduced Excel to the class of 6 learners. Protocol is explained; No eating or drinking was allowed in the venue. Cell phones were to be switched off. The break times were announced as well as course duration and termination. Tutor proceeded with the course, guiding learners in a step by step fashion, assisting learners who appeared to be having difficulty with software manipulation. The tutor moved between workers at work stations and whiteboards. Questions were welcomed. A close eye was kept on all participants at all times while still helping them carry out operations. Black, red and blue white board markers are used. Tutor repeated instructions several times. The tutor was patient with learners, and allowed them ample time to comprehend instructions. Questions were fielded from learners at the end of the presentation. Tutor waited for all participants to be on par before moving to the next instruction. MS Excel was the program being taught and as such, had to comply with ICDL version 4.0 and 5.0 where certain manipulation criteria are prescribed. These participants had previous knowledge and experience of MS Excel so it was assumed that they had a fair knowledge base of the program. In terms of Blooms Taxonomy (1956) this meant that

their embedded Knowledge was being taken through the aspects of Comprehension and Application. This, the researcher felt, bode well for the presentation.

The traditional computer class follows the model of learning that we are all used to from our days in school. The course involves a teacher and fellow students. You are lead through the course by your instructor who dictates the pace, the content, and the emphasis on what you are learning (Learn Real Computer Skills, 2012). This is exactly the style that was observed during the observation and it appeared to yield positive results. A co-operative learning approach could have been allowed by the tutor, allowing participants to help each other solve problems. Cooperative learning can be defined as an organizational structure in which a group of students pursue academic goals through collaborative efforts. Students work together in small groups, draw on each other's strengths, and assist each other in completing the task (Scheepers & de Villiers, 2000).

There were however, obstacles in the way of the presentation. One participant had to leave the room because she was needed in her own department. The course was in-house training, whereby participants could enter and leave when their various departments needed them. This indicated that the learners may not have completed a full lesson in a single session, thus creating problems for an effective learning program. The OHP pull down string that hung over whiteboard sometimes hampered the tutor's board writings. At one point, the venue door was suddenly opened and participants were momentarily distracted. The work stations are against the wall, at right angles to the whiteboard. This meant that the participants had to either turn their heads or swing in their chairs to read instructions on the whiteboard. The researcher felt that instruction could have been more effective if the participants' workstations had faced the whiteboard. These obstacles were observed as a hindrance to the smooth flowing of knowledge from a Knowledge base through Comprehension and Application as described in the learning stages of Bloom (1956). In terms of Blooms Taxonomy (1956),

this suggested that the learning process that was being observed was to a certain extent, flawed.

### 5.7.3 Learning

**Prior Learning**

Participants appeared to have had some knowledge of the program being presented (Microsoft Excel) and its applications; e.g. spreadsheets. Some learners appeared to have had more previous knowledge about the program than others. According to Bloom (1956) this represented the Knowledge component of Blooms Cognitive domain. The Knowledge component of the Cognitive domain contains action verbs which would have required the participants to duplicate, identify, match, recognise, recall, repeat and reproduce what they had already learnt previously. The participants were fairly responsive to the tutor. There was a very relaxed atmosphere and participants appeared to be content. Participants also assisted each other in understanding computer operations e.g. keyboard. At times, there was some laughter from participants- this may have been an indication that they were enjoying the presentation. Participants responded quickly to instructions. As the lesson progressed, there was a lot more laughter from participants. Participants also looked relaxed in their chairs and appeared to be confident in asking questions. They spoke softly while the tutor searched through her own computer. Overall, there were friendly interactions between the tutor and participants.

The literature revealed that high school computer courses generally do not provide students with sufficient training in spreadsheet skills to solve business problems. Therefore, it is not surprising that the majority of students in this study could only perform two of the five basic spread sheet tasks and incorrectly completed the moderate and advanced MS Excel tasks (Grant, Malloy & Murphy, 2009). This suggested that problems with learning spreadsheets could surface where learners have not had a good grounding at high school level.

**Nature of the Learning process**

The pace of learning was swift, but not as fast as to leave any participant behind. The speed at which the learners manipulated the mouse and keyboard could be described as average. The tutor waits for all participants to be on par before moving to the next instruction which illustrates that the course was being conducted at a pace that was conducive to learning.

Students translate sensory input into physical tasks or activities and are able to replicate a fundamental skill or task. Students recognize standards or criteria important to perform a skill or task correctly and apply this skill to real life situations (Hall and Johnson, 1994). These are aspects of the observation, modelling, recognition and application aspects of Blooms (1956) psychomotor domain. During this observation, it was noted that the students responded promptly to instructions and carried out tasks as per instruction. This suggested that the participants under observation were passing through the important stages of Blooms cognitive domain, indicating that effective learning was taking place.

## 5.8 Experiences of Participants

| Themes | Categories |
|---|---|
| Theme 1. Receiving phenomena | • Participants A-F Verbal responses |
| Theme 2. Responding to Phenomena | • Participants A-F Verbal responses |
| Theme 3. Valuing | • Participants A-F Verbal responses |
| Theme 4. Organization | • Participants A-F Verbal responses |
| Theme 5. Internalizing | • Participants A-F Verbal responses |

Table 5.3 Themes for Experiences

### 5.8.1 Receiving phenomena – Levels of difficulty

Participant A stated: "*I found that Microsoft Internet Explorer was the most difficult to work with because he had not worked much with that program and stated that MS Excel is easier, even if one had little training".* As an observer the researcher thought it was fair to assume that this participant's core duties revolve around the use of Excel in the execution of their daily duties. Participant B identified Database as difficult to learn because it contained "*so much statistics*" and favoured PowerPoint because the participant said he did "*enjoy what was happening in PowerPoint*" and he is a "*person who is very practical in doing things*." This suggests that the participant found PowerPoint to be easier. Participant C stated: "*I found MS Excel to be a little difficult, because of there being 'some other calculations' and found MS Word to be easier due to the fact that the program has a repeat function"*. This appears to suggest that this participant has a preference for working with words than working with figures (numbers). Participant D found Data Base as the most difficult to learn because they had had no previous experience with the program. "*I had never done it before*". Participant D suggests that one would have had to have some experience in this program prior to undertaking the ICDL course. Participant D found MS Word, MS PowerPoint and MS Excel easy because the statement "*The easier ones were the ones that I already knew*" which confirmed this. Participant E found certain aspects of MS Word and E-mail (Outlook Express) difficult. These aspects pertained to the writing and mailing of letters to multiple recipients. The participant could not "*really recall the names of programs*" but described operations such as "*changing the font*", "*cut and paste*", (which are operations carried out in MS Word) as easier to master. The program, participant F found difficult was MS Access because it deals with aspects of data base and that "*you need a little bit of time to sit with it*" The participant also felt that his lack of understanding of MS Access was as a result of his not having had much previous experience of the program and states that "*In the environment that I am in we hardly use Access*" The participant found MS Word and MS PowerPoint to be easier and states: "*I believe in e-learning and in using technology to its fullest*"

The data collected from the six participants with regards to levels of difficulty they experienced while learning the ICDL programs suggests that the programs were received with both apprehension and enthusiasm. It appears that these participants have varying levels of competence with regard to the manipulation of Microsoft Office applications. It also appears that the participants found particular programs to be simpler because those were the programs they use mostly in their daily duties and activities.

According to Grant, Malloy and Murphy (2009), spreadsheet applications are more complicated and more powerful than word processing or presentation applications. It could therefore be assumed that problems could arise in classes where the learners had not learnt the fundamentals of spreadsheets. The literature revealed that PowerPoint is one of the simplest computer programs to learn (ICDL Foundation, 2010).

### 5.8.2 Responding to Phenomena

In order to investigate how the participants had responded to the ICDL programs, the researcher presented two questions that highlighted the participants' proficiencies before and after they had done the ICDL course. These responses can be understood in the light of Blooms (1956) comprehension category of the cognitive domain. Explain, conclude, interpret, review and summarize are some of the action verbs that indicate that this stage of learning had taken place successfully.

Participant A shows an appreciation for the fact that programs such as PowerPoint are covered in the program. However, there is no indication of this participants' proficiency before he undertook the ICDL course. There is an indication that the participant has learnt to work faster, having been taught easier methods of doing tasks. This is highlighted in the statement: "*There are easier ways that are taught to us to do your work fast*". From the statements that Participant B had made, it appears that an enormous benefit was gained from having attended the ICDL course. The participant

went from being ‘very bad” to achieving “improved computer literacy”. This suggests that this participant’s level of computer software literacy had improved remarkably indicating that the participant had responded favourably to the course. The Skills Suite for ICDL contains pre and post-learning evaluations (Electricpaper, 2010). The researcher felt that these pre and post learning evaluations are essential in that the participant has a chance to gauge how much was known before taking the course and how much learning had taken place after the course. These pre and post evaluations could be incorporated into the course in order to evaluate what learning had taken place.

The literature revealed that in present times, computer skills are increasingly important to people in all walks of life. The ECDL is an information technology certificate for all citizens. It is intended for those who need to, or wish to, know how to use a personal computer. It is suitable for people from every work discipline, for people entering the job market, and for all ages (Cacttus, 2010). This corroborates the notion that the ICDL course has the ability to drastically improve computer literacy skills when it comes to MS Office and related software programs.

There appears to have been no clear indication from Participant C as to what her computer proficiency was prior to having undergone ICDL training. However, it appears that a high level of confidence has been gained after attending the course and is indicated by the words “*I can say myself that I am very good, there is a big difference*” and “ *ICDL is of a high standard*”. Participant D had previously had the advantage of having done computyping, which is very similar to MS Word, as well as Excel. This means that there was a foundational base that the participant worked from. Having done PowerPoint and Access has further lifted their confidence in Microsoft Office software applications. This is indicated by the words: “*I now think I am confident in all the MS Office software”.* Participant E had a very high degree of appreciation for having undergone ICDL training. This is evident from the fact that he professed to have known very little about MS Office software and its applications before attending the course and

now feels that "*life after ICDL has become much, much easy, very easy*". Participant F viewed the ICDL course as one that enhanced his existing knowledge of MS Office. He felt that MS Office software is user-friendly in that navigating through the program is easy. He also repeatedly made mention of '*free open software'*, which could be used as an alternative program to MS Office. This last statement has significance, as it emerged in the literature that OpenOffice ('*free open software')*, was often considered as a worthy replacement for MS Office.

### 5.8.3 Valuing

Questions relating to the importance of the ICDL course, the attitude and expertise of the tutor and the cost of the course were presented to the participants in order to determine how the participants valued the ICDL course. These responses should be seen in the light of the evaluation aspect of Blooms Taxonomy (1956) which contains action verbs such as assess, appraise, rate, and conclude.

Participant A appreciated the fact that the course was presented in such detail and indicated that the tutor had a "*very great attitude*" toward the class. These sentiments are expressed in the participant's statements that the tutor "*knows her work*", "*she is clear in what she is doing*" and "she is patient with her students" This suggests that this participant placed a high value on the ICDL learning experience and the attitude of the tutor. However, with regard to the cost of the ICDL course, I feel that the statement "*I feel it gives value*" is insufficient as there are no motivations for this answer. Participant B felt that the ICDL course was essential for all personnel working in the FET sector. He had an overwhelming confidence in the abilities of the tutor and used words like *"very experienced*" and "exper*t*" to describe the expertise of the tutor. Apart from the non-committal statement: "*More or less, I would say yes it is*" in response to whether the ICDL fee represents value for money. The researcher feels that this participant placed a high value on the ICDL learning experience.

Participant C values the ICDL course in that it offers more than a basic understanding of Microsoft Office computer software manipulation. There is also a feeling that the participant feels more empowered now that she has completed the ICDL course because she states that "*it leads you to work anywhere*". This could mean that the participant now knows more about the programmes than she previously did. The use of the word "*excellent*", to describe the tutor's expertise and attitude suggests that she had much faith in the expertise of the tutor. The participant expressed the opinion that the course is considered to be cheaper than what is usually charged by service providers in the private sector. Participant D considers the tutor to be *"very knowledgeable*", and the researcher thinks it is a sign of confidence in the tutor. There is also a strong suggestion that such an important life skill cannot have a monetary value attached to it. This is indicated by the participant's use of the words: "*it's a skill you will have throughout your life therefore it's worth doing for everyone".*

According to Participant E- self-sufficiency was the main motivation for having undertaken the ICDL course, pointing out that without a personal assistant, one has to undertake all core and administrative task without assistance. This suggests that this campus manager felt empowered after having attended the course. There was a high regard for the expertise of the tutor who was described as a person who "*knows her stuff*" As far as the monetary value of the course, the participant suggested that the course fee of R3900 is a small fee to pay for a life skill as important as the ICDL qualification. Participant F valued the fact that the ICDL course is of an international standard and experience. The statement: "*I think the ICDL tutor was a person who was familiar with information technology*" did not indicate the tutor's level of expertise. The researcher argued that being familiar with information technology does not automatically imply that one is proficient or an expert in this field. The participant suggested that paying R3900 for an internationally recognized course and qualification represented value for money.

The literature revealed that according to ICDL Foundation (2009), it was revealed that the majority of learners thought that the facilitator had a very good to excellent knowledge of the topics. This confirms that the ICDL program is to a large extent very effective.

### 5.8.4 Organization

In order to analyse the data with regard to the aspect of organization, the researcher selected the responses to questions 8, 9 and 10 of the semi-structured interview schedule. These questions pertained to which programs the campus managers most frequently use, who are the personnel who most urgently require ICDL training in the college and recommendations for improvement in terms of the way the lectures were structured. This data was classified within the framework of Blooms (1956) cognitive domain and falls within the analysis, synthesis and evaluation definitions. The action verbs that help identify the stages of learning under analysis are: Identify, point out, outline, select and appraise. Under evaluation, the action verbs are assess, argue, choose, evaluate, explain, judge, interpret, predict and value. The literature indicated that the Word Processor is the basic and widely used tool in a rapidly changing world of computer technology. A word processor is a powerful tool that performs many functions and tasks, (Lê and Lê, 2007).

*"Microsoft word, Excel and Database"* was the quick response from Participant A with regard to questions 8, 9 and 10 indicating that this participant had no hesitation in naming these programs. *"The lecturers and administration staff"* are seen as the personnel most urgently requiring ICDL training and the participant states that "*there are no recommendations for improvement".* This suggests that he was happy about the way in which lectures were structured. The participant further stated that "*There are no recommendations*" for improvement.

Participant B stated*: "I've got to interact, I've got to communicate with other members of staff so somehow, obviously one has to use e-mails or intranet. On the other hand, as parts of communication I also use Microsoft Word, in terms of memos and all that stuff."* According to this participant, communication through e-mail and intranet is viewed as a first priority in the workplace, followed by Microsoft Word, which is also a communicative tool. *"I personally believe that every employee should be equipped with the ICDL especially those who do not have a background in computer literacy".* This suggests that all personnel in the FET sector be allowed to attend ICDL training. Regarding recommendations, the participant stated the following: *"I would think and suggest that should it happen that every day, say for instance, one lecture a day, should also encompass the program, so that everyone across the board should be equipped with those skills. "*This suggests that the participant would prefer the lessons to be conducted on weekdays, instead of on Saturdays.

Participant C emphatically stated ***"****Its Microsoft Word".* This participant singles out MS Word as the program she most frequently uses and states*: "I think the administrator, because most of the time we are working with the computers, than the lecturers because most of the time they are lecturing."* Regarding recommendations, the participant said: *"I think that I can recommend if they can use the tapes when you are studying this, so that at your own time, after a lecture, you can repeat what you have been taught."* This suggests that the participant was serious about re-enforcing what was already learnt and valued the course.

*"Well, I use Microsoft Word and Spread Sheets as well as PowerPoint."* was the answer given by Participant D. Here again, it is evident that MS Word is the most frequently used program. With regard to who most urgently requires ICDL training, the response was: *"Well I think basically, everyone needs to do ICDL and admin staff and lecturers have to do ICDL because the learners marks they have to be able to do learners marks and to set their own papers and so on. "* In spite of having rephrased the

question, participant D missed the point completely. Therefore, the participant did not suggest that improvements need to be made to the way in which the course is structured.

With regard to the programs most frequently used, the researcher was surprised by the answer given by Participant E: ***"****Would you call Excel a program? Yes I use Excel quite a lot. I use it mainly in terms of timetables I spoke about, in terms of the mark analysis I spoke about, also the Microsoft word, I use that a lot. I would say those are the two programs I use a lot.* It was surprising to learn that a campus manager did not know that the spread sheet program he had been using was called Excel. When asked about who most urgently required the ICDL training, the participant replied: *"Everybody. I don't see anybody living without the ICDL program. If I say everyone, I mean the lecturers, the teachers and the managers, we all need to be literate in terms of using the computer."* This clearly indicates that this participant regarded the ICDL course as an indispensable tool in the hands of all personnel. With regard to recommendations to course improvement, the participant stated that: *"Saturdays are a bit clustered in terms of commitments so maybe some could be arranged during the course of the week. I think it would benefit us much, much more better than Saturday because while you're absorbed in the program but part of your mind is occupied by another commitment that you are supposed to attend. Especially us black people such things such as weddings, funerals."* It is evident that the participant was not content about the way in which lectures were structured, citing concerns about being pre-occupied with social commitments while undergoing ICDL training. However, the literature revealed that there are participants that were prepared to sacrifice personal time in order to become computer literate. According to Scheepers and de Villiers (2000) sessions were held on Saturday afternoons from 15h15–17h45 as this was the only time available to the teachers. The dedication and commitment of the teachers to learn about computers can be seen in that Saturday afternoons are usually reserved for sport, family time and that some of the teachers had to travel quite far to come to the sessions.

With regard to the programs most frequently used, the response of participant F was substantial. *"MS Word. Word is one of the programs because in terms of documentation, reports, then I go in terms of as I said MS PowerPoint in terms of presentations, Outlook as well in terms of data communication networking and e-mailing and one of the ones I use in terms of budgeting I use also Excel, mostly in terms of budgeting because it's a spreadsheet that helps in terms of adding and multiplication and all of that*." The researcher found it questionable that the participant most frequently used all of the programs mentioned. Concerning the question on who most urgently requires ICDL training, the participant stated: *"I would say that people that need ICDL is your front office staff. Also some of your managers such as your senior lecturers and HOD's because, as well as, and I cannot forget teachers because the technology is changing and it only enhance what we are doing in the presentations in terms of your classroom work and it will make it easier for you to capture marks, testing and it is also more organised."* Basically, the participant was saying that all FET college personnel require ICDL training. Regarding the question on course improvement, participant F replied: *"I think at the moment it is well presented but if colleges or institutions can also use free open software that would also help in terms of ICDL because I think that ICDL acts as a platform for that and that in its essence will also help because you might come up with institutions where they do not have licences for Microsoft products, hopefully open software will help."*

### 5.8.5 Internalising

The researcher found it difficult to identify data obtained in the semi-structured interviews that would identify with this aspect of Blooms (1956) affective domain. The questions and responses in the semi-structured interviews do not illustrate characteristics such as showing self-reliance when working independently, co-operating in group activities, using an objective approach in problem solving etc. The researcher can only assume that the participants, having successfully completed the ICDL course, display the characteristics of having internalized the values of what they had learned.

## 5.10 Conclusion

The data in this study was analysed using three sets of themes which contained categories relevant to those themes. These three sets of themes were used for the document analysis, the observation and the experiences of participants.

With regard to the document analysis themes 1, 2, 3 and 4, syllabus version 4.0 and 5.0 of the ICDL Foundation was used to illustrate what needed to be covered in the learning of the MS Office programs. The learning objectives were closely compared with the action verbs contained in the learning domains of Blooms Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation definitions in the Cognitive domain. The learning outcomes were also compared with the aspects of Blooms (1956) cognitive domain to see if the outcomes complied with recognized learning theory. With regard to learning resources, there appears to be several service providers other than the ICDL Foundation. OpenOffice (2012) is a free open source software program that can be downloaded for free. Benchmark (2012) offers a program called Microsoft office specialist and Electricpaper offers a program called Skills Suite for ICDL. These service providers are an alternative to the ICDL program.

Themes 1, 2 and 3 of the observation schedule dealt with categories such as the suitability of the venue, computer hardware and teaching aids. The literature and discussion of findings indicated the following: The traditional method of teaching is preferred for teaching a computer literacy course, i.e. the teacher leads and the participants follow. The literature also indicated that positive attitudes towards computer literacy are proportional to the experience of the tutor. The venue was suitable, but disturbances in and around the venue present challenges to the presentation. The only available teaching aids were a pull-down screen and a whiteboard with markers. It was felt that an overhead projector or data projector could have enhanced the presentation.

Themes on the experiences of participants revealed the following:

Theme 1: Receiving phenomena: The literature and discussions revealed that programs were received with both apprehension and enthusiasm. Some programs were found to be simpler because those were the programs the participants used mostly in their day to day duties and activities. It also appeared that the majority of the participants found MS Word and MS PowerPoint to be the easiest program to work with. MS Excel and MS Access being more difficult to master.

Theme 2: Responding to Phenomena: From the literature and discussions, it could be seen in some cases that participants' computer literacy skills improved dramatically from not knowing much, to having learnt a great deal. From the literature it is also clear that most of the participants received the ICDL course with much enthusiasm.

Theme 3: Valuing: From the literature and related discussions, there was an overwhelming display of confidence and admiration for ICDL tutors. This was attributed to the perceived high level of expertise and positive attitude of the tutor. Phrases such as 'great attitude', '*very knowledgeable'*, *'expert'* and '*knows her stuff*' is sufficient evidence to suggest that the tutor was very highly qualified. Some participants felt that the ICDL course was essential and empowered them while others felt that the ICDL qualification would improve their job prospects.

Theme 4: Organization: According to the findings and literature, the following was noted: MS Word is the most frequently used program used by the participants, followed by MS Excel. Most of the participants feel that everybody in FET colleges require ICDL training, especially front office administration staff. One participant recommended that tapes be handed out to learners so that they can re-enforce what they had learned in their spare time while another recommended that the course be conducted during the

week because of week-end personal commitments. One participant recommended that open source software be used because it was free and works just as well as MS. Office.

Theme 5: Internalizing: The researcher found it difficult to analyse this theme and could only assume that the participants, having successfully completed the ICDL course, display the characteristics of having internalized the values of what they had learned.

# CHAPTER 6

## Conclusion, Recommendations, Emerging themes and Limitations of the study

### 6.1 Introduction

In this chapter the emerging themes, conclusions, recommendations, and limitations of the study are discussed.

### 6.2 Conclusion

#### 6.2.1 What are the detailed characteristics of the application software that is covered in the ICDL course?

From the document analysis on the nature of the ICDL programs the researcher discovered that Microsoft Office 2003 and 2007 were used in the ICDL course. The first part of the course starts with concepts in the basic use of computers and progresses through to advanced computer software applications such as Microsoft Word, Database, Spread sheets, PowerPoint and the Internet. E-mail is also covered toward the end of the course. There are prescribed tests that are written and the candidates have to obtain a high percentage (75%) to pass.

Concepts of Information and Communication Technology deals with identifying what hardware and software are, as well as information networks and what ICT is (Information and Communication Technology). MS Word is used for creating and editing text documents. Examples are Letters, memos, reports, notes and tables. MS PowerPoint is used for making slides that are used in presentations. MS Excel deals with functions that make it easy to calculate numbers. Examples are balance sheets

and production schedules. MS Access deals with data bases and can be used to store information such as names and addresses of students. E-Mail and Internet (Outlook Express and Internet Explorer) are programs that enable one to communicate electronically and surf the Internet. The courseware is very broad and many lessons are required to cover the content adequately. Each ICDL course takes approximately six lessons to complete, which roughly equates to forty two lessons in total.

### 6.2.2 How did the campus managers learn this application software?

The researcher carried out a non-participant observation because a participant observation would have meant that the researcher would have had to be a part of the learning group and take observatory notes at the same time. This researcher found would be too much to complete in one sitting. The important observations that emerged are as follows:

The participants use computers that are running Windows XP 2003 and 2007. The processors are Intel Celeron 420. 1.6 GHZ. These processors are comparatively slow compared to what is currently available on the hardware market e.g. Intel Pentium dual core 950 2.1 GHZ. However, the researcher felt that the speed of the computers used by these learners is sufficiently fast enough for learners who are fairly new to computers.

As the lesson proceeded, it became increasingly evident that some of the participants had some previous knowledge of the software application they were being taught. Learners responded fairly quickly to instructions and looked relaxed throughout the lesson. The interaction between the tutor and the participants can be described as pleasant. The researcher thought the fully air conditioned room contributed to the relaxed atmosphere in the room. With regard to the teaching aids used during the lesson, the researcher felt that an overhead projector or data projector could have added value to the lesson.

There were some negative aspects that the researcher believed were a hindrance to the lesson. These participants are the employees of the college that is providing the ICDL training. This training is an in-house intervention and the participants were free to come or go as they wished. What the researcher meant, is that their various departments could request their services at any moment during the lesson. This, the researcher felt caused distractions when people entered or exited the room. Also, the learners may not have been able to complete a lesson in a single session, which may be problematic to the learner and the tutor. There were also a few distractions caused when people from outside opened the door to look into the room. This could have been preventing by placing a “Do not disturb-Lesson in progress” sign on the door. There was also a distraction caused by the string from the OHP screen which came in the way when the tutor was writing on the whiteboard. There was a lot of laughter between the exercises, which the researcher found unusual. There was no logical explanation for this behaviour apart from the notion that the learners may have been enjoying themselves. At the end of the lesson, three participants thanked the tutor and said that they had learnt a lot from the lesson. The overall impression that the researcher had was that the lesson was successful even though there were a few distractions and disturbances.

### 6.2.3 What are the experiences of the campus managers in learning ICDL computer software programmes?

The experiences of campus managers learning ICDL software programs were found to be many and varied in this study. From the responses to 10 questions in a semi-structured interview, the researcher managed to obtain the following insights and thereby draw the following conclusions from their learning experiences.

The majority of the participants are of the opinion that ICDL training is very important for all personnel at an FET College. Some participants claim that their understanding of Microsoft Office has been enhanced and others claim that the ICDL learning experience has changed their professional lives from a state of barely coping to a state of excellence. There is also an appreciation for the depth into which the program goes,

which is more than is offered in learning of basic computer. The participants feel that because the ICDL course is of an internationally accepted standard it represents the benchmark in computer literacy.

From the literature and findings in the study, there is a clear indication that MS Word is the most widely and frequently MS Office program. In some cases, it is evident, that adults learning MS Office have already had computer experience at high school level, whilst in this study, the ICDL participants had not experienced computer training at high school level.

The majority of participants most frequently use Microsoft Word in their day to day activities, followed by MS PowerPoint and then MS Excel. The programs cited as being the most difficult to learn were MS Access (database) and MS Excel. MS Word was found to be the easiest to learn. This sentiment is also echoed in the literature.

There is a high regard for the expertise and professionalism of the ICDL tutor from all the participants. There is a general consensus from the participants that all personnel urgently need ICDL training in this FET College. The participants feel that the fee of the ICDL course is cheap in comparison to the fees charged in the private sector for the same course.

There are indications in the literature that anxiety and attitude play a crucial role in the learning experiences of individuals. However, findings in this study indicate that the professionalism and friendly manner of the tutors of the ICDL course helped overcome these anxieties and attitudes. Since most of the participants in this study had prior knowledge of most of the MS Office programs, it may have given them a positive attitude towards learning, resulting in a pleasant learning experience.

With regard to recommendations for improvement in which the course is structured, there are varying opinions. Some of the participants felt that Saturday mornings were not suitable for lessons, as the lectures infringed on the time that is spent on personal commitments i.e. family time, functions and funerals among others. Others felt that tapes could be given to participants so they can revise in their own leisure time what they had learnt. Some participants would prefer attending lessons during the week. The issue of commitment to learning, between the Computer Ndaba teachers and the ICDL participants came into question. The Computer Ndaba teachers appeared to have been more committed to learning than the ICDL participants. This was indicated by the fact that the Computer Ndaba teachers had no problem in travelling long distances to attend the course and did not mind attending lectures on a Saturday. Contrary to this, the ICDL participants complained that the course day and times infringed on their family and leisure time. Therefore, it could be assumed that the Computer Ndaba teachers were more appreciative of their course than the ICDL participants.

### 6.2.4 Recommendations

Based on the tenets of the Cognitive, affective and psychomotor aspects of Blooms Taxonomy of learning (1956) the following recommendations are made:

It would be preferable if the participants are screened prior to being allowed to attend ICDL training to determine how proficient they are in computer manipulation and software applications. These participants came from varying levels of computer proficiency i.e. from very poor to fairly good. This obviously would present a dilemma for the tutor because a dis-proportionate time is spent attending to weak students. The participants performing poorly would obviously have more difficulty receiving the course material than their 'advanced' peers.

In order to effectively respond to these phenomena, it is imperative that much is known about the expertise of the tutor presenting the course. The tutors in this study were

perceived as being experts in the field (ICDL training) by the participants. Certificates and testimonials of the tutor's proficiencies should be verified. This, the researcher assumed, would make the participants more confident in the ability of the tutor.

With regard to the physical ICDL learning environment it is important to take note of the following. There needs to be very little that distracts the learner's perceptive abilities. The computers and educational media (whiteboards, overhead projectors etc.) need to be arranged in such a way that there is effective co-ordination between hand, eye and brain. Learners should not have to perform actions that fatigue the body e.g. head or body turning during tuition.

The lesson should be continuous and flowing, without participants constantly entering or leaving the room. Outside disturbances should be kept to a minimum so as to prevent distractions. (People from outside suddenly opening the door during lessons) The venue used should have comfortable chairs, be fully air-conditioned and computers that are regularly serviced protected (Installed anti-virus) and upgraded. This is to ensure that there is a minimal chance of technology failure causing delays in learning.

It would be advisable to consider conducting this course on weekdays as well as on Saturdays because some of the participants indicated that they were distracted by their social commitments on weekends. Both co-operative (group) and traditional learning methods could be employed in teaching MS Software programs. This has the potential to further enhance the learning experience, because the teachers that attended the Computer Ndaba strongly asserted that they had gained more knowledge working in a group.

## 6.5 Emerging themes

From the literature, the researcher finds it fair to assume that the ICDL/ECDL training as provided by the ICDL/ECDL Foundation, may not be the only quality provider of training in the use of spreadsheets, word processing and presentations. According to testimonials provided by OpenOffice (which is a free office software suite) there is evidence to suggest that M.S. Office can be replaced by software called Open Office suite. The researcher is of the opinion that poor countries could benefit immensely from this free program which downloads quickly and efficiently. The researcher noted the comments made by participant F who stated that: "*I used the Microsoft package and when ICDL came along, it enhances what I have, strengthen my belief in Microsoft products but after that also free open software is also becoming the market…"*

The researcher also noted the comments of Stallman **(**2011), who states that: "when we call software "free," we mean that it respects the users' essential freedoms: the freedom to run it, to study and change it, and to redistribute copies with or without changes." This suggests that users of Open Office in poor countries are at liberty to make as many copies of the software program, without fear of prosecution. This is a huge advantage over M.S. Office users who are bound by copyright laws. Other software companies such as Mango Leadership and Electricpaper also claim to be able to present M.S. Office in a comprehensive and effective way, but do not mention ICDL certification. However, these companies may present challenges to the way in which the ICDL/ECDL Foundation structures and presents its course.

Electricpaper uses software called voice-over, which enhances the learning experience. The ICDL/ECDL course conducted by the ICDL/ECDL Foundation has no such item to enhance learning. Customized training by Mango leadership could lead the way in providing specific training for specific individuals who may only require tuition on certain aspects of M.S. Office e.g. spreadsheets. This would consequently eliminate the need for individuals to sit through an entire presentation of M.S. Office.

With regard to the learning experiences of participants, the researcher found that there were no significant differences between the experiences of the participants of this study and those in the literature review. The general feelings expressed were that the course was well presented; had enhanced their understanding of Microsoft. Office and had been enjoyable. The participants in this study and those in the literature both concurred that the presenters of the ICDL/ECDL course were individuals who had a firm command of the software they had presented and did so in a friendly and meticulous way.

## 6.6 Limitations of the study

The only limitation of this study was that the hand held digital recorder that had been used for the semi-structured interview malfunctioned due to liquid damage. With this recorder in a malfunctioned state, the researcher was faced with prospect of having to do the interviews over again. This would have presented a most difficult task as three of the participants were away on leave and training. However, after the unit had dried out completely, it was sent it to a technician who managed to retrieve the data. This took almost three weeks to sort out, which delayed the transcription of the interviews.

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# Appendix: A

**Interview schedule for semi-structured Interview with campus managers**

The following questions will be presented to the participants (Campus managers).

In the event that responses are not clear, the researcher will re-phrase the questions in order to obtain clarity. The essence of the question will however remain the same.

- As a campus manager, how important do you see ICDL training and why?
- Please describe your computer proficiency prior to having received ICDL training.
- How would you now describe your computer proficiency with Microsoft Office software?
- Which programs of Microsoft Office were the most difficult to master and why?
- Which programs of Microsoft Office were easier to master and why?
- How would you describe the ICDL tutor in terms of expertise and attitude towards the class?
- The cost of the ICDL course is approximately R3900. Would you say this represents value for money? Please give motivations for your answer.
- Which programs do you as a campus manager most frequently use?
- Who, in your opinion are the personnel who most urgently require ICDL training in this college?
- In terms of the way in which lectures are structured, what recommendations for improvement would you suggest?

# Appendix: B

University of KwaZulu Natal

Edgewood Campus

Pinetown

30 October 2010

To: The Central Office

Elangeni FET College

Dear Sir/Madam

**Re: Request for permission to conduct a study**

My name is Julian Draai. I am a Masters of Education (M.Ed.) student in educational technology at the university of Kwa-Zulu Natal. I wish to undertake a study at two of the campuses of Elangeni FET College. The title of the research is: "The experiences of campus managers in learning International Computer Drivers Licence software in a FET College in Kwa-Zulu Natal. I intend investigating what the software programs are, how campus managers learned Microsoft Office programs and what their experiences were as they learned these software programs. The objective and aims of the study are:

- To identify the content of the Microsoft Office software programs.
- To determine how effective the ICDL course is.
- To investigate how the ICDL course has benefitted those campus managers who have attended the ICDL course.

The following should be noted:

- The participants may withdraw from this study at any time they wish and partake on a voluntary basis.
- The researcher will regard all information provided by the participants as strictly confidential.
- Under no circumstances will the identities of the participants be disclosed.

At the end of this investigation, the researcher is willing to disclose the findings of the research.

This study is supervised by Dr. S.B. Khoza who can be contacted on 031 260 75 95 or e-mailed at: khozas@ukzn.ac.za

Anticipating a positive response to this request.

Yours Faithfully,

Julian Draai

# Appendix: C

University of KwaZulu Natal

Edgewood Campus

Pinetown

30 October 2010

Dear Participant,

Re: Informed consent

My name is Julian Draai. I am a Masters student of Educational Technology at The University of Kwa-Zulu Natal.

I hereby request you to assist me in my research at Elangeni College with regard to the following topic: The experiences of campus managers in learning International Computer Drivers Licence software programs in a FET College in Kwa-Zulu Natal.

The objectives of the study are:

- To identify the content of the Microsoft Office software programs.
- To determine how effective the ICDL course is.
- To investigate how the ICDL course has benefitted those campus managers who have attended the ICDL course.

Your participation will involve:

- One and a half hours duration.
- You will be required to attend a semi-structured interview.
- These interviews will be conducted over two weeks in August 2011.
- A digital voice recorder will be used to record your responses.

**The following aspects of your participation are important and should be well noted:**

1. The researcher intends using semi-structured interviews

2. The researcher also intends carrying out a non-participant observation.

3. Participants are expected to answer all questions to the best of their ability.

4. All the identities of the participants will be kept confidential.

5. Data obtained in this study will not be used for any other purpose, except for this study.

6. Participation in this study is voluntary and participants may at any point withdraw.

The study will involve a total of six campus managers. These participants are managers at two campuses of Elangeni FET College.

This study is supervised by Dr. S.B. Khoza who can be contacted on 031 260 75 95 or e-mailed at: khozas@ukzn.az.za

Anticipating a positive response to this request.

Yours Faithfully,

Julian Draai